THE EFFECT OF MICRO-CREDIT ON POVERTY REDUCTION IN NORTHEAST NIGERIA

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ABSTRAK

Mikro kredit adalah perkhidmatan kewangan yang ditawarkan kepada golongan miskin untuk memulakan perusahaan atau mengembangkan perusahaan yang sedia ada. Kemiskinan adalah merupakan ketidakupayaan isi rumah individu untuk menguasai sumber-sumber yang mencukupi untuk memenuhi taraf hidup sosial yang boleh diterima. Oleh itu, kajian ini berusaha untuk mewujudkan kesan mikro kredit ke atas pembasmian kemiskinan di Timur Laut Nigeria. Kajian ini menggunakan reka bentuk penyelidikan yang intensif dalam tempoh masa yang panjang, 24 lawatan mingguan, untuk tempoh 6 bulan. Populasi bagi kajian ini terdiri daripada sampel sebanyak 87 responden, yang mewakili 53 benefisiari Pertukaran Pusat Pembangunan bank kredit mikro dan 34 bukan benefisiari dalam Lere dan Bombar daerah di negeri Bauchi, Timur Laut Nigeria. Persampelan rawak berstrata telah digunakan dalam pemilihan responden untuk kajian. Data kualitatif dan kuantitatif telah dikumpulkan dengan menggunakan soal selidik temu bual dan temubual yang mendalam. Data telah diproses dengan menggunakan Stata. Kuadrat Terkecil Biasa telah digunakan untuk menentukan sama ada kumpulan pembolehubah bersama-sama boleh meramalkan pembolehubah bersandar yang diberikan, perbezaan min di antara benefisiari dan bukan benefisiari dilakukan untuk menilai kesan yang sebenar mikro kredit ke atas pendapatan perniagaan dan perbelanjaan. Ketiga-tiga pembolehubah bebas (kredit, simpanan dan penyeliaan) yang terlibat dalam kajian ini adalah relevan dan signifikan untuk menerangkan kesan mikro kredit ke atas pendapatan perniagaan dan perbelanjaan. Dapatan kajian ini telah mendapati bahawa ujian analisi min menunjukkan perbezaan yang amat ketara dalam nilai min benefisiari berbanding bukan benefisiari ke atas pendapatan dan perbelanjaan. Kajian ini membuktikan bahawa kredit mikro boleh meningkatkan pendapatan dan perbelanjaan dan seterusnya mengurangkan kemiskinan di kalangan benefisiari mikro kredit DEC.

Kata kunci: pendapatan perniagaan, kredit, perbelanjaan, Nigeria, simpanan, penyeliaan.

ABSTRACT

Micro-credit is a financial service offered to the poor to start an enterprise or to expand an existing one. Poverty is the inability of individual households to command sufficient resources to meet socially acceptable standard of living. Thus, this study sought to establish the effect of micro-credit on poverty reduction in Northeast Nigeria. The study employed an intensive research design over an extensive period of time, a 24- weekly visit, for a period of 6 months. The population for this study consisted of a sample of 87 respondents, which involved 53 beneficiaries of the Development Exchange Centre micro-credit institution and 34 non-beneficiaries in the Lere and Bombar districts in Bauchi state, Northeast Nigeria. Stratified random sampling was employed in selecting the respondents for the study. Qualitative and quantitative data were collected by the use of interview questionnaire and in-depth interview. The data was processed using Stata. Ordinary Least Square was used to determine whether a group of variables together could predict a given dependent variable, mean difference between the beneficiaries and non-beneficiaries was conducted to assess the real effect of micro-credit on business income and expenditure. The three independent variables (credit, savings and supervision) considered in this study were relevant and significant in explaining the effect of micro-credit on business income and expenditure. The study discovered that the mean analysis showed a highly significant difference in the mean value of the beneficiaries as compared to the non-beneficiaries on income and expenditure. The study concluded that micro-credit could increase income and expenditure and hence, reduce poverty among DEC micro-credit beneficiaries.

Keywords: *business income, credit, expenditure, Nigeria, savings, supervision.*

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TABLE OF CONTENTS

CHAPTER ONE : INTRODUCTION

Chapter Two : LITERATURE REVIEW

CHAPTER THREE : RESEARCH METHODOLOGY

CHAPTER FOUR : DISCUSSION OF RESULTS

CHAPTER FIVE : SUMMARY AND CONCLUSION

LIST OF TABLES, FIGURES, APENDICES AND ABBREVIATIONS

List of Tables

List of Figures

List of Appendices

List of Abbreviations

ASCAs	Accumulated Savings and Credit Associations
CBN	Central Bank of Nigeria
DEC	Development Exchange Centre
NGOs	Non-Government Organizations
ROSCAs	Rotating Saving and Credit Associations
SHG	Self Help Groups
UNDP	United Nation Development Project
USD	United State Dollar
UUM	Universiti Utara Malaysia

CHAPTER ONE

INTRODUCTION

1.0 OVERVIEW OF THE CHAPTER

This chapter begins with a discussion of poverty as a global issue, presents the statement of the problem and discloses the gap in the literature. In order to resolve the problem, the research questions and the research objectives are stated. Other issues considered in this chapter are: discussion on the significance of the study, scope of the study, definitions of terms used frequently with a view to enhancing the understanding of the thesis, organization of the study and summary of the chapter.

1.1 BACKGROUND OF THE STUDY

Poverty is a pervasive problem in society. Spanning the length and breadth of the world, poverty exists in various forms and different levels. At the current threshold of USD1.25 a day, the World Bank estimates that around 25 percent of the population in developing countries exists below the poverty line (Electrin et al., 2013; United Nations, 2012). This figure translates to 1.3 billion people living in extreme poverty, equal to about 20 percent of the global population (World Bank, 2010).

Nigeria, being a developing nation, is not free from the shackles of poverty. The budget speech of the Nigerian president in 2013 and 2015 clearly made poverty eradication a major concern of the government. This was the third consecutive term that the government has considered poverty eradication as a main priority in its budget presentation. Despite the emphasis and significance given by the government in many programs to tackle absolute poverty, the poverty profile of Nigeria keeps worsening. The number of people below the poverty line in Nigeria continues to increase unprecedentedly. It reached 45 million in 2005 (67 percent of the population of Nigeria) with an economic growth and development rate averaging 2.8 percent (Word Bank, 2010). Women comprise a majority of those living in poverty because of their vulnerability and most of them live in the rural areas (Agbaeze & Onwuka, 2014).

Studies have shown that social progress and economic welfare of people are interdependent. Development also ensures social justice and gender equality. While several factors contribute to the development of a community in terms of physical and material benefits, gender equality can also contribute in uplift the social status of the people from poverty, ignorance and abuse, and bring about quality and satisfaction or fulfillment of life (Amadi & Amadi, 2014). In Nigeria, women constitute over 80 percent of poor people and over 40 percent are illiterate without access to formal education (Johnson, 2013). However, gender equality has not been given too much priority in Nigeria even today, and for any country to focus on development women must be given equal opportunity to participate in the developmental activities, as women constitute more than half of the Nigerian population.

Throughout the history of Nigeria, women have always been relegated to an inferior status and subject to ill-treatment. This is displayed in some situations, such as in the work place, where they are given non-essential posts. The relegation of women to a lower status in society, their corresponding low literacy and perceived low income earning capabilities, definitely slowed down the overall development of humanity (Chigozie, 2015; Ekpe, Eja & John, 2014). Moreover, Shohba (2007) argued that the activity of women continued to be unrecognized and underestimated. The lack of involvement of women who made up one-third of the labor force, two-thirds of the world's working hours, collecting only 10 percent of world income and possessing below one-hundredth of the resources or assets in the world, contributed to poverty among women (Jagger, 2013). This is the legal economic profile of women in Nigeria and the world at large.

Thus, the role of women in the development of a community is crucial. The great world leader and philosopher, Mahatma Gandhi (1869-1948) looked at the suffering of women as an embodiment of their superior powers of strength, courage, endurance and fearlessness, rather than being symbolic of their helplessness as the inferior sex (Joseph, 2005). Also, Sen (1983) opined that women lacked the most basic requirements of survival and sustenance in many developing countries caused by gender discrimination.

Gender discrimination results in child marriage, harassment of women, such as wife beating and burning, discrimination in employment, decision-making, ownership and control over property and business, health and nutrition, education facilities and lower food intake. Gender distinction is not accidental or a fact of nature but is inculcated institutionally (Epstein, 1988). Another dimension of gender inequality is that women are traditionally expected to do arduous and demanding work. Working outside the home does not reduce the women's responsibility at home. This gender discrimination and inequality take place in all spheres of the social and economic life of women in Nigeria. The lack of capital, savings, collateral to access loans, good credit history and credit worthiness, are some of the problems that contribute to poverty among women (Desta, 2010). Women's development should be an important part of the economic growth and development plans of a country. This would lead to changes in the socio-economic and political levels of women.

As such women should be encouraged to be involved in enterprises which will help them get out of poverty. The government has a major role to play in providing a conducive atmosphere to make micro-credit accessible to poor women for businesses to be established and grow (Kasali, Ahmad & Lim 2015; Henry, 2015). This can be done by providing an avenue or means for poor women to be trained and their skills and ability developed, to engage in businesses and be self-employed to address the problems of poverty and gender inequality (Boateng, Boateng & Bampoe, 2015). This is because women have a greater long-term vision and are ready to bring changes in their life when the opportunity avails itself. Additionally, they are also regarded as excellent managers of scarce resources making use of every resource to the maximum (Yunus, 2004).

Marrison, Raju and Sinha (2007) opined that an increase in female earnings leads to short-term growth, decreases current poverty and stimulates long-term economic growth, which decreases future poverty through improvement or increase in consumption expenditure and savings ratio. Unfortunately, women do not have the capital, savings, collateral to access loans, good credit history and worthiness, to assist them earn more to eradicate or reduce poverty (Desta, 2010). However, Cagatay (1998) opined that provision of credit is necessary and essential to enable women to gain a foothold on the economic ladder and be empowered to help uplift their families' well-being. Credit will be helpful if it is used in trade and business and pilferage is mitigated. Therefore, women should be encouraged to use micro-credit in business to help them to realize their vision (Iheduru, 2002).

Provision of micro-credit has occupied a central place in poverty alleviation-oriented strategies in Nigeria and other parts of the world. The micro-credit programs are mostly or largely targeted at women from the poorest section of the population with a view to empowering them and improving their welfare. The function or role of financial capital as a means of production to motivate or induce economic growth and development cannot be over-emphasized, as well as the need to channel credit to rural areas for economic and social empowerment of the poor. Soludu (2007) opined that robust economic growth cannot be realized without putting in place well-focused programs to reduce poverty, by empowering the people and by increasing their access to factors of production, most especially, to credit. The provision of credit would enhance the latent capacity of the poor for entrepreneurship. This will enable them to engage in economic activities and to be self-reliant, increase employment opportunities, improve income of the households, create wealth and eliminate poverty.

In Nigeria, the formal financial system provides services to only 35 percent of the population. The remaining 65 percent do not benefit from the financial services (Central

Bank of Nigeria, 2011). Therefore, it is the informal financial sector that usually serves this group through Non-governmental organizations (NGOs), micro-credit institutions, friends, relatives, money lenders and credit associations. However, despite the support from government and NGOs in Nigeria to eradicate poverty, the poor are still hard to reach due to lack of sustainability of sources of funds (Bamisele, 2011). As such, this study attempts to examine whether using micro-credit to reduce poverty has been successful.

1.2 STATEMENT OF PROBLEM

The phenomenon of rising poverty in Nigeria is in sharp contrast to the position the country occupies as one of the richest and prominent oil-producing nations. More than 90 percent of the country's revenue is generated from petroleum exports (Amadi & Abdullah, 2012). In addition, the country has been having one of the world's highest economic growth rates of 7.6 percent over the last decade (Onakoya & Onakoya, 2013; World Bank, 2013). Yet, this huge sum of money has not enhanced the deplorable conditions of the poor in the community.

Studies on poverty in Nigeria have shown that it has become endemic and continues to increase. For instance, in 1980, the magnitude of Nigerians living below the poverty line increased from 17.1 million (27.2 percent) to 34.7 million in 1985 (46.3 percent). The number of people living in poverty in 1992 was 39.2 million (42.7 percent). This figure increased to 67.1 million in 1996 (65.6 percent). In 2004, the number of people in poverty was 68.7 million (54.4 percent); and the proportion of people living below the poverty line rose sharply in 2010 to 112.47 million (69 percent) (National Bureau of Statistics, 2012, and Kasali et al., 2015).

In addition, almost two-thirds of the people in Nigeria are poor. The Human Development Program showed that 70.8 percent and 92.4 percent of the total population in Nigeria survived under USD1 (158 naira) and USD2 (316 naira) daily (Nkamnebe, 2012). The rate of poverty in the northern part is higher than the southern part of Nigeria. This may be linked to the fact that a majority of the micro-credit institutions are situated in the southern part of the country (Soludu, 2007; Okpi, 2013). It is for the above reasons that this study is set to evaluate the contribution of micro-credit on poverty reduction in the northeast region of Nigeria.

The use of micro-credit has expanded rapidly over the past decades providing access to financial services to many people excluded from the traditional financial system. In line with the above, many studies have examined the relationship between micro-credit and poverty alleviation (Al-mamun et al., 2014; Aziz, 2012; Banerjee et al., 2014; Duong & Thanh, 2015; Electrin et al., 2013; Ghalib, Malki & Imai, 2015; Odetayo & Anaolapo, 2016; Zainudin & Kamarudin, 2015). However, the results from the impact of micro-credit on poverty alleviation are mixed. The expectation of micro-credit may have been exaggerated with arguments that micro-credit harms the poor (Bauchet et al., 2011, Duong & Thanh, 2015; Henry, 2015; Zainudin & Kamarudin, 2015).

While the concept of capital that will give poor people the opportunity to unleash or establish business remains valid for some poor clients, unfortunately, not every borrower is a micro-entrepreneur. In order words, the amount of credit provided is surprisingly low and not all economic activities that poor people engage in give high returns (Karlan & Zinman, 2011). Apart from that, studies have shown that micro-credit is not changing the informal markets and realizing adequate higher income for small businesses (Bauchet et al., 2011; Idris, 2015).

Moreover, poor households have other financial needs that extend beyond providing working capital loans to micro-entrepreneurs (Banerjee et al., 2014). The poor borrowers use loans or savings to settle school fees, invest in trade and businesses, health and crop insurance to avert risk when available. Even though utilization of financial services is different from anticipated uses at the initial stage, they are still important and valuable, and the ability to make use of finances efficiently and effectively is a fundamental aspect of daily life (Collins et al., 2009). Furthermore, the financial service needs of the poor households may require different product features, delivery and payment structures. If such needs are met satisfactorily, the impact of micro-credit should enhance the welfare of the poor.

Recent studies on impact assessment showed that access to micro-credit enhances welfare and empowers women. However, whether it assists the poor segment of the society has been a subject of intense debate due to mixed and conflicting results, with some disagreement among practitioners and academics. Studies have concluded that micro-credit is positive and effective in reducing poverty (Al-mamun, 2014; Electrin et al., 2013; Ghalib et al., 2015; Igbal, Igbal & Mushtag, 2015; Sulemana & Dinye, 2016).

On the other hand, other studies have argued that micro-credit had driven people into greater poverty and weakened the position of women more than before they joined the micro-credit institutions, instead of empowering and improving their welfare (Agbaeze & Onwuka, 2014; Betaman, 2011; Duong & Thanh, 2015; Khandker and Samad, 2013; Zainudin & Kamarudin, 2015). Holding a middle ground are studies that cautioned against considering micro-credit as a 'cure it all'. Nonetheless, micro-credit has assisted the poor to a certain extent (Banerjee et al. 2014; Crepon et al., 2011; Karlan & Zinman, 2010). Despite the apparent contradiction in these findings, from the diverse environments or different geographical locations and drawing from different methodologies, impact evaluation remains the most important and valid tool to use in measuring the effectiveness of micro-credit programs.

The United Nations Millennium Declaration adopted on 8 September 2000, stated as its first goal, that nations should "resolve to halve the proportion of the world's people whose income is below one dollar per day and the ratio of people who suffer from hunger by the year 2015" (Allwine, Rigolini & Lopez-Calva, 2013). Each member nation was committed to the realization of these goals despite their initial stages of poverty and inequality. The population of the poor people living below USD1.25 per day reduced from 47 percent in 1990 to 24 percent in 2008, a reduction of two billion to less than 1.4 billion (United Nations, 2012). The report of the United Nations showed different results of poverty reduction, with most of the achievements coming from Southeast Asia, which recorded a reduction in poverty from 45 percent to 17 percent between 1990 and 2008. In

Sub-Saharan Africa, extreme poverty has been reduced by only nine percent from 56 percent to 47 percent (Allwine et al., 2013). This showed that most of the achievements in poverty reduction were recorded in Southeast Asia. In Sub-Saharan Africa, the achievement was minimal and less impressive. As such, this study examines the effect of micro-credit on poverty reduction in Nigeria.

A microfinance institution, the Development Exchange Center(DEC) has as its main objective of making funds available to women who are in need of capital to participate in income realizing ventures, to help reduce poverty, since such capital is not easily available from the traditional banking system because of lack of collateral. Unfortunately, it has been observed that credit giving to the poor in the study area to engage in income generating activities is being diverted for personal and other use instead of going into small scale business.

This is because Nigeria is a war-torn country and the people have a lot of needs to attend to such as school fees for children, food for households and health. Hence, the purpose of providing the loans to the poor to venture into small business to generate income to reduce poverty has not been achieved. Moreover, the beneficiaries ended up defaulting on their loan payments which contributed in worsening their poverty status. Thus, in order to ensure that the credit is being utilized for the purpose to which it was given, the micro-credit institutions should engage in supervision of the use of credit to ensure that credit is strictly used for income-generating activities.

Mansuri (2007) reported on the continued success of informal credit markets in countries where micro-lending has gained steam. This showed the advantage of enforcement of informal credit over formal credit allowing them to better monitor the use of credit and repayment on a timely basis. Thus, the DEC (2012) provides supervision to beneficiaries to ensure effective use of their loans for the purpose to which it was provided. The DEC also assists in solving problems faced by individual borrowers or collectively in engaging and running the affairs of their business and in implementing what they have learnt.

Many researchers have also considered the combination of several micro-credit factors in poverty reduction. For example, Aziz (2012) considered credit, savings and insurance, Electrin, et al. (2013) examined credit, savings, training and insurance, Crepon et al. (2011); Girabi and Mwakaje (2013) and Odetayo and Onaolapo (2016) considered credit and savings, Flavius and Aziz (2011) considered credit and social network, Mahmood, Hussain and Matley (2014) looked at credit and training, and Hasan et al. (2015) considered credit and socio-economic characteristics. These studies showed that supervision has been neglected. Therefore, a contribution of this study is the inclusion of supervision with credit and savings as independent variables. This variable is introduced based on the evidence that micro-credit institutions should explore services delivery opportunities that provide additional room to supervise the use of credit to improve or enhance outreach and the use of loans for poverty reduction (Imai, Arun & Annim, 2010).

Most people in Nigeria are still trapped in poverty (Kasali, et al., 2015; Nkamnebe, 2012). The inability to obtain micro-credit from formal financial institutions has long been viewed as the greatest obstacle to improving the poor households' living conditions in Nigeria. Alternatively, poor households have to rely on informal credit sources to support their business, income and consumption at higher interest rates, which leave them in a 'vicious debt circle' with little hope of shaking off poverty. The lack of access to credit in the rural areas impedes economic growth and development of the poor households which potentially decelerates economic growth and development of Nigeria's rural economy.

Micro-credit programs has been introduced in Nigeria as an anti-poverty tool aimed to facilitate credit access by the poor rural households to mitigate their poverty. However, in spite of the efforts made by the Nigerian government to support and popularize the implementation of micro-credit, empirical studies on Nigerian poor households' accessibility to micro-credit for poverty reduction have shown mixed results (Agbaeze & Onwuka, 2014; Henry, 2015; Odetayo & Anaolapo, 2016). On the other hand, empirical studies that have examined the potential of micro-credit in poverty reduction such as credit, savings and supervision to business income and expenditure, are limited in Nigeria. In addition, the impact of micro-credit on the Nigerian poor rural households' livelihood is not well documented. Most of the studies have not used rigorous research methodology, and do not have a control group to compare the impact of credit on the life of the beneficiaries. Consequently, most of the studies have been based on perception of the beneficiaries (e.g. Kasali et al., 2015; Babajide et al., 2015; Odetayo & Anaolapo, 2016), and not impact on the life of the beneficiaries.

Thus, the purpose of this research is to assess the effect of micro-credit on poverty reduction in Nigeria on household business income and expenditure. Lack of credit has been regarded as a major constraint in improving the livelihood of poor households in Nigeria, thus, it is reasonable to assume that micro-credit which targets rural households for the provision of small loans could have a positive impact on these households' well-being such as an increase in their business income and expenditure.

In addition, the status of Nigerian women has improved over the past decades but gender inequality still exists in term of social and political power, employment, health, education and asset possession. The problem of gender inequality is more serious in rural areas where women usually lack sources of income (Chigozie, 2015; Ekpe et al. 2014). Thus, Amadi and Amadi (2014) opined that patriarchy still prevails or exists in Nigerian households and rural women are seen to be relatively disadvantaged in matters of survival, access to income, assets, nutritious food, health, productivity and literacy. Therefore, it is believed that micro-credit can contribute to the enhancement of welfare and empowerment of women and their households in Nigeria by enabling them to be financially independent.

1.3 RESEARCH QUESTIONS

The questions below are formulated based on the problem statement and for the purpose of verifying the effect of micro-credit on reduction of poverty. More importantly, the questions evaluate poverty reduction in terms of women's household business income and expenditure of the beneficiaries to micro-credit loans in comparison to the non-beneficiaries. This helps the study to determine whether the beneficiaries' households have an advantage over the non-beneficiaries households in reducing poverty.

The first research question is designed to examine how micro-credit leads to reduction of poverty in terms of increasing household's business income in the Northeast region of Nigeria. It shows how micro-credit institutions' prompt provision of credit affects business income. Thus, the first research question is related to the effect of micro-credit on business income of the beneficiaries' households as compared to non-beneficiaries' households in the northeast region of Nigeria. Therefore, the first research question is stated as follows:

> Research Question 1.
>
> To examine the level of effectiveness of credit, savings and supervision on business income of the beneficiaries and non-beneficiaries to micro-credit loans in the northeast region of Nigeria.

Expenditure is one of the determining factors in the assessment of poverty reduction in the households. The second research question is to examines the effect of micro-credit on household expenditures of the beneficiaries. Thus, the magnitude or degree and importance of the relationship between micro-credit and expenditure were measured. Thus, the second research question relates to the effect of micro-credit on household expenditures of the beneficiaries and non-beneficiaries:

> Research Question 2.
>
> To examine the level of effectiveness of credit, savings and supervision on household expenditures of the beneficiaries and non-beneficiaries to micro-credit loans in the northeast region of Nigeria?

1.4 RESEARCH OBJECTIVES

Based on the research questions developed as shown in section 1.3 above, the following research objectives were formulated for the purpose of examining the effect of micro-credit on poverty reduction in the northeast region of Nigeria. The first research goal was designed to analyze how micro-credit affects business income. The purpose was to assess the use of micro-credit in changing the poverty-stricken situation of the beneficiaries by increasing their household business income. This aim is closely linked to whether the goals of poverty eradication have been achieved as a result of the use of micro-credit to improve business income of the beneficiaries. Thus, the first research objective is stated below:

> Research Objective 1.
>
> To examine the effectiveness of credit, savings and supervision on business income of the beneficiaries and non-beneficiaries to micro-credit loans in the Northeast region of Nigeria.

The second research objective was formulated based on the fact that expenditure of the household is vital for determining reduction in poverty. Hence, improvement in the expenditure of the beneficiaries' households against the non-beneficiaries of micro-credit is an indication of reduction in poverty. Therefore, the purpose of using micro-credit to enhance expenditure is examined as stated below.

> Research objective 2.
>
> To examine the effectiveness of credit, savings and supervision on household expenditures of the beneficiaries and non-beneficiaries to micro-credit loans in the northeast region of Nigeria.

1.5 SIGNIFICANCE OF THE STUDY

Poverty reduction is an indicator of development. Poverty reduction can be achieved through the improvement in women's household income and expenditure. Therefore, the study extends previous work in several ways. Firstly, this study examines the use of credit, savings and supervision to show that micro-credit brings about the improvement in household business income and expenditure of micro-credit beneficiaries in the Northeast region of Nigeria.

The results of the study can assist the stakeholders of micro-credit institutions and policy makers to develop better policies and strategies for enhancing the quality of participation in micro-credit programs. Moreover, it can assist in stimulating better and more effective ways of implementing strategies for the welfare and empowerment of women in Nigeria. In addition, women will also benefit from increased funds and loans. Non-beneficiaries will be encouraged to join micro-credit institutions based on the evidence of improvement in the livelihood of the beneficiaries.

Secondly, this study contributes to the understanding of the beneficiaries' participation in micro-credit programs and how income-generating activities empower their business income and expenditure. This is necessary and important for women's development in Nigeria.

Thirdly, this study provides a further contribution to the development of literature in relation to the understanding of business income and expenditure and the role of micro-credit institutions in reducing poverty in Nigeria.

Finally, the conceptual model is another contribution to the body of knowledge in the field of finance, with respect to the introduction of supervision together with credit and savings as independent variables. Thus, this study contributes to the literature on micro-credit and poverty reduction by providing an empirical measurement and evidence of the relationship between micro-credit and business income and expenditure and hence, poverty reduction.

1.6 SCOPE OF THE STUDY

This research focuses on the examination of effectiveness of the micro-credit on business income and expenditure for poverty reduction in the Northeast region of Nigeria. The dependent variables considered for this study are: poverty reduction measured by business income and expenditure; while micro-credit factors like credit, savings and supervision act as the independent variables.

This study is conducted in the Northeast region of Nigeria, specifically among women beneficiaries and non-beneficiaries to micro-credit loans. Other financial and banking institutions like the traditional banks, mortgage banks, financial houses and discount houses are excluded. The institution covered in this study is the Development Exchange Center (DEC) microfinance in Lere and Bombar districts of Bauchi in the Northeast region of Nigeria. The choice of this institution is motivated by the fact that it is the only microfinance institution in the region that supports the rural and urban poor and has a wider coverage. All beneficiaries and non-beneficiaries included in this study are women who are beneficiaries and non-beneficiaries of the DEC. Other micro-credit institutions in the region have very small coverage, with only one branch in a particular area or town. In addition, the majority of their clients are men and they are not poor but middle class citizens or medium and large companies (Onakoya & Onakoya, 2013). Hence, the poor are excluded. This is as a result of microfinance institutions' quest to make a profit.

The unit of analysis used was the individual households of the women beneficiaries and non-beneficiaries of micro-credit loans. The study adopted a case study and an intensive research design approach over an extensive period of study, to examine the effectiveness of micro-credit on the lives of the beneficiaries and non-beneficiaries households for 24 weeks, from 1 March 2015 to 31 August, 2015.

1.7 DEFINITION OF TERMS

The definitions of some common concepts used in this research are as shown in Table 1.1.

Table 1.1:
Concepts and their definition

Concepts	**Definitions**
Micro-credit	This is the provision of credit services to the poor. In this study, micro-credit was considered as credit, savings and supervision.
Credit	This is a small loan provided to poor women to start a business or improve an existing business.
Savings	This is a micro-credit service that provided the opportunity for beneficiaries to keep money in their savings account.
Supervision	This is a micro-credit service used to monitor the beneficiaries business and loan repayments.

Poverty reduction	Poverty reduction was considered in this study in terms of increase in household business income, expenditure and empowerment of the poor.
Business income	This is any income generated as a result of engaging in business activity. Business income in this study is equal to revenue minus cost incurred in running the business. Thus, increase in business income of the poor is a sign of poverty reduction.
Expenditure	This is the total amount of money spend on goods and services in the household. Increase in expenditure of the poor, is a sign of poverty reduction. Expenditure of the household in this study is made up of expenditure on food consumption, healthcare, education, clothing, assets, alcohol, tobacco and snacks and others (rent, electricity bill and ceremonies).

1.8 ORGANIZATION OF THE STUDY

The remainder of the thesis is organized as follows. Chapter 2 was divided into three sections. Section one provided a review and critique of previous research on micro-credit and service provided by microfinance institutions. The types of microfinance institutions and the effective principles of microfinance are also considered, followed by discussion on microfinance, the challenges of microfinance in Nigeria and micro-credit factors. Section 2 focuses on critical review of poverty, elucidates the meaning of poverty, types of poverty and how poverty had become an issue centering on women. It also discussed the arguments raised on studies related to micro-credit and poverty reduction in Nigeria and other parts of the world. The last section provide a history of DEC and its establishment, its goals, mission, vision, the process of issuing loans, the method of training and capacity building, the use of loans, collection of loans and its procedures, and supervision. A summary is provided at the end.

Chapter 3 provides a description of the research methodology used in this study. It provides a discussion of the research framework and the variables selected for the study, as well as the hypotheses of the study. The classical microfinance theory of change was used as the study's underpinning theory, population of the study and research design, sampling technique and sample size, the process of gathering data, methods used in analyzing data and summary of the chapter were also discuss in the chapter.

Chapter 4 provides a description of the results and discussion of the study. It provides a discussion of the analysis of demographic and family profile of the beneficiaries and non-beneficiaries of micro-credit, empirical results of the model specification, comprising the regression analysis for business income and household expenditure models, diagnostic tests, the mean differences of the effect of micro-credit on business income and expenditure of the beneficiaries and non-beneficiaries of micro-credit loans. In order to provide support for the quantitative results, qualitative responses are obtained from the beneficiaries and summary of the findings.

Chapter 5 provides the description of the summary and conclusion of this thesis. It provides the discussion on the summary of findings, policy recommendations, theoretical implication and contribution of the study, limitation of the study, recommendation for future research, conclusion of thesis and the summary of the chapter.

1.9 SUMMARY

This chapter provides the introduction of the entire thesis comprising the background of the study, the statement of problem and the issues and motivation of the study. In line with the statement of problem, questions and objectives of the study are raised. Others sections in this chapter include the significance of the study, scope of the study, definition of terms and organization of the remaining chapters of the thesis.

CHAPTER TWO

LITERATURE REVIEW

2.0 OVERVIEW OF THE CHAPTER

This chapter provides a review and critique of previous research on microfinance, services provided by microfinance institutions, types of microfinance institutions, principles of effective microfinance, microfinance lending model, microfinance in Nigeria and their challenges and micro-credit factors. The explanations on poverty, types of poverty, feminization of poverty, root causes of poverty, response to poverty, problems of measuring impact of microfinance on poverty and studies on micro-credit and poverty reduction in Nigeria and other parts of the world are also captured in this chapter. In addition, the chapter presents the history of DEC's microfinance institution, its goals, vision, mission, partners and DEC, microfinance and DEC, training and capacity building, supervision, procedure for accessing loans and lastly, the summary of the chapter.

2.1 REVIEW AND CRITIQUE OF PREVIOUS RESEARCH ON MICROFINANCE

Many researchers, including policy makers have used micro-credit and microfinance, either interchangeably or synonymously, and/or the two types of program have been examined under the same heading. As such, this has created confusion and misunderstanding about the concepts (Elahi & Rahman, 2006; Helmes, 2006; Ledgerwood, 1999; Morduch, 1999; Mago, 2013). Micro-credit, a central theme of microfinance (Greene and Gangemi, 2006), is broadly recognized as the practice of offering small, collateral-free loans to members of cooperatives who otherwise would not have access to the capital necessary to start a micro-business (Hossain, 2002). Ahmad & Sadiqqe (2015) opined that micro-credit involves the provision of credit services to poor clients.

In a related development, Olomola (2002) pointed out that micro-credit schemes mediate the delivery of small, low interest and non-collateralized credit to the rural poor, relying on social collateral and joint liability. It is on record that the rural poor are the least recognized group of borrowers by formal financial institutions. George & Jacob (2015) argued that the term ‘micro-credit’ refers to providing poor families with very small loans to assist them to engage in productive activities and grow their small business. With the passage of time, micro-credit has come to include a broader range of services like finance, savings and insurance and several others.

Henry (2015) observed that micro-credits are financial facilities, programs or interventions developed to promote and facilitate the smooth running and growth of micro-enterprises and create wealth and growth of the economy, while combating poverty. Furthermore, micro-credits can refer to the provision of loans to poor people and the less fortunate (especially women) in terms of cash flow to fund their business or projects, which generate income(Tabiowo, 2002). Micro-credit offers the following services and resources to members: training, savings facilities, peer support and program support.

Idris and Agbim (2015) concluded that micro-credit schemes extend small, low interest loans to the rural poor for self-employment, income generation and poverty alleviation. Umoh (2003) viewed it as a veritable strategy for poverty reduction and sustainable development. As a unique development intervention, micro-credit provides access to flexible, convenient and affordable financial services that empower and equip the poor to make their own choices and create wealth for themselves (Littlefield et al., 2003). Micro-credit services can be assessed by both the poor and the extremely poor, and it allows them to protect, diversify and increase their sources of income.

Thus, the increasing level of poverty in the society, the inadequacy and weakness of traditional micro-credit to provide enough credit services (outreach) to the poor (Adamu, 2007), and the need for the poor to be bankable and be provided with more financial services, coupled with the fact that micro-credit is seen to be profitable, has led to the emergence of microfinance (Agaifa, 2006; CBN, 2005; Elahi & Rahman, 2006). Therefore, microfinance is said to be an extension of micro-credit (Elahi & Rahman, 2006). Hence, microfinance involves additional non-credit financial services, such as savings, insurance, pensions and payment services (Wrenn, 2005).

Microfinance, according to Otero (1999), is "the provision of financial services to low-income poor and very poor self-employed people". These financial services according to Ledgerwood (1999), generally include savings and credit but can also include other financial services such as insurance and payment services. In other words, microfinance encompasses a range of financial and non-financial services that include training, savings, money transfers, insurance and social engagements over and above credit to the poor who do not have access to the formal banking system (Girabi & Mwakaje, 2013; Khan & Noreen, 2012; Mago, 2013).

Electrin et al. (2013) opined that microfinance provides low income people with access to financial and non-financial services, who desire to access money for embarking or growing an income generation activity. The individual loans and savings provided to the poor clients are small. Microfinance started from the appreciation that some poorer clients and micro-entrepreneurs can be 'bankable' i.e. they can repay both the principal and interest, on time and also save, in as far as financial services are modified or shaped to suit their needs. Owen (2006) argued that microfinance is a break-through anti-poverty strategy that refers to the broad range of financial services, including loans, savings, insurance, and remittances offered to poor people, especially low-income women. The primary tool of the microfinance "industry" is the 'micro-credit' loan provided to start businesses that generate family income. Ahmad and Sadiqqe (2015) concluded that microfinance is the provision of financial services to low-income clients or groups including consumers and the self-employed, who traditionally lack access to banking and related services. In addition, microfinance is seen as the supply of financial services loans, insurance, savings and transfer services to low-income and poor households (Asian Development Bank, 2013; Morduch, 2000).

Kasali et al. (2015) looked at the concept of microfinance as an economic development strategy that aims at poverty reduction by providing financial services to the poor, low income earners' households and micro-entrepreneurs who are deprived of getting the same services from the formal financial market. These services include savings, insurance, credit and other development services, like education, health, human empowerment, training, skills and environmental protection. Manandhar and Pradhan (2005) stated that microfinance is an effective development tool for poverty eradication since the financial services enable the poor and low income households to take advantage of the economic opportunities to improve their living standards through self-employment. They further noted that it is now accepted that the poor do not have much money, so low income households need financial support. Omar, Noor & Dahalan (2012) considered microfinance as small credit supplied to the poor people to take care of their financial needs. The beneficiaries are small farmers, employees displaced from their jobs, pensioners, relocated persons, widows, divorcees and small business owners.

Surbhi (2015) argued that microfinance is a broad spectrum of financial services provided to the people of low income groups who cannot obtain assistance from the bank, banking and allied services. The service is available to extremely poor people, no matter where they live. The purpose of microfinance is to raise the earnings of low income earners and the extremely poor people and give them access to deposits and loans. The clients may include women, farmers and pensioners. Therefore, it is pertinent to note that microfinance not only provides capital to the startups or small businesses, but also delivers such financial services to the poor people who are constantly avoided by the formal financial sector, helps the poor people to fulfill their basic necessities and protects or safeguards them from any risks. In addition, it raises the per capita income and encourages women empowerment by providing economic assistance, hence advocating gender equality.

2.1.1 SERVICES PROVIDED BY MICROFINANCE INSTITUTIONS

Services provided by microfinance institutions, according to the Microfinance Initiative Liechtenstein (2013) are: (i) savings: (ii) credit: (iii) transfers: and (iv) insurance. The details are as follows:

Savings: a non-credit service provided by microfinance institutions. It is an account that provides the opportunity for the clients to keep funds in the microfinance institution. As such, microfinance institutions provide the poor with the opportunity to open a savings account which otherwise they would not do. To keep money at home is always dangerous because of the risk of theft due to lack of adequate security. Thus the only option is to buy livestock and other properties. Therefore, the advantages of holding money with them at any time or all the time is lost, hence, the need for a savings service provided by the microfinance institution. Owning a savings account gives them the opportunity to withdraw money at any time the need arises. Moreover, savings serves as a built-up property or asset of the household, as collateral, as insurance in times of devastating shocks to meet unexpected consumption expenditure needs, and as funds or finance investment opportunities.

Savings service is a way for microfinance institutions to keep people money’s on their behalf. This service encourages and motivates the poor to save continuously, even though that is not the initial aim of establishing microfinance. The encouragement of savings is seen as one of the greatest contributions toward decreasing the tendency of poor individuals becoming vulnerable and exposed to unforeseen situations: it is also an anti poverty tool.

Credit: Microfinance institutions are created for the purpose of providing small loans to individuals or groups of individuals who do not have access to the formal sector because they lack collateral. Therefore, microfinance institutions provide the poor who do not have collateral with a place where they can obtain credit.

Transfers: Microfinance institutions offer cash transfer services to their clients to buy goods or give money to their relatives and friends. The clients of these microfinance institutions are provided with the opportunity to transfer their money at any time. This reduces the danger in travelling long distances with cash in hand.

Insurance: Microfinance institutions also provide services in the form of micro-insurance. The fact that a client has an account with a microfinance institution is a kind of insurance where small financial difficulties can be solved with the money in the savings account. People living in poverty are exposed to malnutrition, lack of good drinking water and sanitation and run the risk of infection when there is disease outbreak. In such situations, micro-insurance can provide them some protection.

2.1.2 TYPES OF MICROFINANCE INSTITUTIONS

There are many types of microfinance institution. Akanji (2006); the Asian Development Bank (2013); and Wilson (2001) elaborated on three types of microfinance institutions:

informal, semi-formal and formal microfinance institutions. Formal microfinance institutions are licensed banks that provide services like savings mobilization, microloans and transfers. They can also be referred to as private and public banks, companies and insurance firms, which operate under close supervision and guidelines as laid down by the authorities (like public and private development banks, commercial banks, savings banks, non-bank financial intermediaries) (Ledgerwood, 1999). Semi-formal microfinance institutions are organizations that cannot be exactly categorized as formal or informal but are in between. These organizations are established, supervised and regulated by government agencies or the departments that have created them. The unit receives technical assistance and funding from agencies that establish them. Examples are cooperatives, group lending units, credit unions and NGOs (Heen, 2004). Informal microfinance institutions are either individuals or groups established without outside interference and there is no legal status guiding their operations. These organizations cannot be referred to as financial institutions, even though they provide financial services to their clients (Iganiga, 2008).

Farhodova et al. (2008) looked at types of microfinance in a different dimension and classified microfinance institutions into two: traditional and alternative microfinance institutions. The traditional microfinance institutions have three main features: they are credit-oriented, adopt principles of the Grameen Bank and their sources of funds come from external donors. The World Bank or donor agencies give these microfinance institutions, community money, which is administered as a revolving fund to be given to poor people to meet their financial requirements (Ritche, 2005). More so, the money is used to give loans to poor people to engage in any productive venture and construct any priority community projects.

The traditional type of microfinance failed because firstly, there was too much reliance on donor funds which made communities not manage the money the way they would manage their own (Morduch, 2000); and secondly, there was no mobilization of savings (Vogel, 1994). In some instances, beneficiaries believed that the money belonged to the government and therefore, there will be no problem if it is not paid. This contributed to the collapse of some of these institutions. The alternative microfinance institutions collect money as savings and issue small loans. Some of the loans are from the savings of the members. It is in the form of a village banking model where 15-30 members form a group, save money and lend to those groups that require loans. This type of microfinance institution is known as a semi-formal microfinance institution (Morduch, 2000).

Another example is the Community-Based Financial Organizations. This could either be formal microfinance institutions, like savings or credit associations and savings and loan associations or informal associations like Accumulating Savings and Credit Associations and Rotating, Savings and Credit Associations (Ritche, 2005). The alternative microfinance institutions give the poor more and better services because they are indigenous or local without any external regulations.

Microfinance institutions are categorized also in two ways: loan-only and loan and other services. Loan-only microfinance institutions: the microfinance institutions that operate loan only services are mostly the informal and semi formal microfinance institutions.

Examples of informal microfinance institutions are the Rotating Savings and Credit Association and Accumulating Savings and Credit Association. They are called Esusu, Adashi and Etoto and are Self-Help Groups. They are associations where work is rotated among the group members, where labor as a commodity is provided to one person at a given period of time. But with the coming of money as a medium of exchange, such acts have been substituted with money. Hence, money is collected from the group members and given to one person in the form of credit or loan (Seibel, 2003). The semi formal microfinance institutions are like government agencies (Adeniji, 2011).

Loans and other services: these microfinance institutions offer both loans and other services, like, savings deposits, insurance, money transfers, training, etc. Examples include; formal microfinance institutions, both private and public, insurance firms and finance companies.

2.1.3 PRINCIPLES OF EFFECTIVE MICROFINANCE

For microfinance institutions to undertake the process of providing credit services successfully the following principles should be adopted (Akanji, 2006; and Electrin et al., 2013) as in Table 2.1.

Table 2.1:
Principles of effective microfinance

Simple services:	Microfinance institutions are expected to offer services and products that are customer friendly to their clients. Prepare application forms in very simple language that can be understood, if possible not more than a page and also make the procedures for filling the application very simple and easy.
Give small microloan at the beginning:	Begins by making available small-loans to the clients to be able to meet their daily financial needs. Encourage them to repay immediately by making available big loan size as an incentive to customers who pays early.

Offer short term loans:	Give the clients initial micro-loans for two, three to six months with regular repayment time.
Localize services give consideration to scale:	Select areas where micro-businesses are many whether in the village or small scale industrial estate. This will help in reducing transaction costs and encourage sustainability of the program, through the provision of large volumes of micro-loan. More so, microfinance institutions should employ staff in the locality or community they are operating, especially those who have very low level of education.
Short turnaround time:	The time taken between application period of micro-loan and the disbursement of fund should be reduced. Since most loans are collected in order to finance working capital, processing it faster will be better for clients and the micro-credit institutions because it will reduce administrative expenses. Turn around period can be reduced by depending on solitary groups to screen potential clients. In addition, approval of micro-loans should be decentralized.
Encourage repayments:	Encourage clients to make repayment to microfinance institutions or through the solitary groups. Groups lending is good because it reduces the cost by externalizing it.
Acknowledge that the poor can save:	Microfinance can succeed and be sustained if they are sponsored by individual personal savings. Savings constitute more than half of informal funds of micro-credit system. Poor micro-credit program can deny poor people of their micro-savings. Therefore, microfinance institutions have a fiduciary responsibility to their clients.
Charge full-cost interest rate:	The cost of administering micro-loans to the poor segment of the society requires a higher interest rate, compared to one charged by the traditional commercial banks. This is to enable the microfinance banks programs to be sustained. The owners of micro-businesses have shown the zeal to pay interest rate provided the services or products are in line with what they need or want.

2.1.4 MICROFINANCE LENDING MODEL (GRAMEEN MODEL)

The Grameen model was established by Prof. Mohammed Yunus in Bangladesh. It adopts and accepts the following methodology: A bank outfit is set up with a field manager and a few bank workers, covering a locality of about 15 to 22 villages.

The manager and workers begin by visiting villages to familiarize themselves with the people they will be dealing with and disclose the functions, purpose and mode of operations of the bank to the villagers. Groups of five or prospective borrowers are formed; in the first stage, only two out of the five are eligible for the loan. The group is observed for a month to see if the members are keeping to the rules of the bank. Only if the first two clients repay the principal plus interest over a period of 50 weeks do other clients of the group become qualified for a loan. As a result of these restrictions, there is great group pressure to have clean individual records. Hence, combined responsibility of the group serves as collateral for the loan (Electrin et al., 2013).

2.1.5 MICROFINANCE IN NIGERIA

Informal and traditional microfinance activities have existed and flourished in every part of Nigeria before the advent of formal microfinance institutions. The provision of credit was carried out through traditional groups that organized themselves for common gain of the members. Traditional microfinance at that time operated under various names, depending on the geopolitical zones or regions in Nigeria. The traditional groups usually made available the provision of credit and savings services to their members (CBN, 2000). These informal sectors or associations can be seen in all the communities in Nigeria both in urban and rural areas, operating the traditional micro-credit in a variety of ways (Nwachukwu & Mejaha, 2008). Some of the approaches of informal micro-credit in Nigeria are: Self-Help Groups, Rotating Savings and Credit Association, cooperatives and borrowing from relations and friends directly (CBN, 2005; Okpara, 2010).

The increasing level of poverty in society reveals the inadequacy of traditional microfinance institutions in providing enough credit services to the poor people. The Central Bank of Nigeria (CBN) agrees with the above assertion and points out that the informal financial institutions have a limited and small outreach, as a result of a lack of adequate funds to reach the poor in the society (CBN, 2005). This is in spite of other NGOs and community banks working a long side the traditional micro-credit institutions to provide credit and other services to uplift the standard of living of the rural and urban poor people.

Consequently, because of the inadequacy of the informal micro-credit institutions to provide credit for the teeming poor population, the CBN introduced a new microfinance policy for licensed microfinance banks. The objective of providing a policy framework is to improve and diversify the provision of micro-credit services to low income earners and the poor in the society and its sustainability in Nigeria for a very long period. The licenses of the microfinance institutions came into being due to the weak capital base of the existing community banks and the need for the creation of more opportunities for credit and savings services (CBN, 2005). In 2007, microfinance banks were licensed to start their business activities and the NGOs micro-credit institutions and community banks that fulfilled the requirement were given the chance to change into microfinance banks in Nigeria (Ikechukwu, 2012).

2.1.6 TYPES OF MICROFINANCE INSTITUTIONS IN NIGERIA

Microfinance institutions in Nigeria can be classified into two according to Iganiga (2008). These are informal/traditional microfinance institutions and formal microfinance institutions. The informal microfinance institutions are micro-credit institutions whose activities have been on-going in Nigeria for a very long period of time. The microfinance institutions give the poor people and low income earners in the urban and rural areas the opportunity to collect microloans. The traditional microfinance institutions in Nigeria are Rotating Savings and Credit Associations or Self-Help Group, cooperative societies and savings collectors. The outreach of the traditional microfinance institutions in the country is mostly small as a result of the lack of adequate funds or money to give as micro-loans to their members or clients (Agaifa, 2006).

Formal/modern microfinance institutions are formal micro-credit institutions. Under this category are: universal banks which participate in the provision of microfinance products and services by creating a unit in the banks for providing such services to the poor. The activities of the department in the bank are guided by the provision of microfinance banking regulations.

Community banks (microfinance banks): presently in Nigeria, the community banks have been changed or transformed into microfinance banks, especially those community banks that have been able to meet the guidelines laid down by the CBN. The microfinance banks are categorized into two: established and operate in the state and established as a department in the conventional banks.

Other formal microfinance institutions, like public sector poverty alleviation agencies are microfinance institutions established by public sector organizations in Nigeria in accordance with microfinance banking policies and guidelines, e.g., People's Bank, Bank of Agriculture and poverty reduction agencies, like Small and Medium Enterprises Equity and Investment Scheme, National Poverty Eradication Program and National Directorate of Employment. The roles and activities of these agencies are to provide loans for the poorest of the poor in the remote areas, train the poor in doing businesses and to partner with other stakeholders.

Non-Governmental Organizations-Microfinance Institutions (NGO-MFIs): the NGO's main aim or objective is to give microloans to specific categories of people on their target list and collect money for safe keeping from the public. Before a credit is issued to a person, that person must be a registered member of the organization. They operate credit-only membership-based microfinance institutions. These organizations are always expected to render return on their operation to the CBN. The NGOs are also free to apply for a license to operate as a microfinance bank provided they are able to meet the requirements.

Specialized microfinance schemes: some Nigerian government agencies or parastatals in the tiers of the government do establish and manage special credit schemes nowadays for graduates, artisans, farmers and traders. These agencies are not under the supervision of the CBN but are controlled and run by agencies that have created them.

Donor Agencies: these agencies give out money as donations or technical assistance that will help the microfinance industry in Nigeria to grow and develop. The donor agencies are made up of multilateral and bilateral institutions, missionaries and NGOs, who have the interest of the poor in mind. The donor agencies provide technical assistance, grants, and donations. The NGOs, micro-credit institutions and government agencies are some of the beneficiaries of the donors' funds.

2.1.7 MODEL OF MICROFINANCE INSTITUTIONS IN NIGERIA

The CBN Rural Banking Program requires each Universal Bank to open a number of branches in specific locations in the rural areas of Nigeria. But the main drawback to the program of rural banking was the liquidation and collapse in 1993 and 2003 without giving due consideration to the social impact the banks were having on the poor in the rural areas (Adeyemi, 2008). The People's Bank came into being in 1989 as a credit-giver and a deposit-taker for the poor. This institution was established by the federal government of Nigeria. The operations of the People's Bank cut across both the rural and urban settlements with many branches being established. However, the People's Bank did not have any remarkable achievements as a result of too much governmental bureaucratic red tape and corruption.

Thereafter, community banks were formed and given the license to operate as a unified branch or as a bank to provide services to the poor people in the community. The federal government provides motivation by asking them to only raise a minimum capital of 250, 000 naira as a take-off capital. Apart from that, at different periods, the federal government establishes some programs directed at Small and Micro Enterprises. The programs are Small and Medium Enterprise Equity Investment Services formed in 2001, National Economic Reconstruction Funds established in 1982 and Small and Medium Enterprise Development Agency of Nigeria in 2003.

The National Economic Reconstruction Funds program is a credit delivery system at the national level with the purpose of giving credit to SMEs through some selected banks. In order for the National Economic Reconstruction Funds to carry out its operations successfully, the federal government of Nigeria normally gives them equity capital and loans and line of credit for foreign banks, especially the African Development Bank (Oteh, 2009).

Small and Medium Enterprises Equity and Investment Scheme is a program that was formed to encourage every bank in Nigeria to set aside 10 percent of their profit before tax in a pool fund, called equity investment in Small and Medium Scale Enterprises. Hence, the banks are either directly involved through the establishment of city and village bank branches or through the Small and Medium Enterprises Equity and Investment Schemes' independent body. From the time the organization was established in 2007, about 40 billion naira was realized out of the total amount. However, only 40 percent was used or disbursed out of the funds for 200 projects all over the nation.

The third one is Small and Medium Enterprise Development Agency of Nigeria: this organization serves as a forerunner for propelling growth in Nigeria. It was formed with the aim of putting in place a good foundation for efficient Micro-Small and Medium Enterprises that will promote economic development which will be sustainable through

Small and Medium Enterprise Development Agency. Small and Medium Enterprise Development Agency of Nigeria give advisory services on how SMEs will source for finance or funds. Since its inception, it has established a development center. It has also been in the forefront for organizing workshops and seminars, both at international and local levels. However, Adejumo and Olaoye (2012) observed that the functions of Small and Medium Enterprise Development Agency of Nigeria are too minimal.

The Nigerian Agricultural Cooperative and Rural Development Bank, previously called the Nigerian Agriculture and Cooperative Bank, and presently referred to as the Bank of Agriculture was formed in 1973. The bank gives loans for agricultural business to both small and big-scale farmers, traders, micro-businesses and to the government of each state to give to their farmers. The behavior of the bank is like a Development Finance Institution. After this, the Agricultural Credit Guarantees Scheme Funds came into being. It was established in 1978 with the purpose of reducing the risk in agricultural credit under the regulation of the CBN. This is especially necessary when a natural disaster occurs causing the farmers to default on their loans. The bank gives 75 percent out of the principal amount.

Micro-credit institutions started as a non-profit making venture with the sole aim of eradicating poverty. A number of NGOs took up the mandate as part of their program by issuing micro-loans to support the government in its efforts to encourage micro-financing. For example the Nsukka United Self-Help Organization organized seminars and workshops and other activities on how to manage their credit for the staff and their clients in the 1980s through the credit and savings scheme of the organization. The Country Women's Association of Nigeria was formed as a type of African Traditional Responsive Bank, which is the combination of the credit system and traditional thrift in the past. The Lift Above Poverty Organization was established in 1980 to also give credit to the rural poor populace. Adamu (2007) opined that microfinance institutions' growth has been too slow and this has paved the way for the expansion of the informal micro-credit institutions' activity. Due to the inability of the microfinance banks to fulfill the credit needs of poor people, the poor people developed various means to satisfy their financial needs.

The source of the informal funds is the money lenders and credit and savings associations which existed long ago, before the coming into being of the semi-formal and formal microfinance banks. The ROSCAs is called Esusu in Yoruba in the West, Etoto in Igbo situated in the East and the Hausa's call it Adashi in the Northern part of the country (CBN, 2000). Right from then, many innovations came out of ROSCAs, one of which is the change into non-rotating savings associations with an established fund for loans at all times (Sielbel, 2003). The cooperative society operates with a mandatory savings scheme at a regular interval by it members. The cooperatives, credit society and thrift organizations provide both loans and savings services to their members.

Cooperative have a degree of legal existence with a written constitution binding the activities of their members. ROSCAs are formed or established based on the understanding of friends (Aghion & Morduch, 2005). The most important feature of these microfinance institutions is that the issue of collateral does not arise when collecting the loan. All the poor need to do is to form a group so that each member will serve as a guarantor to the other.

From the above evidence, it can be said that institutions and programs formed by the government, like the Bank of Agriculture, Peoples Bank, the rural banking scheme many others have not made an appreciable impact in the past on the lives of poor people and activities of small businesses (Akanji, 2006). Therefore, in 2005, microfinance policies were introduced with the purpose of commercializing the microfinance business. All community banks were asked to change to microfinance banks with a minimum established capital of 20 million naira latest by the 30 December, 2007. Due to poor performance, the microfinance banks' capitalization rate was increased to 100 million naira in 2010 to recapitalize on or before 31 December 2013. Their main role is to facilitate the development of SMEs and provide start-up funds for the poor groups in the country.

The objectives or goals of establishing the microfinance banks as stated by the CBN (2005) are as follows:

1. Give services to low income earners and the poor groups.
2. Raise the microfinance share of the economy to two percent from 0.9 percent by the year 2020.
3. Raise the share of micro-credit to Gross Domestic Product (GDP) to five percent from 0.2 percent by the year 2020.
4. Increase and enhance access to funds for women by five percent yearly.
5. Encourage local and state governments to participate fully in the business of micro-financing by the year 2015.

2.1.8 CHALLENGES OF MICRO-FINANCING IN NIGERIA

The challenges facing micro-financing in Nigeria are as follows:

Outreach to the poor: Over 40 million potential clients of the micro-credit institutions have not been reached with the microfinance services. Microfinance institutions have not been able to really reduce the distance and gap in savings, credit and other services needed by the poor and small businesses in Nigeria. This can be shown by the fact that more than 65 percent of Nigeria's population (approximately over 80 million people) remains poor (CBN, 2004). Bamisile (2011) observed that the portion of micro-credit as a reciprocal of total credit was 0.9 percent in 2005 and contributed only a small percentage of 0.2 percent to the GDP. The majority of people who have not been reached are mostly situated in the Northern regions. The poverty level was 23 percent in the Southeast, 35 percent in the Southsouth and 43 percent in the Southwest. However, it was 72 percent in the Northeast, 71 percent in the Northwest and 67 percent in the Northcentral regions (Soludo, 2007).

Inequality in wealth and income distribution: The formal micro-credit institutions established in Nigeria contribute to increasing inequality in income and wealth distribution. This is because the present micro-credit institutions give the larger share of microloans to few individuals and groups that are engaged in trade and commerce. Meanwhile, the majority of the poor engaged in agriculture as their main source of income generation and livelihood, receive the smallest portion of micro-loans in Nigeria. A research carried out by the CBN has revealed this (see Table 2.3).

Table 2.2:
Microfinance institutions sectoral allocation of microloans

Sectors	Average loans to each sector
Agriculture	3.50
Trade and commercial activities	78.40
Manufacturing	14.10
Housing	Nill
Service	4.00

Source: Folake (2005).

Table 2.2 shows the sectoral allocation of credit to the different sectors in Nigeria. Trade and commercial activities or sectors have received the major share of the total loans allocated to all the sectors in Nigeria. The sector has 78.40 percent of the total loan share. This shows that trade and commercial sector is the most favored and is given more priority than the other sectors. The other sectors i.e., the service, manufacturing and agricultural sectors share the remaining 21.60 percent. This scenario is not healthy for the growth and development of an economy. This is because agriculture and manufacturing sectors which are supposed to be the engine of growth and development, are being neglected. More so, the rate of interest on micro-loans charged by the micro-credit institutions is between 30 percent to 100 percent but only 4.5 percent to six percent yearly interest is paid to the clients on their compulsory and voluntary savings (Folake, 2005).

Interest: The micro-credit institutions in Nigeria charge interest rate from 32 percent and above, which is much higher than that charged by the traditional banks of 19.50 to 21.60 percent. Those in the informal sectors, such as money lenders, charge almost 100 percent interest rate or even more than that. The clients of the microfinance institutions complained bitterly about the high rate of interest charged when interviewed (Anyanwu, 2004). Therefore, the aim of reducing poverty through the micro-loans will not be achievable as the beneficiaries are expected to repay almost twice what has been collected.

2.1.9 MICRO-CREDIT FACTORS

Studies on microfinance factors are as follows:

2.1.9.1 SAVINGS

Savings is another type of service or product of microfinance institutions which takes two forms; voluntary and mandatory savings. Voluntary savings is the amount of savings kept by microfinance institution's clients which is not meant to serve as a condition for the collection of an existing loan. Meanwhile, mandatory savings is the value of savings that the clients most deposit or keep in the microfinance institution as a condition for obtaining future loans (Al-Shami et al. 2014). Both voluntary and mandatory savings are important for improving the ability of the poor to cope with unforeseen shocks, decrease financial cost of borrowing and secure sustainable sources of funds (Ledgerwood, 1999; Robinson, 2001).

Savings are required, just like credit is needed, by the women's businesses (Akanji, 2006). Savings normally play an important role and serve as insurance for credit since business women lack the assets to present or show as collateral (Akanji, 2006; Mkpado & Arene, 2007). So, compulsory group savings serve as insurance for credit, since the money will not be totally depleted until credit is paid (Kwai & Urassa, 2015; Versluysen, 1999). Savings are usually kept and become large sums of money that can help poor women run their businesses as well as build up their social needs and assets in Nigeria (Abiodun et al., 2012).

Savings generate a sense of financial discipline and help women in businesses to cultivate a culture of keeping their money in the banks. It also assists the women to gather and keep funds in the microfinance institutions for household use, business and other unforeseen circumstances (Akanji, 2006; Mkpado & Arena, 2007). Savings have a positive impact on women entrepreneurs' and their well-being in Bangladesh, Ghana, Mexico, Nigeria and Indonesia (Odetayo & Anaolapo, 2016; Sulemana & Dinye, 2016; Vonderlack & Schreiner, 2001). Savings also have a significant relationship with entrepreneurial development in Nigeria (Olu, 2009). Savings have impacted positively on the income and welfare of entrepreneurs in Nigeria, Haiti, Malawi and Tanzania (Kesanta, 2015; UNDP, 2003).

2.1.9.2 CREDIT

Credit is the main product or service of microfinance institutions in the form small loans. This is provided to poor people at reasonable interest, for the purpose of income generating activities towards self-employment. The terms for providing the loan are important determinants of the clients' or beneficiaries business performance, welfare and improvement of the household (Al-Shami et al., 2014). For example, increasing the size of the loan is essential for extending the market and the size of micro or small-businesses. The flexibility of loan disbursement which includes giving enough information about the terms and conditions of service and facilitating easy access and timely responsiveness are important determinants for improving the clients' well-being. Additionally, the flexibility of loan repayment policy which includes interest rate, repayment period and loan grace period are all critical factors for determining the impact of microfinance services on beneficiaries' well-being (Ledgerwood, 1999; Robinson, 2001).

Credit is a part of the micro-credit factors which has to do with extension of small loans to those who are living in poverty and are not qualified for traditional bank loans (Shepard, 2015).. However, the lack of credit leads to the inability of women to earn income (Akudugu, 2011). This is because women lack enough capital to carry on their businesses (Kuzilwa, 2005).Thus, there is the need for business women to be provided with micro-credit to generate income to reduce or lift them out of poverty. Getting credit will serve as the beginning or additional capital for women and this has been confirmed as important (Ekpe, Razak & Mat, 2013). Some women only need access to credit to give them a head start to empowerment and poverty reduction (Cheston & Kuhl, 2002). The women are unable to save (Mkpado & Arene, 2007), due to very low income in the household (Lawal et al., 2009), as they are not employed or have a job (Akanji, 2006; Olomola, 2002). They do not have assets to present to commercial banks as collateral to access loans and pay the interest (Brata, 2004).

Women's access to credit is relevant or significant for their business performance (Ekpe et al., 2013). Credit has been found to have significant effects on income, employment and acquisition of assets of women's businesses in Nicaragua and Ghana (Martin, Gabriel & Telleria, 1999; Sulaimana & Dinye, 2016). Also, credit has been discovered to have a positive relationship with the profit of women's enterprises in Kenya (Peter, 2001).

Credit has been discovered to be too small to allow the women's businesses to grow and be sustainable in Nigeria (Kanayo, Farjumare & Nancy, 2013). Credit have contributed greatly in empowerment of women (Cheston & Kuhn, 2002). Credit leads to income generation, jobs, assets, and the growth of the businesses, which in turn, have contributed to changing the life of the borrowers in Nicaragua and Nigeria (Martin et al., 1999; Odetayo & Onaolapo, 2016). Credit has no significant relationship with entrepreneurial development in Nigeria (Olu, 2009). Credit is found to have a positive effect on employment, income and diversification of risk (Omar et al., 2012).

2.1.9.3 SUPERVISION

Supervision comes from the word 'Super' meaning special, assisting people to improve their skills and understanding their career or profession. 'Vision' means perusal or seeing. Therefore, supervision means to be in charge and to oversee the work of others (London Deanery, 2012). Supervision is a process of looking after the operation and performance of an individual or set of individuals. It means overseeing the activities of another person.

A supervisor is the middleman between the top management and the employees or clients of an organization. The supervisor is a person that the employee or clients can approach at any time when they are in need of assistance and advice on some issues. The supervisor manages conflict when they occur (Kokemuller, 2007). Tnay et al. (2013) defined supervision as the physical and psychological encouragement by the supervisor or employer to the employees or clients who helps to promote their development. This could affect the employees' or clients' performance and effective development. Tan

(2008) opined that the supervisors are mainly involved in performance evaluation and feedback, and the supervisor's favorable and unfavorable treatment reflects on the organizational views and decisions on employees or clients.

Thus, supervisor support is characterized as employees' or clients' general opinions regarding the extent to which their supervisor assess their commitments and empathize about their prosperity (Kottke & Sharafinski, 1988). Kimuna (2013) added that the degree of relationship between the supervisor and subordinates depends on whether the subordinates feel that they are part of the organization or they are just a group of people coming to work for the organizational benefit.

Supervisors and subordinates share valuable information while they are interacting with each other. A Supervisor will discharge his/her supervisory role or socio-emotional relations with the clients. On the other hand a subordinate will be making extra effort with greater commitment and dedication in completing the supervisor's goals and by displaying organizational commitment. The exchange of valued resources will payback both of them in the form of benefits (Golden & Veiga, 2008). In organizing the working environment, a supervisor is a crucial component of an organization and also a key component to pass on the information to the employees (Griffin, Patterson & West, 2001). A supervisor also exchange the positional resources with the subordinates, which include material and non-material things (Golden & Veiga, 2008).

Smith (2005) recommends that, philosophy of reciprocal relation affect employees' observation of their organization as well as the interpersonal relationships that employees or clients develop with their supervisors. Employee or clients will be more committed to the organization or their job and also more committed with the supervisor if he/she perceives that the supervisor will be supportive. Smith (2005) stated that supports whether social or organizational if properly provided to the subordinate or client by supervisor will generate positive outcomes both for organization and employee or client.

Rehman et al. (2011) used survey research design and data collected via questionnaires on a sample of 320 respondents. Non-probability sampling method was used to select respondents. The study concluded that supervisory support is significant and positively related to organizational commitment. Hence, supervisory support plays a critical role on organizational commitment, as the results shows supervision to increase commitment in pharmaceutical industry.

Stinglhamber & Vandeberghe (2003) used a longitudinal study on a sample of 238 employees to examine the linkages between the favorableness of intrinsically and extrinsically satisfying job conditions, perceived organizational support, and perceived supervisor support, affective commitment to the organization and supervision, and turnover. Affective commitment to the supervision was found to completely mediate the effect of perceived supervisor support on turnover. While, perceived supervisor support totally mediated the effect of favorable intrinsically satisfying job conditions on affective commitment to the supervision. Conclusively, exchange relationships between employees or clients and their supervisors should be further investigated in future research. Mansuri

(2007) reported on the continued success of informal credit markets in countries where micro-lending has gained steam. This showed the advantage of enforcement of informal credit over formal credit allowing them to better monitor the use of credit and repayment on a timely basis.

Gentry et al. (2007) proposed that perceived supervisory support may be related to part-time employees' retention. The reason for low part-time employees' retention levels may be a perception of a climate of low supervisory support. Based on social exchange theory, if part-time employees feel their supervisor supports and cares for their well-being, they would feel "connected" to the organization and feel obligated to "return the favor" to their supervisor by staying (retention) in the organization. Alternatively, perceived supervisory support levels of blue-collar perceived part-time employees were related to retention rates. The study revealed that supervisory-support climate was important in part-time employees' retention and also provided mechanisms that managers can use to improve perceived supervisory support levels of employees. Jacob & Mansuri (2007) collected unique data on monitoring frequency from share-tenants in rural Pakistan and confirm that, controlling for selection, supervision of tenants are significantly more productive than unsupervised ones. The decisions of the Landlords' regarding the intensity of supervision and the type of incentive contract to offer depend importantly on the cost of supervising tenants.

Latif & Sher (2009) in their study aimed at finding the impact of perceived organizational support, pay satisfaction and supervision satisfaction on career motivation. Survey research design was employed and data was collected using questionnaire while random sampling technique was used to select the sample. A sample of 115 respondents was chosen from two banks. Data analysis was carried out using SPSS Statistical software. The study showed that there was no relationship between supervision and career satisfaction.

Tnay et al. (2013) considered the influences of job satisfaction and organizational commitment on employee turnover intention in a production industry. Survey research design was employed. Data was collected through questionnaires on a sample of 85 respondents. Descriptive and inferential statistics were used in analyzing data through the statistical package for Social Science (SPSS) software. The results disclosed that supervisory support and employee's turnover intention is positive. This finding showed that supervisory support acted as an antecedent in affecting employee turnover intention. The study recommended for future study to be conducted on different populations such as the banking, telecommunication, hospitality and manufacturing industry.

Bad/poor supervision may be related more to top management performance than the supervisor's ability and skills (Kent, 2001). This is because the employees always look at the behavior of the management as determinants of their actions. For example, management actions and responses to issues and behavior of supervisors will determine the future actions of subordinates (Kent, 2001). The qualities of a good supervisor are: considerate and treating subordinates with respect, establishing and keeping a relationship of trust with everyone, listening always to subordinates and committees, leading by example and being hard working, accepting responsibility when things are not right and sharing the credit when everything is right, choosing the appropriate person for vacant jobs, training members of staff or clients where possible and assisting clients to achieve their objectives always (Oppermann, 2008).

Mansuri (2007) reported the continued success of informal credit markets in countries where the micro-lending model has gained recognition and concluded that the resilience was ascribed to the informational and enforcement advantage informal lenders have over formal credit institutions. This allowed them to better monitor the use of credit and its timely repayment.

Thus, DEC (2012) stated that effective supervision was provided to ensure that the beneficiaries were able to solve the practical and peculiar constraints faced individually or collectively in engaging and running the affairs of their business and in implementing what they have learnt. It was observed that credit given to the poor included in the study to engage in income generating activities was being diverted for personal and other use instead of its intended use. The area that DEC served was in war torn northeast Nigeria where people had a lot of needs such as their children's school fees, food and health needs.

Thus, in order to ensure that credit is being utilized for the purpose to which it is given, the micro-credit institution supervised the use of credit to ensure that credit is strictly used for income generating activities to boast the income of the family to enable the beneficiaries settle their loan, save and use the income to meet household expenditure and reduce poverty. Hence, help in achieving the micro-credit institution purpose.

2.2 POVERTY AND POVERTY REDUCTION

This section discusses poverty and how microfinance has been used in poverty reduction.

2.2.1 POVERTY

Poverty is referred to as the reverse of well-being, which has to do with not only having very small or no income, but also the inability of an individual to own a piece of land, have access to credit facilities, exposure to unforeseen circumstances, violence, social exclusion, lack of education, natural disasters, poor healthcare services as well as exposure to external economic shocks (Yekini et al., 2013). Khandker and Haughton (2009) observed that poverty is made up of so many different dimensions of denials that are connected to human abilities, such as: healthcare services, protection and dignity, consumption and availability of food, quality of education, good employment and human rights. Richard and Sonja (2008) opined that poverty is not concerned with only the lack of access to material resources or things, but rather, it includes the inability of the individuals or people to have access to good education, health care delivery, involvement in key decision-making as well as to be exposed to external situations. Momoh (2005) explained that poverty is a phenomenon that is multidimensional which is connected to a lack or inadequate cultural, political, economic and social entitlements.

Brockerhoff (2013) observed that poverty can best be understood within the context of individuals, households or communities' inability to command sufficient or enough resources to meet socially acceptable living standards. Thus, the notion of ‘inability’ or ‘incapacity’ on the part of individuals, households or communities, illustrates intrinsic inter link between poverty and the notion of development. Discernibly, when communities lack the means, development stagnates. Rapatsa (2015) discussed the phenomenon of poverty, considering its impact on sustainable development. It is concluded that as a socioeconomic problem, poverty inhibits or distract from the realization of basic human rights, such as health care and education, which are indispensable for poverty reduction and sustainable development as a whole. In addition, lack of employment or job opportunities owing to sluggish economic growth and development, can compound the problem, thereby making poverty a pervasive challenge to development at large.

Hallegatte et al. (2016) warned that the effects of climate change could seriously impede or distract any progress that is presently being made in addressing poverty, especially extreme poverty: “Poor people and poor countries are vulnerable and exposed to all types of climate-related shocks, natural disasters that destroy assets and livelihoods; pests and waterborne diseases that become more prevalent during heat waves; crop failure from reduced rainfall; floods or droughts; and spikes in prices of food items that follow extreme weather events” .

The World Bank recently proclaimed that addressing climate change and ending poverty are the two defining issues of our time” (Hallegatte et al., 2016). Rocha (1998) reported that it is as a result of the different dimensions of poverty that scholars have come up with different kinds of definitions or meanings, measurements and policies with regards to poverty alleviation. Maxwell (1999) concluded that the problem of measuring poverty can be identified from the difficulty in arriving or reaching at one best explanation of the true meaning of poverty. The complexity in explaining poverty continues to increase, especially in this era when everybody keeps defining poverty, poverty indicators and measurements in their own ways and circumstances or according to their own understanding.

However, to measure poverty, most scholars have used income and consumption expenditure as a tool or yardstick for assessing who is poor and who is not. The usage of income as a measure of poverty has been publicized by almost all the national governments and agencies responsible for growth and development of nations to assess poverty and other anti poverty policies and programs (Garba, 2006; Maxwell, 1999). Studies have indicated that to effectively measure poverty, income alone is not an effective way. This is because there are various types of deprivation faced by the poor people which income poverty measurement is unable to capture in the measurement tool. Oriola (2009) stated that income measurement is not an adequate means of measuring wellbeing or poverty. This is because those living in poverty suffer from various and different categories of denial that the income poverty assessment tool alone cannot solve.

Thus, other poverty measurements were incorporated in the 1980s: non-monetary measurement tools, like sickness and physical weakness, increase in the consumption expenditure level, isolation and hopelessness, social inferiority and humiliation, women empowerment basic needs, etc. Knowing these categories of poverty measurement is important to explain and understand income poverty (Hulme & Mosley, 1996). Therefore, this study employs the use of income, expenditure and empowerment to measure poverty reduction.

2.2.2 TYPES OF POVERTY

Poverty is divided into two types according to Mcferson (2010): structural and contingent poverty. Contingent poverty occurs due to an adverse effect of an activity or event, like an unexpected increase in the price level of food items, petrol and occurrences of natural disasters. This type of poverty sometimes exists for a while or short period of time and the situation can also change immediately the event or the cause ceases to exist, even though at times, it can lead to permanent poverty. Contingent poverty is subject to change when appropriate policy actions to respond to the situation are adopted and pursued with vigor. Structural poverty takes place and leaves a mark on the country's economic, political and social spheres and it is hard to decrease the level and intensity of the poverty, even when all the policies, investments and economic stimuli are applied. The Sub Saharan African women are more susceptible to structural poverty because most of them are affected disproportionately from all types and manners of poverty that make it the poorest continent in the whole world (Mattes, 2009).

Johnson (2013) classified poverty into three types: absolute or extreme poverty, relative poverty and moderate poverty. Extreme or absolute poverty is a condition whereby individuals or persons are not able to have immediate access to basic or fundamental needs to guarantee a modest and conducive living in the community. Those who are left in extreme poverty exist on less than USD1 daily. It is estimated that eight million people die annually due to extreme poverty in the world. Moderate poverty allows persons or individuals to have access to basic necessities of life, but lack the capacity to have access to good education and healthcare services. Living in moderate poverty means existing with only USD1 every day. Relative poverty is concerned with persons having income that is below the national average.

2.2.3 FEMINIZATION OF POVERTY

The lack of equal opportunities to have access to ownership of social and economic resources, occurs due to the disadvantaged situation women find themselves in, in terms of race, gender and class in any given community. Class is the level of social position or the stage in a relationship that is related to having the chance, utilizing the chance, possessing resources, means of production, exchanging, consuming and distributing goods or products manufactured (Bradley, 1998). The words 'gender' and 'race' are not fixed, but flexible, explaining the social, political and economic role as it is undertaken in any given society.

The concepts can be subject to change depending on the influence of the change in the economic and political environment that defines them (Kehler, 2001). It is a clear fact that women's position in the society is dependent on their access to positions and paid employment, even though their status as women gives them reproductive and domestic roles (Hakim, 1996). Thus, the definition of social role, according to gender, paves the way for the inequality the women are encountering in their various communities today. The tradition, culture and social values existing in the communities are responsible for the way and manner women are being seen as less important. This is not only exhibited in the attitudes and behaviors seen always, but also exists in the policy making processes of the legislative organs of the governments in some nations (Bradley, 1998).

Thus, cultures and the society consider women as caregivers and takers in a relationship with their reproductive function. Men are the bread winners, as defined by their reproductive roles. It is the discussion on responsibilities which makes the society to believe that women are less important as compared to men especially when it has to do with the contribution and maintenance of the family as a whole (Kehler, 2001).

Studies have indicated that the current economic reforms, globalization of policies of the International Monetary Fund and World Bank for countries to privatize their public utilities, services and decrease expenditures on social amenities, are some of the factors that can lead to the reduction or retrenchment of women in paid employment. This scenario has contributed to the increase in the poverty of women (Kehler, 2001).

For a very long time, women have been considered as the people exposed to vulnerability in their working places in terms of any economic shocks, which could lead to loss of job during retrenchment. Thus, the consequences of privatization of public utilities and services have fallen heavily on women. This is because they are regarded as caretakers, not caregivers, who are the main recipients of those services and utilities. Women mostly rely on the social services provided by the government and decrease in expenses related to the provisions of these services will have a high effect on the roles or functions women play in the family and the community as a whole.

Decrease in social expenses as well as the reduction of the social services being provided by the government would increase women home responsibilities at home. These situations contribute to the feminization of poverty to the detriment of social, economic empowerment and changing the woman's position or well-being. This shows that gender, opportunities, as well as the current changes in the nation's economy have contributed to the inequality and poverty of the women. These factors also lead to decrease in their social, economic and political positions in the society (Black & Wodon, 2006).

This indicates clearly why rural women in Africa are considered to be the poorest of the poor and the reasons why they experience poverty and lack of equity (Kehler, 2001). Women in Africa are faced with the problem of inability to have access to basic services, resources, lack of equity in the discharge of their rights in the family and unfairness in access to resources in the households, such as livestock and land. This justifies the reasons why women are poorer in their family and the society as a whole as well as the state in general.

Studies have shown that women have the tendency to be poorer, since having the opportunity or chance to be employed and have access to resources rely heavily on class, race and gender (Kehler, 2001). Geisler and Hansen (1994) found that in as far as men are the custodians of productive resources, such as credit, housing, land, tools and labor, the prospect of men to excel may be higher and different from the women, more importantly, when there is a disaster or economic shock and pressure.

2.2.4 THE ROOT OF POVERTY

In African nations, the quality of women's life is very low when compared to men, even though they have the same life expectancy. Women can be seen to be great players in contributing immensely to the growth and development of their country's economy. Therefore, to remove poverty in its entire form, the issue of poverty among women has to be taken care of, by identifying and dealing with the root causes. The following are the root causes of poverty among African women:

Gender and property rights:

Many African nations' customs, laws and tradition do not give women the right to own or possess land and property. This scenario exposes poor women to be economically and socially vulnerable because of the lack of legal rights to own property in their own nation. Results indicate that 80 percent of the labor force used in agriculture is women and only five percent of women in Kenya are registered owners of property (Mcferson, 2010). It could be seen that when women are widows or divorcees, the property rights of their husbands are confiscated by the relatives, despite the fact that they have been utilizing the property for several years. This arises because of the weak rights of women to property as seen in their customs and traditions.

It is the lack of property rights that deprives the women from having the means to generate income in order to improve their livelihood (Mcferson, 2010). Thus, the cycle of poverty keeps increasing and spinning, because the women and children will have to stop going to school and resort to searching for employment to meet their daily needs, due to denial of women to access their husbands' property. Hence, the future of women and their children is destroyed.

Many African nations' governments have made efforts to enforced laws to take care of the issues of women and their lack of rights to possess land. The laws enacted are not being implemented, and at times, they are not effective, possibly due to the fact that they are not aware of the tradition and customary laws of their land. This automatically renders them ineffective. The Kenyan constitution, for example, outlaws gender differences and upholds customary laws on marriage, inheritance and divorce (Blackden & Wodon, 2006). Thus, more effort is needed to solve gender problems in the enforcement of legislation in Africa.

Gender and globalization:

Evidence shows that there is a connection between gender dimension of poverty and globalization (Moghandam, 2005). But there is no reasonable effect of globalization on the African countries. The lack of sufficient chances or opportunities for globalization to improve the country's ability to provide social protection is a great obstacle to programs initiated to meet the needs of the children and women who are exposed and vulnerable to hardship.

The decrease in the provision of welfare services by the governments, has given rise to the negative consequences experienced by the women living in poverty. This is because the government has shifted the social protection cost to the families, which leads to increase in the workload of the women and their families (Bisnath, 2001).

Gender, governance and corruption:

In Africa, the problems of corruption and good governance are major issues that have hindered the eradication of poverty; there is more evidence in the African continent than the rest of the world. Governance is a process or manner by which the power of a nation is exercised. Corruption is the usage of power for personal advantage or gain to the detriment of the society (Schiavo-Campo & Mcferson, 2008). Corruption and bad governance prevent countries from achieving economic growth and development and hence, those living in poverty and those who lack connection, are mostly hit by these ugly situations. Good governance can turn around the situation of the poor, especially women who are the poor majority in Africa (Baden, 1999). Poor governance usually escalates into civil war, hence contributing to increasing the number of people living in poverty.

Gender and time:

Children and women are required to give their time to various categories of work and so have to leave or stop schooling to handle other tasks that will help them meet the needs of the family (Canagarajah & Coulombe, 1998). In a contrary argument, Collier (1995) stated that the poor have less time for work they are engaged in, as a result of lack of employment, but this statement is not true in Africa, where poor women in rural areas do not have enough time to do all their work every day under normal situations. In addition, during war and conflict, women are forced to work extra to get something for the men to eat throughout the period.

2.2.5 RESPONSE TO POVERTY

For poverty to be removed in its entire form or from its roots, emphasis must be given to investment in women. Some of the ways to respond to poverty according to Johnson (2013), are:

1. Provision of education to the girl child and women, wage war against hunger in the world to eradicate it and enlighten the communities to stop Acquired Immune Deficiency Syndrome and Human Immune Deficiency Virus.
2. Organize training for women on how to farm and the way and manner to keep their products in good condition, especially in rural areas where the poor are the majority.
3. Plan and organize annul days to be observed, like, Acquired Immune Deficiency Syndrome and Human Immune Deficiency Virus Day (1 December), world food day (16 October), etc. in relation to poverty.
4. Joint Better World Club to be part of women's group. This organization has made available their ideas and resources online at betterworldclubs.com. in order to assist poor women..
5. A letter is made available by poverty.com website (http://poverty.co/printletter, html), print the letter directly and send it to well to do individuals and government officials in support of international aid, so that the international aid will increase to be given to those living in poverty.
6. You can set a time to pray daily for the needs of the poor. The online news sources can be utilized for prayer, most especially concerning the condition of the poorest countries of the world, or you can pray by country.
7. You can act as women’s spokesperson in taking their issues and problems to others, such as your senator and the members of the House of Representatives, to request them to assist in the poverty reduction of women in their communities by writing to them.

2.2.6 PROBLEM OF MEASURING POVERTY IMPACT

In theory, access to credit can uplift the standard of living or welfare of an individual or business and empower women. From the research carried out, credit beneficiaries believe that coming into contact with microfinance institutions will enhance the welfare of the poor (Chiumya, 2006). However, researchers have been trying to evaluate the impact of microfinance interventions with a high degree of certainty or accuracy. This has not been possible due to many lapses or problems. Firstly, the bid to evaluate the effect of micro-credit on poverty reduction led to researchers asking questions of how to measure reduction in poverty, what does poverty mean, how is it measured and which category of people are poor.

These issues are subject to much debate in the world of microfinance. At the center of the real debate is the question of whether poverty is concerned with material needs, or concerned with more groups of needs that can result in improved well-being or welfare (Mosley & Hulme, 1998). Using income measurement in the evaluation of micro-credit impact is based on the feeling that when income increases, poverty will reduce. Wright (1999) observed that the emphasis on increased income as the main goal of development programs is a mistake because the two are not synonymous. Although what income is being used for is important in ascertaining poverty and well-being at the income level, increase in income might lead to decrease in poverty or it might not.

The second issue is that getting income may be as a result of different factors, like education, experience and age, which are features that are also supposed to be considered. Other features include, continuous pursuance of goals and entrepreneurial skills. Good social networks are sometimes very difficult to measure with any degree of certainty.

In addition, the location of the micro-business and the macroeconomic and political environment may contribute to the success of the trade or business. To ascertain the true impact of microfinance, one has to be able to remove the impact of all other factors simultaneously affecting the impact of credit. Therefore, it is hard to conclude that credit is the only factor that is responsible for an increase in income or reduction in poverty (Chiumya, 2006).

Thirdly, there is also the case of bias in selection of samples, i.e., those who desire and partake in the programs of microfinance do so, due to the feelings that they can generate income and repay the credits. This makes them feel better than the rest. Refusal to control self-selection in the program of microfinance when assessing the effect of empowerment and income will misdirect the impact to show higher positive results. Moreover, microfinance institutions engage in providing some non-financial services, like training and skills acquisition, nutrition, family planning and health, that have a great effect on the beneficiaries. These may also affect the impact, which means it is not possible to put a kind of measurement for micro-credit as the only factor that alleviates poverty (Chiumya, 2006).

In addition, beneficiaries can decide to give false information even though they do not use the credit for the purpose for which it was given. The way and manner the questions are being asked can also influence the responses of the beneficiaries. From the literature review conducted, Aghion and Morduch (2005) concluded that there is no research have been conducted on the impact assessment of microfinance that has gained the consensus that it is reliable; this shows the real difficulty in assessing programs. This is because various customers utilize it for different purposes and more so, participation is by choice.

2.2.7 STUDIES ON MICROFINANCE AND POVERTY REDUCTION IN NIGERIA

The debate as to whether micro-credit is an effective tool for poverty alleviation in Nigeria is on-going, just like it is in other parts of the world. Agbaeze and Onwuka (2014) used survey research design and questionnaires distributed on a sample size of 105 households clients of micro-credit institutions. The study opined that those who have access to credit seem to be doing a little bit better than those who do not have. Ironically, poverty level remains higher in the rural areas. This shows that credit has a positive but small or insignificant effect on poverty reduction. But one of the greatest limitations of the study is that it does not use intensive research design in its approach and does not have a control group.

Henry (2015) investigated whether microfinance can alleviate poverty. A survey research design was adopted and a questionnaire used to collect data on a sample size of 100 beneficiaries of micro-credit. Simple percentage was used to analyze data. The study finds that micro-credit does not contribute to asset accumulation and there is very little change in household consumption. Hence, micro-credit does not reduce poverty of the recipients or participants, and the restructure of microfinance is necessary. Amadi and Amadi (2014) opined that patriarchy still prevails or exists in Nigerian households and rural women are seen to be relatively disadvantaged in matters of survival, access to income, assets, nutritious food, health, productivity and literacy. George and Jacob (2015) adopted survey research design and a questionnaire administered on 140 micro-credit clients in Osun state. The study concludes that if micro-credit is given priority and the poor access it, it will eliminate economic hardship of women in Osun state. The above studies also do not use intensive research methodology and control group.

Other studies have shown microfinance to be an effective tool for poverty reduction are: Clement and Terande (2012); Odetayo and Anaolapo (2016); and Odi, Olukotu and Emmanuel (2013). Jegede, James and Hamed (2011) utilized a descriptive survey and questionnaire method of data collection. A sampling size of 80 members was used for the research. Data were analyzed using chi-square test and *t–test* for mean. The study concludes that micro-credit leads to increase in income and well-being and decreases vulnerability of the poor women, hence, serving as a good avenue or means for reaching the poor. Afelinini & Wasowei (2012) added that credit increases per capital expenditure of the women in Nigeria. Moreover, micro-credit is discovered to lead to increase in assets and standard of living of the Okada riders (Ajagne & Bolaji, 2013), and generates employment and income besides leading to food security for women (Omitoyin & Sanda, 2013).

Odetayo and Onaolapo (2016) considered the influence of microfinance institutions products accessibility on small scale enterprises performance in Osun state, Nigeria. The study adopted descriptive survey research design. The population of the study was composed of all the micro-credit institutions or banks and small-scale businesses in Osun state. A total of 450 small scale businesses were randomly selected from 30 microfinance institutions and purposively sampled. A questionnaire was used to collected data and analyzed using tables, simple percentage and multi regressions to test the hypotheses. The study finds that credit and savings perceptions jointly predict or influence changes in number of employees and profit, and concludes that credit and savings have positive effect on income, but limited effect on number of employees engaged. This study concentrates on the perceptions of the beneficiaries.

Moreover, Kasali et al. (2015) opined that the microfinance program has been generally seen as a development strategy that can improve the economic performance of the poor. Thus, the Nigerian government has made efforts to reduce poverty in the country using micro-credit as a tool. The study sought to evaluate the role of microfinance in poverty alleviation in the Southwest zone of Nigeria. Questionnaires were used in the data collection in the study area on a sample size of 1,134 respondents (594 beneficiaries and 540 non-beneficiaries). Data were analyzed using Binary Logit Regression Model and descriptive statistics. The study concludes that microfinance has a significant impact on the beneficiaries, leading to poverty reduction in the study area. Therefore, the government should provide an enabling environment to make microfinance more effective in the rural areas of the country where the poor predominantly live.

Idris & Agbim (2015) in their study, used survey research design and questionnaires were distributed to a sample of 343 beneficiaries. The study finds a significant effect of micro-credit on economic empowerment, self-employment, education and skills acquisition. The limitation of these studies is that no rigorous research methodology is used as their research was conducted base on the perception.

In trying to look at the contribution of savings to poverty alleviation, Umoh (2003); and Uremadu (2006) opined that savings are that the amount of income of the period not consume. Savings are said to be equal to surplus of income over consumption. Babajide, Taiwo and Isibor (2015) observed that micro-savings can be utilized as a poverty alleviation strategy and concluded that any means available that solicits or pursues the reduction of poverty level among groups of people should be followed through.

Kalu and Nenbee (2013) observed that the poor engaged in micro-savings for emergencies and unanticipated investment purposes and cultural commitments. Babajide et al. (2015) examined the effect of innovation savings products in the Nigerian banking sector on business enterprise development and welfare of the low income earners and self-employed persons. A survey research design was utilized and a questionnaire was administered. A sample of 267 beneficiaries of micro-credit was used. In addition, *t–test* for the comparison of the mean difference between the weekly savings and the introduction of innovative savings product and Ordinary Least Squares to test the hypotheses were utilized. The result shows that there is a statistically significant effect of weekly savings rate of the respondents due to utilization of innovation savings product. This means that savings rate has increased immediately innovation savings account was introduced.

In another development, Enisan (2012) stated that savings, cooperative societies and creation of employment, have a direct relationship with poverty reduction. The researcher concluded that microfinance has a positive impact on the loan recipients' well-being and contact with microfinance gives them added advantage over economic opportunities through the expansion of their businesses. Nkpoyen and Etang (2012) discovered that the assets of the bank do not have any effect on Human Development Index and its parts, and concluded that the liabilities in terms of the deposit of microfinance institutions has a negative effect on index of human development.

The review of related literature on micro-credit in Nigeria shows that supervision as a micro-credit factor has not been studied. Hence, the effectiveness of credit, savings and supervision on business income and expenditure have not been studied or considered jointly by the past researchers to the best of my knowledge. In addition, the past studies in Nigeria have not used vigorous research methodology, like intensive research design over an extensive period of time, some lack control groups and concentrate on assessing the perception of the micro-credit beneficiaries instead of the real impact on the life of the beneficiaries.

2.2.8 STUDIES ON MICROFINANCE AND POVERTY ALLEVIATION IN OTHER PARTS OF THE WORLD

The results of many studies in the world on microfinance and poverty reduction have left much to be desired, with many inconsistencies, mixed results, doubt and lack of direction or information that is confusing. This scenario does not give a proper guide to the role of micro-credit in alleviating poverty. The issue of effectiveness of micro-credit as a tool for poverty alleviation has been argued by many scholars.

Over the past decades, impact assessment studies and research in the field of microfinance, have witnessed or shown a dramatic increase or growth. However, most of these studies have paid more attention to the measurement of microfinance outputs rather than inputs and outputs (Hulme, 2000). Of late, many microfinance studies have started to recognize the importance of assessing the impact of the inputs and outputs of microfinance. For example, Karlan and Zinman (2010) stated that expanding access to credit increases borrowers' welfare, food consumption, decision making within the household, community status and overall optimism. Marrison et al. (2007) added that an increase in women's earnings stimulates short-term growth, reduces current poverty and stimulates long-term economic growth and development, which decreases future poverty through higher consumption expenditure and savings ratio.

Hasan et al. (2015) conducted a study and used survey research and face-to-face interview on a sample of 125 micro-credit beneficiaries. The study finds an increase in income realized from Income Generating Activities to be very high (86.7 percent) and poverty reduction improved (65.3 percent) from Income Generating Activities; while, education, family size, respondents' attitude to engaging in Income Generating Activities and income from Income Generating Activities are discovered to have significant relationships. The study concludes that women are positively triggered to earn more income to assist in changing their current predicament.

Zainudin and Kamarudin (2015) in their study used questionnaires to collect data from 900 respondents. A semi-structured interview was carried out on six respondents. The study concludes that micro-credit programs contribute to bettering the life of beneficiaries, especially in terms of income and employment. But, question the lack of impact on social and economic well-being, due to failure in social and economic investment as stated in the social development model. Flavius and Aziz (2011) adopted a case study research design and interview, conducted on a sample size of 65 micro-credit participants. The result finds a positive and significant effect of credit on micro-entrepreneur income and social welfare.

In addition, Sulemana and Dinye (2016) study the topic micro-credit and income in the agricultural sector in developing countries an empirical study of the Pru district in Ghana. They evaluated micro-credit impact on income within the agricultural sector. A case study and quasi-experimental methods were used. Data used for analysis was gathered from 156 respondents (60 fishermen and 96 crop farmers) using questionnaires. Ordinary Least Squares Regression method was used to analyze data. The study finds that micro-credit has a positive impact on income and remains indispensable in enhancing agricultural income and assisting in bridging income inequality. In another study, Najmi, Bashir and Zia (2015) conducted a study to investigate the impact of microfinance on socioeconomic status of borrowers in Minchanadad district, Pakistan. Data were collected from 60 respondents through questionnaires and stratified random sampling method was adopted. The study finds positives impact of microfinance on income, children's education, health and borrowers businesses, generally.

Mazunder, Mohiuddin and Al-mamun (2015) adopted quasi-experimental research approach and cross-sectional data, and used stratified random sampling, and a sample size of 242 respondents, comprising 106 old clients and 136 new clients. The study asserts that increase in income and asset of the women play a vital role in improving women's micro-business and economic independence and gives them self-confidence, consequently reducing poverty. Thanh, Phu and Hoang (2015) in their study considered majority ethnic groups and that of the minority in Vietnam. The study used independent sample *t–test* for mean to compare the mean difference between the loan recipients and non-loan recipients. The results show an increase in income of the loan recipients in rural and remote areas; while the effect on enhancement of income is influenced by household features, like number of working adults, lending conditions of the loan and experience of the household's head. The study concludes that credit intervention has the ability to improve access to food, nutrition and creation of jobs.

In a related development, Lhing, Ogundari and Nanseki (2013) discovered that, the beneficiaries had a higher increase in average per capital expenditure and income than they would have realized if they have been non-beneficiaries. Boateng et al. (2015) undertook a study in Ghana using descriptive research and case study method, with a sample size of 60 clients. A questionnaire was used in data collection and purposive sampling technique was adopted. The study finds a positive relationship between micro-credit and income, household growth, education, housing, religion and social activities. The study recommends that training should be given to the beneficiaries to ensure efficient utilization of the money or funds. Moreover, sound and enabling economic and political environment should be created so that small businesses can grow or thrive.

In another study, Al-mamun (2014) adopted quasi-experimental approach and cross-sectional design to measure the impact of micro-credit schemes in Malaysia. Two groups were chosen from the clients of AIM (new and old clients). New clients are those who stay for two years and old clients are those who stay for 4 – 6 years. The study had a sample size of 333 respondents (161 old clients and 172 new clients) and finds that micro-credit reduces the level of economic vulnerability in the poor households. it also, suggests that skills development and training should be provided to enhance the socio-economic condition or situation of the extremely poor households in Malaysia.

Ghalib et al. (2015) used quasi-experimental research design and cross-sectional data collected from both the borrowers and the non-borrowers, comprising a total sample of 1,132 (463 borrowers and 669 non-borrowers), the study used propensity score matching and Difference in Difference methods with the combination of logit regression to assess the impact. Poverty reduction was observed on measures of household income, expenditure, clothing, health, quality of roofing and walls and water supply. The study finds micro-credit to have a positive effect on the households of the borrowers. Igbal et al. (2015) adopted a survey research design, using structured questionnaires on a sample of 265 micro-credit clients. Non-probability convenient sampling was used. The study considered the effect of credit on basic needs, living standard and self-employment, and reveals a positive effect of micro-credit on poverty alleviation in terms of basic needs, living standard and self-employment. Qaiser and Sohail (2013) in their comparison of the clients and non-clients, discovered that micro-credit clients are significantly more efficient than the non-client in income generation.

Kwai and Urassa (2015) assessed the contribution of savings and credit cooperatives in reducing poverty in rural households. Specifically, they compare income levels of savings and credit cooperative society's members and non-members. A total of 160 respondents were used comprising 80 savings and credit cooperative society members and 80 non-members. Data were gathered through structured questionnaires and interviews. The quantitative data were analyzed using descriptive statistics, independent sample *t-test* for mean in comparing the mean and multi-linear regression, while, qualitative data were analyzed using content analysis. The *t-test* analysis shows a highly significant difference in the mean value between the two groups on income earned and household expenditure. Using multi-linear regression analysis, the effect of savings and credit cooperative societies is found to be favorable, inferring that savings and credit cooperative society members' living standard has improved significantly.

Bakhtiar and Touhidul (2016) explored the socioeconomic effects of micro-credit in the Mymensingh district of Bangladesh; they used a household survey in four districts. The study concludes that micro-credit increases income and expenditure on consumption and hence, contributes to reduction of poverty in the study area. The borrowers enjoyed enhance healthcare, educational attainment and food intake as well as housing conditions. Women could participate in decision-making and their authority in the household has increases. Assets of the households have increased after participating in micro-credit.

In another development, Girabi and Mwakaje (2013) used survey research design, questionnaire and interview to collect data. The sample size of the study was 98 respondents comprising 49 each for credit beneficiaries and non-credit beneficiaries. Data were analyzed using descriptive statistics, multiple regression and *t–test* for mean comparison of the outcomes between the beneficiaries and non-beneficiaries. The finding shows that credit beneficiaries farm productivity increased more than the non-credit beneficiaries. Giang, Wang and Chien (2015), in their study, used survey research design and questionnaire to collect data. Panel data set from 2010 – 2012 was utilized. Difference in Difference method and Ordinary Least Squares regression were used to assess the data. The study concludes that credit has a positive effect or influence on the mean expenditure of the poor households. The expenditure of the poor households who had credit increased more.

Other studies have also opined that access to credit can aid in poverty alleviation and increase income as well as social well-being of the poor (Hasan et al., 2015; Mahmood et al., 2014). This shows that the role of microfinance goes beyond business investment, to include the enhancement of the economic well-being of households (Omoro, 2013; Zainudin & Kamarudin, 2015). Devi (2013) lamented that only 5% of the credit needs of the poor are being provided by the microfinance institutions in India. Mamood et al. (2014) used exploratory study and semi-structured and in-depth interviews conducted, on a sample size of 10 women micro-entrepreneurs. The result shows that access to micro-credit is critical for the success of women entrepreneurs and reduction of poverty in their households.

Olasupo and Hamed (2015) considered the role of microfinance institutions on poverty reduction and used two-stage sampling technique and questionnaires to collect data. Tobit regression was used to analyze the impact of microfinance on poverty level of the respondents. Micro-credit was discovered to be negatively related to poverty status of the poor, suggesting that poverty is reduced as access to credit increases. The study concludes that collecting micro-credit from the micro-credit institutions is relatively easier than obtaining it from informal sources, like relatives and friends.

Qamar, Masood and Nasir (2016) looked at the effect of microfinance on poverty reduction, housing conditions and children's education as impact indicators between new and established clients. The study discovered microfinance to play a significant role in reduction of non-financial aspects of poverty. This is through the provision of good education for the children and improved housing. Established clients of microfinance have improved education for their children and better housing conditions than the new clients. Devi (2013) employed survey research design and data were collected through the use of interview. A sample size of 88 respondents was employed. Simple statistical tools, like ratios and percentage, were used to analyze data. The study concludes that micro-credit allows the borrowers to manage their spending, and provide a good livelihood for their households, in terms of housing, food, health and education.

Imai et al. (2010) examined whether getting microfinance can decrease poverty. Treatment effect was employed to estimate the poverty reducing effects of microfinance loans on poverty levels. The model used the endogenous binary treatment effects for Tobit and Propensity Score Matching models. The study concludes that microfinance is more important for poverty reduction in rural areas than in urban areas. However, access to micro-credit in urban areas has larger average effects on poverty alleviation than access to credit from microfinance institutions for productive activities or purposes. The study recommends that microfinance institutions should explore service delivery opportunities that give additional room to supervise the use of credit to enhance outreach and poverty alleviation.

Crepon et al. (2014) used randomized experimental design and 81 pairs of matched villages were selected. The treatment villages were offered credit after two years of membership, while the control villages were offered credit immediately when the treatment group reached two years. The study finds that access to credit contributes significantly to increase in investment in assets used for self-employment work and a rise in profit. But this rise in profit is offset by a decrease in income from casual labor. So, to sum it all, there is no benefit in measures of consumption and income. The loan recipients realize the impact on assets and profits for self-employment activities, but the impact on consumption is small. Therefore, for loan recipients who stayed for two years, consumption increases by up to 10 percent.
The above findings are similar to the findings in 2011, where the study opines that there is no effect or change on the average consumption, education and health on livestock and non-livestock agricultural activities, but concludes that households that had an existing activity before the intervention reduced consumption, as they borrowed and saved to expand their activities. Those that did not have preexisting activity had no effect on outcome of business; instead, there was an increase in food and durable consumption expenditure (Crepon et al., 2011). Banerjee et al. (2014) in their randomized evaluation study in India, discovered no significant changes in education, health and empowerment of women two years after the control areas had access to credit and the treatment area had borrowed a large amount for a very long period. Karlan and Zinman (2010) adopted an innovative, replicable experimental design that assigns credit randomly. The study finds that access to micro-credit does not

increase profit and household consumption.

In another development, Fafchamps et al. (2011) considered returns to capital inputs and discovered that grant to women entrepreneurs produced no returns on capital, whereas there is significant returns in gifts in-kind of inventory or equipment to women. The high returns from gifts in-kind came from the women who had bigger, higher profit businesses; women with below average profits did not have any returns from either form of grants. Women invested less of the gift in business, dividing it for household purchases and other expenses. Other studies in India and Mongolia have shown positive results of microfinance in terms of improvement in food consumption and decreased consumption of alcohol, tobacco and Indian Herm (Attanasio et al., 2012).

Karlan and Valdivia (2011) used randomized control trials to find out whether engaging the clients in a short training course in the way they run their business ventures will have a significant effect. The result shows no clear evidence of increment of profit, revenue and jobs, but there is a higher increase in maintaining beneficiaries of microfinance. Duong and Thanh (2015) carried out a cross-sectional study and survey research design. Data was collected through the use of questionnaires on a sample of 179 respondents (73 beneficiaries and 106 non-beneficiaries). The study argues that micro-credit does improve welfare of the households via increase in consumption expenditure and income of the beneficiaries. The study also finds that there is no proof of the effect on the income of the rural households and concludes that micro-credit may not serve the households that are poor. Gine, Townsend and James (2010) found that insurance does not increase the use of inputs or change the allocation of land, although getting access to rainfall insurance causes farmers to move to more risky, rain sensitive crops which provide higher income.

Other Randomized Control Trial results have shown no clear impact on education, health and female empowerment, but more businesses have been created. Some household increased consumption of non-durable goods, others reduced expenses on temptation goods, like tobacco, alcohol, tea and snacks and invested in their businesses, or purchased more durable goods. For individuals with existing farming business, access to micro-credit increased their level of activities. But, there is no impact on agricultural businesses (Crepon, et al., 2011 and 2014; Banerjee et al., 2014). However, Bauchet et al. (2011) argued that micro-credit is not changing informal markets and realizing enough higher income for small businesses. Yet emphasize on the rhetoric of entrepreneurship and refuses to peruse some important benefits or gains to households that are making use of the loans to smooth consumption, make household investments, like investments in home improvement, durable goods, self-employment and children's education.

Other studies have found that consumption expenditure of both the participants and non-participants of credit has increased, but the non-participants' consumption expenditure increase is more than the participants (Khandker & Samad, 2013). Non-participants had more advantage in advance fuel for cooking and water disposal system. The study concludes that micro-credit is still expected to do more to show the real difference in the well-being of the participants (Ghalib, Malik & Imai, 2012). Collins et al. (2009) observed that the poor borrowers use loans or savings to settle school fees, save to invest in trade and businesses and use health and crop insurance to avert risk, when available. Although utilization of financial services is different from the anticipated uses at the initial stage, they are still important and valuable; the ability to make use of finances efficiently and effectively is a fundamental part of people's daily life. It is noteworthy that the financial service needs of the poor households may require different product features, delivery and payment structures. If such needs are satisfied correctly, the impact of micro-finance should improve the well-being of the poor.

Some other results have shown that there is no improvement on the level of income poverty reduction by the beneficiaries due to micro-credit: instead, it has contributed to the widening inequality in income distribution in the economy because the rich benefit more than the poor (Coleman, 2006; Hossain, 2012; Yusuf, Shirazi & Ghani, 2013). Some studies have also shown negative effects of micro-credit on poverty alleviation (Al-mamun et al., 2013; Aurgsburg et al., 2012; Marr, 2004). Hence, credit does not always result in increase in income of the households below the poverty line (Mosley & Hulme, 1998). Rather, it creates dependency, since the change in both the extreme poor and economically active poor cannot be vividly seen; hence, households shift from one type of loan to another (Robinson, 2001). Micro-credit has brought about problems in the society, as a result of increase in domestic violence, increased poverty and exclusion of the poor (Marr, 2004).

Karlan & Zinman (2010) noted that the use of micro-credit to improve household consumption is not supported and credit leads to dependency of women on the microfinance institutions. Duong and Thanh (2015) opined that credit might not serve the households that are poor. In trying to sum up the results, Roodman (2012) concluded that micro-credit does not alleviate poverty. This study also considers inputs and outputs of the households in the assessment of the impact of micro-credit.

Microfinance is considered as an essential approach or tool to empower the poor especially women. It enables them to make-decisions independently and improves and enhances the quality of their life as well as their dignity (Haile et al., 2015). In addition, it helps the women to increase their income generating abilities, leading to greater confidence and ability to overcome cultural asymmetries and empowerment, most especially their role in decision-making, family-related decisions and ownership of assets. It also reduces domestic violence drastically (Al-mamun et al., 2014; Hashemi et al., 1996).

Zaman (1999) observed that one of the impacts of micro-credit is a set of indicators connected to women's control over assets and knowledge of social issues. The researcher also found that loans provided to women have greater impact than those given to men in the household. Women who participated in micro-credit felt that their status had improved because they are being seen as income earners to the family in the household. The study concludes that women's participation in micro-credit gives them the ability to become more active in decision-making and control over income in the household.

Kumar, Hossain & Gope (2013) assessed the role of micro-credit as a means to economic empowerment of rural women. The study employed the use of exploratory research design, structured interview questionnaire and in-depth interview. Data were collected from a sample size of 100 beneficiaries of micro-credit. The study finds that women do participate in decision-making process in the household after receiving micro-credit. Similarly, Wattoo et al. (2015) examined the strategies for empowering women and gender equality through microfinance in Pakistan. The study finds micro-loans' accessibility to have a major impact on women's empowerment and concludes that women's experience leads to increase in their household income level as well as the social, economic, political and household well-being. Kato and Kratzer (2013) concluded that women members of micro-credit institutions are more empowered than non-members. Women members of the micro-credit institutions have more control over income generated from business and savings, greater freedom of mobility, self-efficacy and self-esteem, greater role in decision-making and increased activities outside the household.

Electrin et al. (2013) considered the impact of microfinance services on reduction of poverty and used a causal study. A questionnaire was used in data collection on a sample of 200 beneficiaries only. The study finds that the four explanatory variables used are relevant to explain the impact of micro-credit institutions on poverty reduction. Furthermore, credit facilities are found to have the highest effect followed by savings, training and insurance. In addition, the study finds an improvement in income and women's empowerment in decision-making; the study concludes that microfinance institutions operating in the country should be motivated and empowered with the provision of finances which can be given to the poor as loans to expedite economic growth and development in Kenya.

In trying to look at the contribution of savings to poverty alleviation, Keynes (1936) opined that savings is the surplus or residue of income over consumption expenditure. Dupas and Robinson (2013) assessed the effect of limited admission to formal saving services on the growth of business in countries that are poor and concluded that despite huge fees for withdrawal, many women using the account were able to save and increase their productive investment and personal expenditure.

Kesanta (2015) explored the effect of economic empowerment among women and the well-being of their households through a community savings and loan association in Tanzania. Quantitative and qualitative data were collected. The study finds positive effects of credit and savings of the savings group members on health, education and economic empowerment and enhanced marital relationships. The physical abuse of women has reduces drastically for the savings groups members. Tsai et al. (2015) tested the effect of micro-savings intervention decrease in economic dependence of sex workers' change in income. They found that women with microfinance and Human Immune Virus prevention disclosed a significant lower income from sex workers and that sex work was not their major income source.

In considering the methodology adopted in carrying out their research, some scholars have argued that the results of quasi-experimental method or non-randomized methods used in some studies are prone to errors in measurement because statistical assumptions used are questionable. In addition, there is also sample selection bias (Augsburg et al., 2012; Attanasio et al., 2011; Karlan & Zinman, 2010). Other scholars have argued that the adoption of randomized control trials in the assessment of microfinance programs has a few methodological flaws or weaknesses (Deaton, 2010; Ravallion, 2012), i.e., the assumptions of similarity in the observation of the beneficiaries and non-beneficiaries cannot be assessed accurately. This is because there are features that are hidden or that cannot be noticed in their entrepreneurial ability, which are very important for the use of loans in a productive manner. This leads to sample selection bias. Some results of the studies of randomized control trials cannot be generalized and hence, results obtained in one country cannot be used to generalize for the other countries.

Despite the above, many researchers on randomized control trials believe that micro-credit does not contribute to poverty alleviation, although, some studies have argued that the period taken for the program intervention of micro-credit must be considered in the assessment of the program. Therefore, microfinance needs to take some time to have an effect before it can be appropriately measured. This study employs the use of a case study and intensive research design over an extensive period of time i.e., 24 weekly visits, as a methodology for assessing the effect of micro-credit on poverty reduction in Nigeria.

2.2.9 TRAINING

Women entrepreneurs need training especially those who have very low level of income and funds to manage their business, finances, sales, and market their products. Giving entrepreneurs the needed and required training helps and contributes to the soundness and growth of their businesses and its sustainability (Porter & Nagarajan, 2005). This is because studies emphasize the relevance of training as a driver of growth and as a tool for acquiring good working relationship; it is also an important avenue for the business success of women entrepreneurs (Kamau, McLean & Ardishvili, 1999).

Training is a very important factor necessary for women entrepreneurs who are involved with microfinance as a result of their low background in education. The product of education is the prior experience or knowledge acquired that guarantees readiness for entrepreneurial activity (Shane, 2003). In United States of America and other developed nation, women entrepreneurs do not have prior experience in business (Gatewood et al., 2004). Similarly in underdeveloped nation, women entrepreneurs also do not have prior experience in business because they do not have formal paid jobs (Brana, 2008).

Past studies have agreed with the fact that most of the beneficiaries of microfinance lack specialized skills and training and this hinders them from utilizing micro-credit very well (Paul, 2013). Stakeholders in the world of microfinance are aware of the need for training to be provided to micro-entrepreneurs, in order to give them knowledge to support entrepreneurial activity and decrease the collapse of businesses to some extent. The repayment rate of trained entrepreneur's before starting the micro-businesses have been recorded to be higher than untrained ones. This shows that training has a positive relationship or impact on the repayment of the loan by the women entrepreneurs of Amanah Ikhtiar (Idris, 2015). Skills training, education and technological support should be included in the program of microfinance.

In the underdeveloped nations, women entrepreneurs lacked training and education. Lack of education and training by the microfinance institutions is seen to be the reason why there are very small numbers of women who have begun business ventures with credit or loans. This is due to circumstances they found themselves in form of societal discrimination, low level of education and lack of jobs (Porter & Nagarajan, 2005). In order for the women to acquire the skills and experience necessary for business activity, training is a vital tool to be used by microfinance institutions (Boateng et al., 2015; Akanji, 2006; Cheston & Kuhl, 2002; Kuzilwa, 2005). Therefore, women are expected to be trained in order to understand how to make good use of micro-credit in their businesses. Ibru (2009) observed that women entrepreneurs who were already in business need formal education. This is because some microfinance institutions give informal training in Nigeria to their customers. Even though training is a non-credit aspect of microfinance, there has been a call for the training of women entrepreneurs (Al-mamun et al., 2014).

It is pertinent to note that education is synonymous with training and so it is very difficult to separate the two. Ibru (2009) observed that nations with higher income have women entrepreneurs who are educated (post-secondary and secondary school education) than those nations with very low income. The reverse is the case in Pakistan, where women are educated, but they have low income (Salman, 2009). Nonetheless, Gatewood et al. (2004) and Stohmeyer (2007) stated that post-secondary school training and skills acquisition training can give rise to entrepreneurial activity and enhance performance. Literature has identified the need for women entrepreneurial training in nations with very low income.

Several studies have shown that training of women entrepreneurs has a positive impact on their performance and subsequently leads to poverty alleviation. For example, training and savings have a positive relationship with the success of women entrepreneurs in Malawi, Kenya, Nigeria, Haiti (Ekpe et al., 2013; UNDP, 2003). Skills acquisition training and new technologies have a positive effect on the success of small enterprises (Ibru, 2009). Training also has a very good relationship with women entrepreneurs' performance in terms of profit (Cheston & Kuhn, 2002). Boateng et al. (2015) concluded that training should be given to beneficiaries. However, training and social capital were also seen to have a positive relationship with entrepreneurs' growth of the businesses in the United States of America (Kickul et al., 2007). There is an argument that some entrepreneurs do not need training because they are born to be entrepreneurs. Studies have argued that a woman's ability to succeed in her enterprise depends on the training she has received either from the environment or microfinance institutions.

Achieving women's entrepreneurial performance and poverty alleviation rely solely on training given to the women entrepreneurs. Thus, the ability of the women entrepreneurs to make use of microfinance to begin and enhance or improve the existing business to achieve performance and poverty alleviation relies on training.

Table 2.3:
Summary of studies related to microfinance measures in specific countries

Source	Independent variables`	Dependent variables	Country of study	Population	Method	Gender
Agbaeze and Onwuka (2014)	Credit	Income, expenditure on food and non food items.	Nigeria.	Sample of 105 beneficiaries.	Survey research design, questionnaire and interview.	Men and women
Al-mamun (2014)	Credit and savings	Economic vulnerability.	Malaysia	Sample of 333 (161 old clients and 172 new clients.	Cross-sectional research design and	Women
Aziz (2012).	Credit, savings and insurance	Food, education, health, income, employment, assets and water.	Bangladesh		A case study and survey research design	
Boateng et al. (2015.	Credit and socio-economic factors	Business income	Ghana	Sample of 60 micro-credit clients	A case study, descriptive research methods and questionnaire used.	Men and women

Crepon et al. (2011).	Credit and savings	Health, education and women empowerment.	Morocco	162 (81 old clients and new clients each)	Randomized experimental design.	Women
Devi (2013).	Credit	Education, food, shelter and health	India	Sample of 88 respondents	Survey research design and interview method.	
Duong and Thanh (2015)	Credit	Welfare: Income and consumption expenditure	Vietnam	Sample of 179 (73 beneficiaries and 106 non-beneficiaries).	Cross-sectional data, survey research design and questionnaire used.	
Giang et al. (2015).	Credit and socio-economic factors	Expenditure	Vietnam	Sample of 122 (64 participants and 58 non-participants).	Survey research design, panel data set from 2010-2012 and questionnaire used	Women
Electrin et al. (2013).	Credit, savings, training and insurance	Business income and decision making, education	Kenya	Sample of 200 beneficiaries.	Causal study and questionnaire	Male and women

		and health.			administered.	
Flavius and Aziz (2011).	Credit, and social network	Micro-enterprises and social welfare	Trinidad	Sample of 65 micro-credit participants	Case study research design and interview.	
Ghalib et al. (2015)	Credit	Income, expenditures on clothing, health, water supply, quality of roofing and walls.	Pakistan	Sample of 1,132 (463 borrowers and 669 non-borrowers)	Quasi-experimental design and survey	
Girabe and Mwakaje (2013).	Credit and savings	Farm productivity	Tanzania	Sample of 98 (49 each for credit beneficiaries and non-credit beneficiaries	Survey research design, questionnaire and interview used	Men and women
Hasan et al. (2015).	Credit and socio-economic characteristics	Income	Bangladesh	Sample of 125 clients	Survey research design through Interview between October to December.	
Jegede et	Credit	Income	Nigeria	Sample of 80	Descriptive	

al. (2011)				members	survey method and questionnaire	
Karlan and Zinman (2010).	Credit and insurance	Food consumption, income and community status	South Africa		Innovative, replicable experimental design.	Men and women
Kwai and Urassa (2015).	Credit and savings	Business income. expenditure and assets	Tanzania	Sample of 160 (80 each for members and non-members.	Structured questionnaire and interview.	Men and Women
Mahmood et al. (2014).	Credit and training	Health, education, business experience, shelter, income and business network.	Pakistan	Sample of 10 respondents	Exploratory study and interview.	Women
Odetayo and Onaolapo (2016).	Credit and savings	Business Income	Nigeria	Sample of 456 beneficiaries	Descriptive survey design and questionnaire used.	
Sulemana and Dinye	Credit	Business income	Ghana	Sample 156 (78 clients and non-clients	A case study and quasi-experimental	

(2016).				each)	method and interview employed	
Mazunder et al. (2015)	Credit and savings	Business income	Malaysia	Sample of 242 (106 old clients and 136 new clients).	Quasi-experimental research approach, cross-sectional data and interview used.	
Kumar et al. (2013)	Credit and socio-economic factors	Business income and empowerment	Bangladesh	Sample of 100 beneficiaries only.	Exploratory research design, interview questionnaire and in-depth interview.	Women

Source: Author’s literature review (2013-2016).

From the trend in the literature above, it shows that credit, savings and supervision have not been jointly measured by the past researchers, especially in the underdeveloped and developing nations. Also, poverty reduction, in terms of business income, expenditure and empowerment, has not been considered to the best of my knowledge in Nigeria. Moreover, few or none of the studies have adopted an intensive research methodology over an extensive period of time. In this study 87 respondents were interviewed weekly for six months, making a total of 24 weekly visits, thus resulting in 87 multiplied by 24, equaling 2,088 observations.

2.3 HISTORY OF THE DEVELOPMENT EXCHANGE CENTER (DEC) IN NIGERIA

The Development Exchange Centre (DEC) of Nigeria is a non-political, non-religious, non-governmental institution, which gives micro-credit and social services to communities, NGOs and women's groups in Nigeria to uplift their ability toward long-lasting development. The DEC was established in November 1987 as a result of a joint research carried out by the Canadian University Services Overseas and Adult and Non Formal Education Agency in Bauchi state. The results of the research reveal that women, mostly those in the villages, are at a disadvantage economically, politically and socially. This emanates from traditional, religious and cultural practices. These, combined with a high degree of material poverty among women, make them to solely rely on men.

Hence, the Canadian University Services Overseas and Adult and Non Formal Education Agency created a program to look into the issues with the intention of solving the imbalances in a more appropriate way. Therefore, the DEC began as a resource center for exchanging and sharing of developmental information with women in groups. Since then, the DEC has forged ahead to carry on its goal of empowering women by making available micro-credit services, entrepreneurial skills acquisition and development, capacity building/training, water supply, workshops, reproductive health, sanitation and hygiene promotion education and information sharing.

The DEC's head office is located in Bauchi and operates in nine states: Bauchi, Taraba, Gombe, Yobe, Adamawa, Borno, Plateau, Nasarawa and Jigawa. The DEC has eight area offices in Bauchi, Bukuru, Billiri, Langtang, Gombe, Yola, Damaturu and Jalingo, with about 32 branches all over the entire Northeast, including Plateau, Jigawa and Nasarawa. The DEC's present strategic plan is to establish 16 new branches every year, in order to reach the whole Northern part of the country by the year 2020. The membership strength of DEC stood at 78, 850 women in 7,460 groups in 2012. Therefore, the Center is well represented in the area and has the capability of regional poverty alleviation.

2.3.1 GOALS AND OBJECTIVES OF THE DEC

The goals and objectives of the DEC are as follows:

1. Education: to enhance the educational and social position of women for growth and long lasting development.
2. Healthcare: to enhance the health position of women and youth.
3. Water and sustainable environment: to enhance the standard of living of women through the provision of safe drinking water and sustainable environment.
4. Good governance and peace building: to encourage and raise the women's participation in governance.
5. Organizational development: to enhance the administration of the organization for efficiency, growth and sustainability.

Therefore, looking at the goals and objectives of the DEC's microfinance institution, this study can satisfy objectives one and two on enhancement of children education's and healthcare service. The study shows great improvement on expenditure on children's education and health care services of the beneficiaries. Surprisingly, objective three on provision of safe drinking water and sustainable environment was omitted in the study. The possible reason is that there was no evidence of safe drinking water or pipe borne water in the areas. However, objective four was captured in the assessment of women empowerment, through improved participation in decision-making in the households and control and ownership of business by the women beneficiaries.

2.3.2 VISION

Empowering women to improve their living conditions and status through integrated development service and initiatives.

2.3.3 MISSION

The missions of the DEC are as followings:

Targets: the DEC targets women, clients living in rural areas and clients living in urban areas.

Development Goals: Increase access to financial services, poverty reduction, and employment generation, health, improvement of adult education, children's schooling, youth opportunities, poor clients and low income clients.

Poverty target: Very poor women clients, poor clients and low income clients.

2.3.4 PARTNERS AND THE DEC

Some of the donors and sponsors: Ford foundation, UNDP/Nigerian micro-start project, Novib/Oxfam Netherlands, Church Development Service, Development and Peace, Water Aid Nigeria, Action Aid Nigeria.

2.3.5 MICROFINANCE AND THE DEC

The DEC initiated microfinance in 1990 when 69 women belonging to two groups were issued the sum of 13,800 naira as a cyclical loan fund within the group. This program was first supported by the Ford Foundation, then the Latent Church Action and Evangelischer Entwichungs Dienst e.v. Since then the DEC has grown in terms of both the loan portfolio and the number of clients. As at December 2005, the number of beneficiaries (clients) had risen to 20,620 and 135 million naira of the loan portfolio. As at 2008, the DEC had USD $5.1 million in total assets, and a gross loan portfolio of USD $4.8 million and 69,000 borrowers with an average loan balance of $69.8 per client. As at May, 2012, the DEC had over 78,850 clients and in September, 2014, the DEC had 89,547 borrowers.

The main objective of the microfinance program is to make funds available to women who are in need of capital to participate in income realizing ventures, since; such capital is not easily obtained from the traditional banking sector because of lack of collateral. The income generated from the trade and business can alleviate poverty. The loan scheme is issued to individual women within a group for income generating activities only. The businesses activities engaged by the loan recipients are: farming, livestock, grain trading, petty trading and other small scale businesses.

Micro-start

The microfinance program was transformed in the year 2000, which advocated yearly or half yearly payment to the micro-start scheme. The Association for Social Advancement methodology of weekly installments payment of the loan was adopted. The reason for the management shift to these programs is due to its large-scale outreach and its sustainability nature. More so, it is cost effective and the process of collecting the loans is simple and increases cash flow and management's efficiency.

With the implementation of micro-start the DEC's client membership has reduced drastically, especially the rural agricultural members for whom weekly payment was not suitable. Management looked into the problem and introduced other loan products for the agricultural clients and even traders whose monthly repayment system is more suitable for them.

Right from the beginning of the program, micro-start has gained almost 100 percent recovery rate. Until recent, the default in the payment of the loan is associated with the unwillingness to refund, seasonal variation and long gestation period of some business ventures. For example, meeting the weekly payment demand depends on the kind of business run by the women. Some women use the micro-loans for purposes other than income generating activities. The DEC has initiated the much needed steps to reduce or stop loan default by encouraging group savings and pressure from the members of the groups and defaulters.

Coverage

The DEC is among the few micro-credit institutions operating in Northern Nigeria.

In accordance with the DEC's organizational policy, the micro-credit program is only aimed at 100 percent women clients. It gives loans to every woman- Christian, Muslim and other clients in the villages and urban areas.

2.3.6 TRAINING AND CAPACITY BUILDING:

One of the goals and objectives of the DEC is the provision of functional literacy education, girl child and women vocational education and business/entrepreneurial development skills. The strategy to achieve this objective is in line with the DEC's core values and its focus on building and strengthening the knowledge, skills and attitude/behavior of individuals and groups that benefit or are involved in the implementation of its programs or service delivery activities. The DEC's capacity building takes the form of training workshops**,** business services, loans and grants**,** charity (e.g. scholarship) and participation/involvement and engagement of beneficiaries. For example, DEC's trainings are backed up by follow-up mentoring, coaching, technical assistance and supportive supervision. Relevant training resources, including training manuals, curriculum, books and teaching aids are adopted, developed or acquired as appropriate.

2.3.7 SUPERVISION

Supportive supervision is provided and is made to be more effective to ensure that the beneficiaries are actually able to solve the practical and peculiar constraints faced individually or collectively in running the affairs of their business and in implementing what they have learnt.

2.3.8 THE PROCEDURES FOR ACCESSING LOANS IN DEC's MICROFINANCE INSTITUTIONS.

The procedures for obtaining loans in DEC's microfinance institutions are that, the DEC officers usually visit women in their villages, tell them their mission and the benefit of joining the organization. Besides that, the loan officers tell women about the DEC and what services they are offering and the benefits they stand to derive when they interact with the microfinance institution. Finally, they are informed of the procedure to follow to get the loan.

As soon as the women indicate interest in the collection of the loan, the loan officer will tell them to organize themselves in a group of at least five to 20 women. Once they are able to meet the condition, the officer will visit them and explain to them what to do to obtain the loan. After that, the officer will tell them the mode and time or date for the prospective beneficiaries to repay the loan immediately it is made available to the beneficiaries.

When the women finally agree to collect the loan, the officer will give them forms to fill, and a guarantor will sign, preferably her husband or any of her relations if she do not have a husband. The form will be submitted with an initial savings deposit of 4,000 naira. That is for the beginners, but for existing members who wish to continue, no initial deposit is required.

The loan will be given to them one month from the date of submission of the form. This might be given to them in the DEC office or any place of client's choice, preferably one of the client's or the group leader's home. The loan will be given to them and all woman will sign.

After that, the loan officer will remind them of the date to repay their first installment. The repayment of loan and savings installments begins four week from the date of loan collection. Immediately at four weeks, the supervising officer will go there to collect the first installment. Thereafter, the supervising officer will come after four weeks to collect the installments until they finish the repayments, depending on the time agreed upon for it.

Consequently, immediately after the expiration of the loan period, if the women do not wish to continue, their savings will be refunded to them. But if they wish to continue, the savings will continue to be kept for them in the bank.

2.4 SUMMARY

This Chapter discusses the literature review, describing the review and critique of previous research on microfinance, as well as provides a breakdown of the services provided by microfinance institutions, the types of microfinance institutions and the effective principles of microfinance, followed by a discussion on microfinance and the challenges of microfinance in Nigeria. Other Sections of this chapter give the meaning of poverty, types of poverty and feminization of poverty, argument on studies on micro-credit and poverty reduction in Nigeria and other parts of the world and the history of the DEC, how they started, their goals, mission, vision, the process of issuing loans, the way and manner training and capacity building are provided and how the use of loans and collection are supervised.

CHAPTER THREE

RESEARCH METHODOLOGY

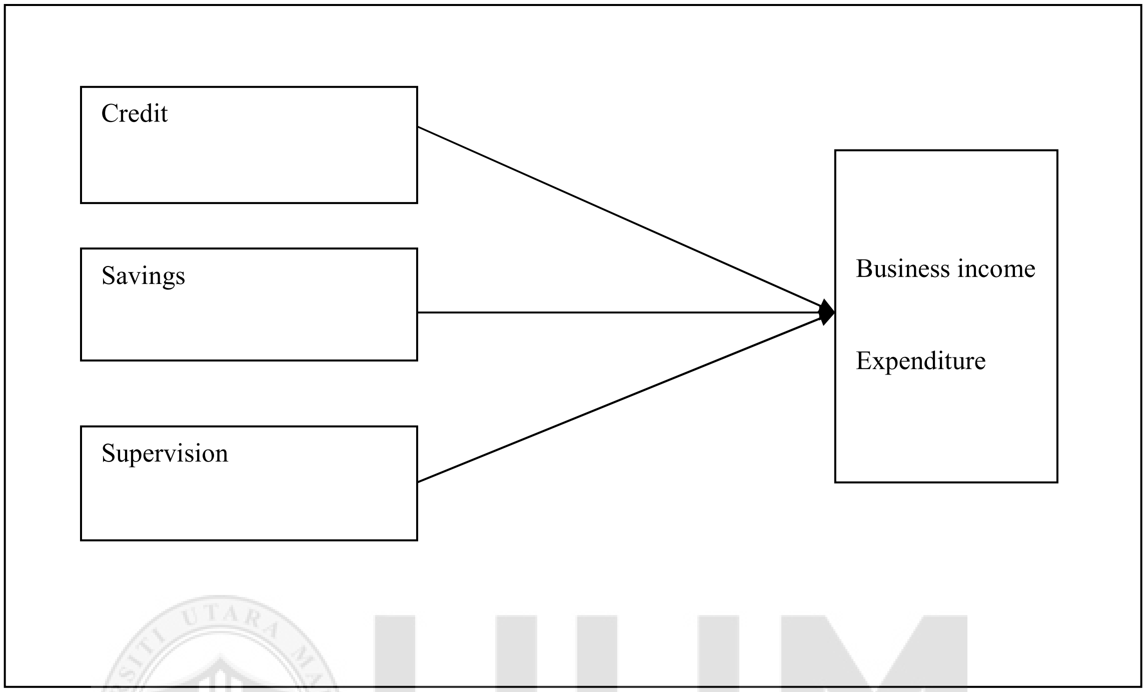
3.0 OVERVIEW OF THE CHAPTER

Having discussed the related literature on microfinance and poverty reduction in the previous chapter, this chapter presents the methodology used in this research, where it shows the research framework and how the study is depicted diagrammatically according to the number of variables, the impact of the model chain, hypotheses development and the underpinning theory of the study. The research design, population of the study, sampling technique, unit of analysis, sampling design, sample size and sampling procedure, measurement of variables, data collection, method used to analyze the data and the summary are also discussed in this chapter.

3.1 RESEARCH FRAMEWORK

The research framework of this study is presented in a diagrammatic format as depicted in Figure 3.1.

Figure 3.1:
Conceptual framework



Normally, micro-credit institutions provide credit to borrowers (Banerjee et al., 2014; ; Elahi & Rahman, 2006; Electrin et al., 2013; Henry, 2015; Odetayo & Onaolapo, 2016). Nevertheless, there are micro-credit institutions which provide savings and supervision services to poor women. These women use the credit for establishing and managing their businesses to generate income or profit. The income realized is used to provide for or cater to the expenditure needs of the households (Banerjee et al., 2014; Electrin et al., 2013; Kumar et al. 2015; Sulemana & Dinye, 2016).

Studies that have utilized credit and savings as independent variables include: Crespon et al. (2011); Girabe and Makwanje (2013); Odetayo and Onaolapo (2016) and Olu (2009). This study also uses the two dimensions above with the inclusion of supervision. Studies that have used credit and savings as independent variables have disclosed positive and negative results in the relationship between micro-credit and poverty reduction.

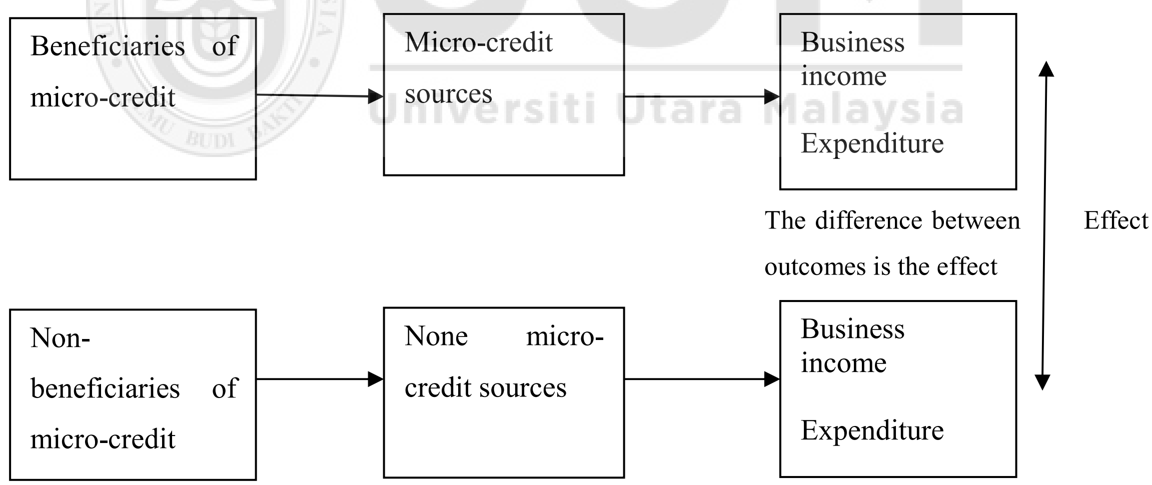
This study includes supervision together with credit and savings as microfinance factors. This is because Imai et al. (2010) advised that micro-credit institutions should explore service delivery opportunities that give additional room to supervise the use of credit to improve outreach and the benefit to be derived by the beneficiaries. What makes credit and savings dimensions suitable in this study is base on how Al-Shami et al. (2014) and Mkpado and Arene (2007) defined or conceptualized them, i.e., savings is the money or funds kept with a micro-credit institution, especially by the poor people in order to be used as security for accessing loans, unexpected business deals and household expenditure. Credit is defined as the provision of small loans to poor women to start a new business or improve existing business in order to help them alleviate poverty.

However, looking at the way previous researchers have conceptualized credit and savings dimensions, this research finds it necessary to use them among the dimensions of micro-credit. This study also conceptualizes supervision as a process whereby the micro-credit supervisor goes to inspect and monitor the clients' businesses, collect loans and give advice on how to improve their business to generate income.

Poverty reduction is the dependent variable and it is measured in this study as, business income and expenditure. Banerjee et al. (2014); Duong and Thanh, (2015); Ghalib et al. (2015); and Onakoya and Onakoya (2013) defined poverty as inadequacy or total lack of income and freedom and deprivation of basic needs, like healthcare, clothing, food, education. Mariara, Aroar and Duclos (2013) also suggested future research to look into multidimensional measures of poverty reduction. Therefore, this study considers inclusion of the poverty reduction dimension in terms of business income and expenditure.

Thus, the effect chain of this study is represented as in Figure 3.2.

Figure 3.2:
The effect chain



Micro-credit assumes that an intervention will change human behavior and practices in a manner that results in the attainment of expected goals and outcomes. To know and understand the effect of micro-credit on poverty reduction in this study, the difference in the values of key indicators or variables between the outcomes on beneficiaries' households from micro-credit is measured against the values of those variables on the non-beneficiaries.

To explain more on the impact chain model in predicting the effect of micro-credit intervention, the study follows the example of Ghalib (2009); and Ghalib et al. (2015) where their model used two groups living in the same area with identical social and economic features. The only distinguishing feature between the two groups was access to micro-credit intervention to the beneficiaries, while, the non-beneficiaries of the control group were not provided with micro-credit intervention.

The variables of interest in this research are business income and expenditure. Thus, the beneficiaries are expected to exhibit enhanced behavioral signs in these variables of interest. Hulme (2000) argued that such changes in the behavior of the beneficiaries will result in higher economic security, which in turn, will lead to changes in despair or misery and mortality rates, skills and educational levels and future social and economic opportunities.

In addition, Hulme (2000) further pointed out two main approaches for the assessment of the effects for the purpose of micro-credit studies. These are the intermediary beneficiary and intended beneficiary approaches. The intermediary beneficiary approach is concerned with the beginning of the effect chain, more importantly, changes in the micro-credit institution and its operations, such as the sustainability of micro-credit institutions and outreach to the poor and vulnerable. The intended beneficiary approach of the impact assessment emphasizes on the end results of program or policy interventions on the beneficiaries livelihoods or life. However, the study focuses on the intended beneficiary approach because of its suitability in differentiating between who benefits and how.

In addition, the unit of analysis is the household; this is because of it advantage over other units, like individual, community and enterprises. Hulme (2000) argued that the household is suitable and superior because it is easy to identify and note the appreciation of livelihood effects.

3.2 DEVELOPMENT OF RESEARCH HYPOTHESES

The development of hypotheses in this study is triggered by the gap in this research as indicated in the framework. Thus, the following hypotheses are developed:

3.2.1 MICROFINANCE AND POVERTY ALLEVIATION

The proponents or advocates of microfinance and poverty reduction, like Sulemana and Dinye (2016), in their topic on micro-loans and agricultural sector incomes in developing countries: an empirical study of Pru district in Ghana, evaluated micro-credit impact on incomes within the agricultural sector. A case study and quasi-experimental method were used. Data used for analysis were gathered from 60 fishermen and 96 crop farmers using a questionnaire. Ordinary Least Squares regression method was used to analyze the data. The study finds that micro-credit has a positive impact on incomes, and remains indispensable in enhancing agricultural incomes and assists in bridging income inequality. In another study, Najmi et al. (2015) conducted a study to investigate the impact of microfinance on socioeconomic status of borrowers in Minchanadad district, Pakistan. Data were collected from 60 respondents through a questionnaire and stratified random sampling method was adopted. The study finds positives impact of microfinance on income, children's education, health and borrowers' businesses, generally.

Similarly, Thanh et al. (2015) considered the majority ethnic groups and that of the minority in Vietnam. The results show an increase in income of the loan recipients in rural and remote areas, while the effect on enhancement of income is influenced by household features, like number of working adults, lending conditions of the loan and experience of the household's head. Quaiser and Sohail (2013) in their study, tried to compare clients and non-clients, and concluded that micro-credit clients are significantly more efficient than the non-clients in income generation.

Kwai and Urassa (2015) assessed the contribution of savings and credit cooperatives societies in reducing poverty in rural households, specifically, comparing income levels of savings and credit cooperative society members and non-members. A total of 160 respondents were used comprising 80 savings and credit cooperative society members and 80 non-members. Data were gathered through a structured interview questionnaire. Quantitative data were analyzed using descriptive statistics, independent *t-test* for comparing the mean and multi-linear regression and qualitative data were analyzed using content analysis. The *t-test* analysis shows a highly significant difference in the mean value between the two groups on income earned and household expenditure. In addition, the result of multi-linear regression analysis shows that the effect of savings and credit cooperative societies is favorable and significant, thus, concluding that savings and credit cooperative society members living standard has improved significantly.

Dupas and Robinson (2011) discovered access to savings accounts leads to personal income growth and increased business investment. In addition, expenditures increased for women in the treatment group, they concluded that savings decreases vulnerability of women to health shocks.

Thus, the following hypotheses are formulated:

> **H_1:** Credit positively influences business income of the beneficiaries and non-beneficiaries.
> **H_2:** Savings positively influences business income of the beneficiaries and non-beneficiaries.
> **H_3:** Supervision positively influences business income of the beneficiaries and non-beneficiaries.

Increase in expenditure is very vital for determining household poverty reduction. Studies have found that access to micro-credit increases expenditure of the household. For example, Bakhtiar and Touhidul (2016) explored the socioeconomic effects of micro-credit in Mymensingh district of Bangladesh, using a household survey. The study concludes that micro-credit increases income and expenditure on consumption, and hence, contributes to reduction of poverty in the study area. In addition, the borrower's expenditure on healthcare, educational and food intakes as well as housing condition has improved. Women can participate in decision-making and their authority in the household has increased. Moreover, the assets of the households have increased after participating in micro-credit.

Ghalib et al. (2015) used quasi-experimental research design and cross-sectional data collected from both the clients and the non-clients. Poverty reducing effects were observed on indicators of household business income, expenditure, water supply, health, clothing and quality of roofing and walls. The study reveals micro-credit to have positive effects on the household of the participants or borrowers. Giang et al. (2015) concluded that credit has a positive effect or influence on the mean expenditure of the poor households. The expenditure of the poor households who had credit increased more.

Dupas and Robinson (2013) assessed the effect of limited admission to formal saving services on the growth of businesses in countries that are poor and concluded that despite huge fees for withdrawal, many women using the account were able to save and increase their productive investment and personal expenditure. Karlan et al. (2011) concluded that households that saved have a higher increased impact than the households that did not.

Thus, the following hypotheses are formulated:

> **H_4:** Credit positively influences expenditure of the beneficiaries and non-beneficiaries.
> **H_5:** Savings positively influences expenditure of the beneficiaries and non-beneficiaries.
> **H_6:** Supervision positively influences expenditure of the beneficiaries and non-beneficiaries.

3.3 UNDERPINNING THEORY

The underpinning theory used to explain the research framework is the classical microfinance theory of change.

3.3.1 THE CLASSICAL MICROFINANCE THEORY OF CHANGE

The classical microfinance theory of change according to Dunford (2012) simply means a poor person goes to a microfinance provider and takes a loan (or saves some amount) to start or expand a small businesses which yields enough net revenue to repay the loan with major interest and still have sufficient profit to increase personal or household income enough to raise the person's standard of living. Microfinance helps some clients to access credit to invest in small businesses and thereby have an opportunity to increase income and escape from poverty.

Microfinance is the supply of loans, savings and other financial services to the poor. The focus is often on micro-credit – providing small loans for poor people without collateral to start a small business (Asian Development Bank, 2013; Surbhi, 2015). Rudd (2011) also opined that microfinance is the channeling of small amounts of financial capital into poor markets to overcome the barriers of not being able to access credit in the traditional banks. Thus, resulting in welfare gains for both lenders and borrowers as the latent productive potential can be unlocked.

The cause-and-effect pathway within the classical microfinance theory of change, which poor households are assumed to take according to Dunford (2012) involved three steps. First, they tap microfinance services (primarily as loans and/or savings and other services); secondly, they invest this money in small businesses; and thirdly, they manage these small businesses to yield enough return on their investments to increase their households income and consumption—leading to poverty reduction.

The first step talks about tapping micro-credit. The idea of microfinance is to lend money to the poor entrepreneurs who are excluded from the formal credit market. The classical microfinance lending contract is a way of monitoring the borrowers before and after the loan is taken (Armendáriz & Morduch, 2010). The main difference between the loan contracts in the formal banks and the classic microfinance lending contracts is that the MFIs enforce group loans. Other features of the classic microfinance loan contract are frequent repayment and no grace period, i.e. repayments starts immediately after loan disbursement.

The existence of both the frequent repayment and no grace period in the lending contracts can create an opportunity for the credit officers and the group members to get to know themselves very well by seeing each other face to face on a regular basis. The institutions and group members then know themselves better, which in turn are securing the lender with information (Shoyskole, 2013). The most well-known way to monitor poor borrowers is group loans, but as the microfinance industry moves increasingly toward individual loans, other mechanisms are becoming more important. Today, one of the prominent ways to monitor or supervised borrowers is the frequent loan repayments and their business (Pearlman, 2010).

Secondly, investing the money in business, Dunford (2012) further stated that you might think studies of loan and savings uses would be a dime a dozen. It seems so basic to ask how clients use your product. The complication is that microfinance providers often prescribe the use of the loan (and sometimes the savings through commitment accounts), either by insisting that the client propose a specific business investment or (less frequently) by tying the loan to a particular purchase, such as fertilizer for agriculture, a machine for business or an appliance for the household. This is because the microfinance providers generally assume and believes that the loan cannot be repaid unless it is used as intended, that is for income generating activities. Thus, when loan-use studies are conducted by providers, they are often limited to verifying the use of the loan for the client's originally proposed purpose. Thus, in order to avoid the issue of fungibility on the use of loan, the provider often monitors or supervised the clients' to make sure credit provided is actually invested for income generating activities.

Thus, in trying to consider the potential of loans to the poor, Banerjee and Duflos (2012), in their book poor economics assert that "… the vast majority of the loans invest in businesses run by the poor never grow to the point where they start having any employees or much in the way of assets." In another argument, Dunford (2012) take a look at the perspective of the very poor "entrepreneur," and discovered that a small business may generate enough income to make it a viable proposition for the operator, even if it could never grow to a level of commercial viability that would satisfy microenterprise development advocates. So, due to the lack of way to distinguish the viability of tiny businesses, Dunford (2012) continue to use the term "income-generating activities" (IGAs) to include all types of businesses operated by the poor, including those without potential to grow and employ non-members of the "entrepreneur's" own household.

Thirdly, manage business to get major return to used in changing the life of the household. The Third step of the classical microfinance theory of change, according to Dunford (2012) assert that there are plenty well-documented cases in which poor households invest their loans or savings or both in small businesses that grow and yield enough profit to substantially increase the household's income and consumption, sometimes even enough to rise above the national and international poverty lines. Even though, there are some few cases where the small business in which loans or savings are invested remain quite small with only modest returns on investment generally not enough to lift the household out of poverty.

Think about it! This is not an investment to maintain the value of one's money against inflation or for long-term growth of capital. The expectation is much higher—enough income, net of income generating activity expenses and principal and interest payments to the lender (or to self in the case of savings), to allow the family to have food or other necessities for survival. The poor can make a little go a long way, but a "little" may fall critically short of "enough."

So many have managed to be entrepreneurs in the face of so much adversity, and have made so much out of so little. There are, however, two troubling shadows in this otherwise sunny picture. First, while many of the poor operate businesses, they mainly operate tiny businesses. And second, these tiny businesses are, for the most part, making very little money.*"* (Banerjee & Duflos, 2012) in their book poor economics. Despite from that, investment in small business can have the happy consequence of actually raising total household income, as well as smoothing income through the year and consequently reduce poverty *(*Sebtad & Cohen, 2000). As we've seen in at least two recent, excellent books, Portfolios of the Poor and Poor Economics, most households are not counting on this poverty-reduction effect of small business investment; they just do business as one of several ways to keep the wolves of hunger and ill health at bay, to cloth and shelter themselves, and to have a little enjoyment in their lives, too. Call this poverty alleviation—reducing the uncertainties and stress of being poor.

Micro-credit seems to have little early impact on poverty or welfare (health, education, empowerment) indicators (within 18 months of joining a program), except for those who already have business activities in which they can invest their loans. These borrowers experience business growth and, sometimes, increased household expenditure. Microsavings seem to have more measurable impact but again more on those who have businesses at the outset. Whether from credit or savings, the impacts on business development are found predominantly among those already engaged or predisposed to engage in business makes perfect sense, but what about their household income? (Dunford, 2012).

Thus, it is pertinent to note that in the classic microfinance theory of change, people from poor households tap microfinance services (primarily loans and/or savings) to invest in small businesses that yield sufficient return on investment to increase household income and consumption—leading to poverty reduction. Thus, the clients of the microfinance actually used credit to build enterprises to generate income and escape poverty.

Robinson (2001) opined that micro-credit is provided to the poor to borrow at a low interest rate, which is below the interest rate determined by the market forces of demand

and supply, to enable poor people to invest in trades or businesses and generate income to alleviate their poverty. Therefore, the performance of micro-credit is assessed using individual household studies on whether there is an increase in income, education, clothing, healthcare and shelter (Congo, 2002).

The main objective of micro-credit is to change and uplift the standard of living of the poor people who are not economically and socially active to become socially and economically active. The impact of micro-credit is expected to be shown in the changes occurring in the well-being of the beneficiaries. Babajide et al. (2015) submitted that individuals would enhance their well-being by pursuing means that affect them to save more for the future; they concluded that micro-savings can be utilized as a poverty reduction strategy. Zwolinski (2015) observed that there is an increasing body of empirical evidence in Brazil, India, and Bangladesh indicating that the poor use the micro-loans or grants provided to do small businesses to make real improvement in their livelihood.

The poor who are provided with credit typically use the money responsibly to generate sustainable streams of income or revenue. The benefits often lead to real long term upliftment in education and health. According to Nghiem, Coelli and Rao, (2007); and Onakoya and Onakoya (2013), the items used to measure changes in poverty level are many: income, expenditure in form of food, education, clothing, shelter, health and social involvement.

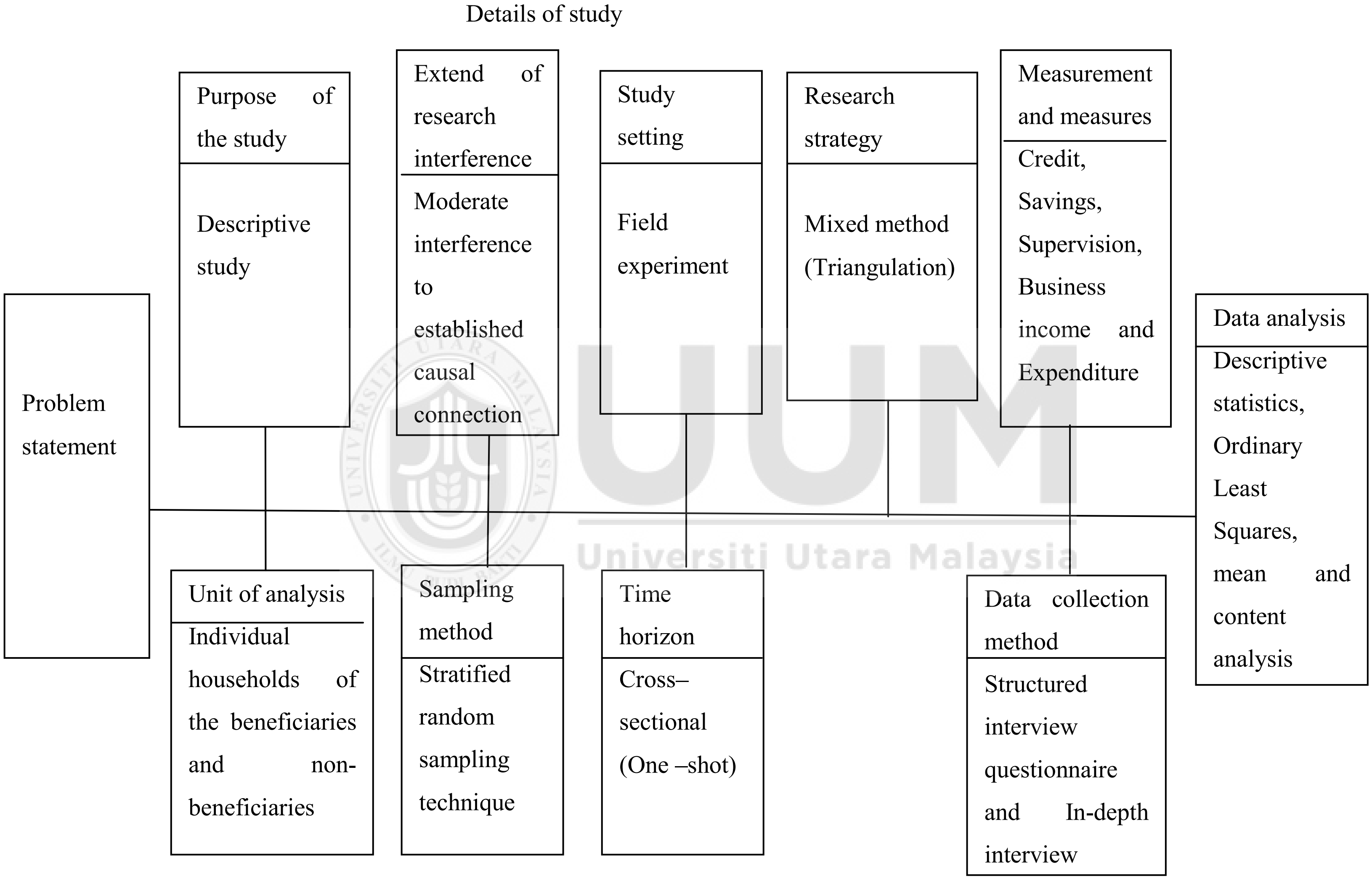
Conclusively, the micro-credit institution is considered as a channel through which the poverty level of the poor can be uplifted when they come into contact with micro-loans. The inability to have micro-loans by the poor may lead to the following consequences: lack of food security, health and nutrition and above all, the poverty situation of the household will deteriorate. Therefore, getting micro-credit helps in reducing the problem of access to capital by households that are poor, improves their strategy and ability to bear risks, assists in enhancing consumption and also uplifts the poor and the community from poverty (Shetty, 2005).

3.4 RESEARCH DESIGN

The research design used or adopted for this study is a case study and intensive research design over an extensive period of time (up to six months in 24 weekly visits or observations). The researcher adopted this research design because for the study to properly examine the effectiveness of the use of micro-credit on business income and expenditure, data have to be collected regularly for a long period of time. This will give a clear picture of the real impact of micro-credit on business income and expenditure of the beneficiaries unlike when data is collected at once. And hence, give room for easy recall of what happened during the week unlike when someone is expected to recall an event that lasted for six months at once.

The study also uses cross-sectional data and multiple sources of evidence, such as in-depth qualitative open-ended interview and structured interview questionnaire. It attempts to measure the effect or describe the performance of micro-credit beneficiaries and non-beneficiaries' business income, expenditure and empowerment of women. A comparison between the beneficiaries and non-beneficiaries is made in studying business income, expenditure and empowerment, in order to discover the extent of the improvement that has occurred as a result of micro-credit access. In other words, the study investigates whether there are significant differences in business income, expenditure and empowerment between the beneficiaries and non-beneficiaries of micro-credit interventions or programs in the same area. The research design is shown in Figure 3.3.

Figure 3.3:
Research design



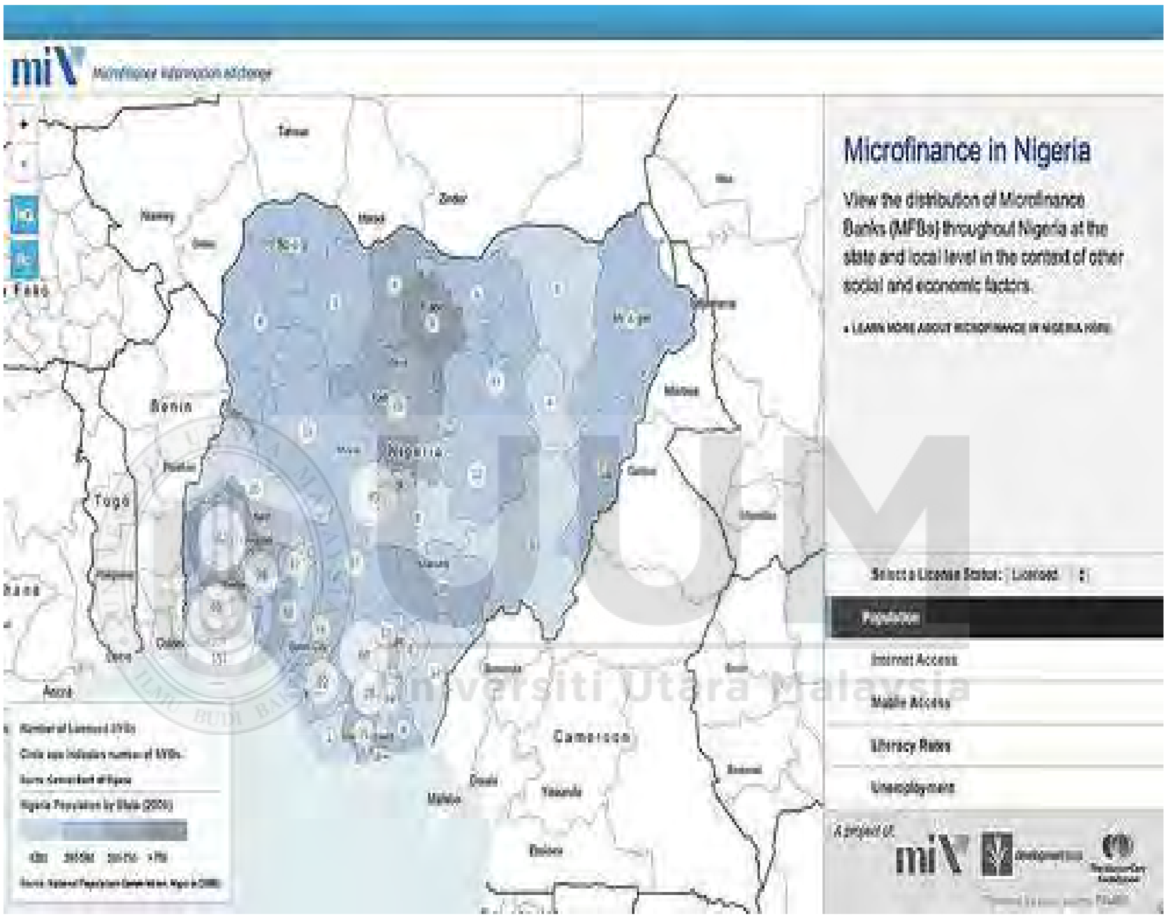
Source: Sekaran & Bougie (2013).

3.5 POPULATION OF THE STUDY

The total size of the population of microfinance institutions in Nigeria was 900 (Greene, 2011). Presently it is 870, which are too numerous to mention. But out of them, DEC microfinance institution was chosen, with a total of 36,648 beneficiaries and other non-beneficiaries who did not participate in Northeast Nigeria. The choice of DEC microfinance institution is motivated by the fact that it is the only micro-credit center that caters for the credit needs of the poor women, both in the urban and rural areas, with over 70 percent coverage in the rural areas. Therefore, the government, NGOs, management of the DEC microfinance institution and citizens will be interested to know the performance of DEC in increasing business income and expenditure as well as transforming or eradicating poverty.

What makes this population unique is the fact that all beneficiaries of DEC are women. In addition, the other microfinance institutions in the region, operate with only one office in a particular town and the majority of their clients are men and middle class citizens as well as medium and large companies (Onakoya & Onakoya, 2013). Another issue is that most of the microfinance institutions are privately owned and in an attempt to maximize profit, they exclude the poor from having access to credit. Based on the statistics obtained from the DEC microfinance institution Bauchi state has 6,171 beneficiaries and Tafawa Balewa branch comprising Lere and Bombar villages has a total of 1,920 beneficiaries. The population of Nigerian microfinance institution can be shown below in the Nigerian map, as in Figure 3.3

Figure 3.4:
Population of microfinance institutions in Nigeria



Source: Greene (2011).

3.6 UNIT OF ANALYSIS

The unit of analysis in this study is individual households of the women in the study area. Hence, individual households of beneficiaries and non-beneficiaries of DEC microfinance institution are the respondents of this study. The choice of individual households is based on the following reasons: firstly, they are relatively easily defined and identified. Secondly, it allows an increase in impact on the livelihood of the households to be assessed. Thirdly, it allows connectivity to various kinds of business enterprises. Lastly, it is cost effective, consumes less time and does not require highly skilled personal as is required when impact assessment is carried out at the community level (Hulme, 2000). At the household level, the study identifies business income and expenditure effect domains.

3.7 SAMPLING OF DEC MICRO-CREDIT BENEFICIARIES AND NON-BENEFICIARIES

The DEC microfinance beneficiaries were selected or chosen in consultation with the DEC officer or staff in Lere and Bombar districts. DEC staff provided a list of their beneficiaries. The quality of the impact evaluation relies on a clear and precise definition of the target population, and a clear establishment of boundaries that identify and classify who are to be included in the study and who are not to be included and for what reason (Hulme, 2000). The effect on the business income and expenditure is highly correlated with the time or period of involvement with DEC microfinance.

Therefore, the criteria for selecting the beneficiaries is based on beneficiaries who are in their two years and above of the program intervention. Thus, those members or beneficiaries who joined DEC microfinance recently who are not in their two years are excluded in the evaluation. There are very few groups that are in their second year and above in the study area, because of the frequent drop out before or at the end of the second year. This is due to uncertainty in the business environment as a result of the volatile nature of the environment.

Thus, the study used stratified random sampling to select the beneficiaries of micro-credit. The researcher classified the DEC micro-credit beneficiaries according to strata as it is in the DEC micro-credit groups. Only those groups that have reach two years above in their membership where selected as strata for the study. Thus, there were only four groups that fulfilled the conditions and some individual loans beneficiaries who were classified as no group, making up the five groups. No group is the composition of individual loan beneficiaries which made up the remaining one group. The population was classified into five groups for those respondents who fulfilled the above condition and selected for the structured interviews. The average size of the groups is between 5-20 members. After that, the researcher used random sampling technique to choose the respondents. The technique ensure that every respondent has equal chance of being chosen (Sekaran & Bougie, 2013). The beneficiaries were chosen from different ranges of occupation, marital status, age and educational background. The Table 3.1 shows the sample of the beneficiaries.

Table: 3.1:
Sampling framework

Villages	No. of groups	No. of members
Lere	2	26
Bom/bar	2	24
Individual	No group	10
Total	5	60

A Sample size of 60 beneficiaries was chosen.

In order to have a basis for comparison with the beneficiaries, 60 non-beneficiaries were selected making a total of 120 respondents. The non-beneficiaries were selected in the same area with the beneficiaries who have some similar features. Stratified random sampling was used to select the non-beneficiaries as it is in (Kwai & Urassa, 2015). Here, the population was classified or stratified into two groups: Lere and Bombar Villages. Thereafter, 30 respondents were selected randomly from each district.

Out of the total sample size of the respondents who are beneficiaries, seven refused to continue with the interview or did not respond. About 26 respondents of the non-beneficiaries refused to continue. This is because the non-beneficiaries were not under any group or membership of any organization that they have obligation or are answerable to. In addition, some non-beneficiaries declined to participate because they did not like a stranger intruding in their personal life.

Thus, only 53 beneficiaries and 34 non-beneficiaries, making a total of 87 respondents responded to the quantitative survey. This figure is sufficient, considering the nature of the study which is a case study and undertaken weekly over a period of six month, making 24 observations for six month from 1 March to 31 August 2015.

3.7.1 SAMPLE OF DEC BENEFICIARIES FOR QUALITATIVE STUDY

In order to confirm the effect of micro-credit on business income, expenditure and empowerment of the beneficiaries 10 women among the respondents who are beneficiaries representing the various groups were selected from the 53 samples for in-depth, qualitative open-ended interviews, two from each group out of the five groups, totaling of 10 women. The selection was done randomly and based on the willingness to participate in the in-depth interview. The women were not forced to partake in the interviews. These 10 women were interested and took part in the interview voluntarily.

The choice of sample size in terms of qualitative interviews is guided by McCracken (1988) where the study suggests that, “less is more” in a qualitative study that relies or depends on in-depth interview. McCracken (1988) suggested eight as an ideal sample for most exploratory research or studies. This study however, selected more than eight, in order to have more representatives. Table 3.2 shows the detailed information of the women who were interviewed.

Table 3.2:
Details of respondents for in-depth interview

S/N	Name	Age	Education qualification	Village	Occupation
1	Hannatu Z.	35	Primary school	Lere	Bean cake
2	Naomi	38	Illiterate	Bombar	Vegetable
3	Victoria	36	Secondary school	Bombar	Local drink
4	Mary	48	Adult education	Bombar	Food vendor
5	Martina	35	Secondary school	Lere	Provision
6	Linda	42	Primary school	Bombar	Tailoring
7	Asabe	28	Secondary school	Lere	Fruits
8	Jamima	41	Primary school	Bombar	Local drink
9	Naira	35	Secondary school	Lere	Shoes/wears
10	Bilhatu	48	Illiterate	Lere	Vegetable

3.8 MEASUREMENT AND OPERATIONAL DEFINITION OF VARIABLES

The summary of the variables examined and the sources adopted and modified in this study are as follows:

Poverty reduction: refers to business income and expenditure. The measures are business income; expenditure on education, health, clothing, consumption (on food items and non-food items) (Banerjee et al., 2014; Siakwah, 2010).

Business income: Each business is made up of the activity that is carried out to earn or generate money, not money obtained from an employer. Therefore, business income is measured in terms of profit in this study. Profit is arrived at by computing business revenue less costs incurred in running the business (Banerjee et al., 2014).

Expenditure: This is the expenditure incurred for the household (does not include expenses of the business). This is measured in terms of food, eeducation, healthcare and Clothing; temptation goods (meals or snacks, cigarettes, Indian herm and alcohol); assets are durable goods owned by the households. It is measured in term of access to television; watches and wall clocks, cell phones, bicycles, radios, chairs etc.; and others, like festivals, ceremonies, rent, electricity bill (Banerjee et al., 2014).

Credit: is the loans from microfinance institutions e.g. from DEC microfinance institution. This is measured by loan size, loan repayment, and investment to the business (Al-Shami et al., 2014 and Banerjee et al., 2014).

Savings: this is the amount kept in the microfinance institutions as collateral or for a rainy day. This has to do with putting in money in the microfinance institutions (Al-Shami et al., 2014 and Banerjee et al., 2014).

Supervision: this has to do with the loan officer coming to inspect the clients' business, collecting loans and monitoring their businesses. The measures are: nature of supervision, whether supervision helps to improve income generating capacity, pay the loans and take care of the family (Kiefer et al., 2005).

3.8.1 MEASUREMENT OF VARIABLES

The summary of the variables examined and the sources adopted and modified in this study is shown in Table 3.3:

Table 3.3
Summary of measures and their sources

Construct	Dimension/Measures	Sources
Micro-credit	Credit: Loan collected from micro-credit institution, loan sizes, loan repayment, amount of loan invested in business.	Al-Shami et al. (2014) and Banerjee et al. (2014),
	Savings: keeping money in the micro-credit institution by the beneficiaries. The amount saved	. Al-Shami et al. (2014);Banerjee et al. (2014) and Siakwah (2010).
	Supervision: nature of supervision and whether supervision improves business income.	Kiefer et al. (2005).
Poverty reduction	Business income, consumption expenditure on food, education, health, clothing's, assets and others.	. Al-Shami et al. (2014); Banerjee et al. (2014); Crepon et al. (2011) Matovu (2006) and Siakwah (2010).

3.9 DATA COLLECTION METHOD

The data collection methods used in this study are as follows:

3.9.1 INTERVIEW DESIGN

The study used structured interview questionnaire and open-ended interview for quantitative and qualitative data. The main direction of the structured interview questionnaire was on business income, household expenditure and empowerment status of women beneficiaries and non-beneficiaries of DEC's microfinance. The questionnaire consists of demographic and socio-economic variables, business income (income generating activities), household expenditure, empowerment, credit, savings and supervision. However, there are three open-ended questions covering reasons for joining and continuity in microfinance institutions group, duties and responsibilities of members of the group and the benefit of joining DEC micro-credit groups.

After the interview questionnaire was designed by the researcher, an expert on micro-credit was contacted and given the questionnaire for his perusal, comments and inputs. Prof. Sukor Kasim gave some useful comments and inputs on the design of the questionnaire that enhanced the quality of the interview questionnaire.

3.9.2 PRELIMINARY SURVEY

A preliminary survey was conducted with the aim of assessing or evaluating the feasibility and reliability of the structured interview questionnaire. The researcher carried out a pilot survey on five women i.e., beneficiaries of DEC microfinance chosen from the same study area.

The pilot survey addressed issues like: comprehensiveness, clarity, time taken to interview each individual household, the convenience in the selection of time as felt by the respondents and presence and absence of variance in the respondent's answers. After, the researcher had established the clarity, feasibility and reliability of the questionnaire, the survey was carried out with the entire sample of the population.

3.9.3 FIELD DATA COLLECTION (PRIMARY SOURCE)

The field work was conducted in Lere and Bombar villages in Bauchi state of Nigeria every week from 1 March to 31 August 2015, making 24 observations, with DEC micro-credit beneficiaries and non-beneficiaries in the same area. Interviews were conducted in common places, such as the individual's place of business, homes and in the house of a member where meetings and discussions were conducted. Since meetings are held monthly and the study is conducted weekly, the respondents were interviewed in their homes or business places. As for the in-depth interviews, the respondents refused tape recording of interviews due to security reasons. This is due to the volatile nature of the area. But permission was taken from the respondents to note down their conversation. Assurance was given to the respondents of the confidentiality of the information collected.

3.9.4 OBSERVATIONS

The researcher used various types of observations which proved to be useful and of great benefit in gathering information over six months. The researcher observation in the field started with attending meetings of the micro-credit groups. The researcher was present during the five monthly meetings of the groups throughout the entire period of the research. This visit was made to only the selected groups who were involved in the survey. All the meetings attended lasted for one to two hours. Majority of the group members attended the meetings. The group members usually had a good agenda to discuss, especially issues relating to their group, business, payment of loans and savings with the DEC staff supervising the group and issues pertaining to their welfare.

Secondly, during several periods, the researcher attended meetings organized by the DEC microfinance institution to issue funds to new groups, sometimes at the office premises or in their villages. Thus, apart from formal gatherings organized by the groups and the DEC microfinance institution, the researcher observed the women and their settings during the interview periods or sessions. The observation enabled the researcher to see and appreciate the way of life, culture, psychology and habits of the respondents.

3.9.5 RESEARCH ETHICS

The respondents were guaranteed that confidentiality and anonymity of their information would be maintained. The respondents were not forced to give any personal information against their wishes. Most of the respondents did not have experience or knowledge linked or correlated to research. However, there was tendency among the participants to look at the presence of the researcher as the representative of DEC microfinance institution or government.

As a result of that, the researcher had to spend time to explain or spell out the motive and necessity of the current study, in order to convince the respondents that the researcher is not in any way connected to DEC microfinance institution or the government, and to avoid collection of biased information or data. The researcher also made the participants feel free and comfortable by dealing with them as brothers and sisters. This paved the way for a conducive atmosphere for open discussions and interviews.

3.9.6 DIFFICULTIES ENCOUNTERED

Women from different backgrounds, beliefs and culture, came together in groups to access credit from DEC microfinance institution, in order to improve their welfare and get them out of poverty. At times, the participants were afraid or averse to respond to questions and would be silent. Respondents did not freely respond to questions relating to their family or household details, like business income and expenditure of the household due to peer view. Thus, it was a huge task for the researcher to convince and motivate them to provide honest and adequate response to the questions asked. At times, the DEC micro-credit institution staff supervising the group intervened or interrupted whenever a participant openly gave negative findings about DEC microfinance institution. The researcher explained that both negative and positive answers are important to enhance the working of the organization and the groups.

The greatest difficulty in the conduct of this study was the issue of punctuality. This was absent in most of the respondents. Hence, interviews had to be postponed and rescheduled for those who were absent. But there were exceptions, because in some areas the participants were punctual. The DEC staff were very patient and cooperative in taking the researcher to the field. The periods of the field work in July and August is the rainy season. Despite this, the interviews could be conducted because the rain usually lasted for a few hours in a day.

Some women groups benefiting from DEC microfinance institution loans in the study area wanted to take part in the survey even though they were not part of the sample (i.e., new group members). They wanted to take part because most of them thought they would get financial assistance or benefit. The researcher refused to include them in the survey because they are not in their two years membership and above in DEC.

3.10 DATA ANALYSIS

Statistical analyses were performed using stata, Ordinary Least Squares, mean comparison between the beneficiaries and non-beneficiaries, descriptive statistics and content analysis. The reasons for the use of stata in the study are; stata has a lot more and very consistent procedures which make the output to be pretty much the same and it encourages you to save syntax (O'connor, 2009). The key variables extracted from the structured interview questionnaire were used for statistical analysis. Most of the variables from closed-ended interview questions were used in the quantitative analysis. The open-ended questions were used for qualitative or content analysis. Three open-ended questions covered reasons for joining and continuity in micro-credit institutions group, duties and responsibilities of members of the group and the benefit of joining DEC micro-credit groups.

The quantitative analyses were conducted in three stage. The first stages of the analysis involved the frequencies and percentages of the demographic variables and family details. The second stage of the analysis used Ordinary Least Squares regression to describe the significance of the independent variables in predicting the dependent variable. Ordinary Least Squares regression was chosen because it has the ability to analyze data with a small sample size and it is suitable for assessing continuous variables, and is consistent with several other studies (Babaji et al., 2015; Giang et al., 2015; Kwai and Urassa, 2015; Sulemana & Dinye, 2016).

The third stage was the determination of mean difference in the variables or measures of poverty reduction, like income and expenditure of the beneficiaries and non-beneficiaries, to ascertain their individual effects on poverty eradication. The use of mean to ascertain the effect of micro-credit is in line with a few other studies (Babaji et al. 2015; Girabi & Mwakaje, 2013; Jegede et al., 2011; Kwai & Urassa, 2015; Thanh et al., 2015). These studies used mean for comparing the mean difference between the beneficiaries and non-beneficiaries of micro-credit. In addition, the study used mean because the method is suitable for comparing the mean score on the variable with continuous data, for two different groups of respondents (Pallant, 2011).

The study also assessed the self-reporting of qualitative interviews in three stages:

1. Assessment of group continuity and solidarity of the micro-credit groups. The study used collective action and mutual cooperation of members as indicators. The indicators for continuity in micro-credit groups were their years of participation, willingness to continue in the DEC microfinance group and their business or trade.

2. The poverty reduction status of DEC microfinance group members was found to have

improved due to the impact of micro-credit. The indicator used to study the effect was the condition of women before collection of credit from microfinance institution and their present condition with regards to their expenditure pattern and business income of the households were used.

Analytical Model

A multivariate regression model was applied to determine the relative importance or effect of each of the three independent variables (credit, savings and supervision) with respect to business income and expenditure. The regression model was as follows:

$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + ę$

Where;

Y = Business income or expenditure

β0= Constant term β = 1….3 coefficient used to measure the sensitivity of the dependent variable (Y) to unit change in the predictor variables.

X1 = Credit:

X2 = Savings

X3 = Supervision

ę= is the error term to capture unexplained variations in the model and which is assumed to be normally distributed with mean zero and constant variance.

3.11 FRAMEWORK OF ANALYSIS

The frameworks for analysis in this study are as follows:

3.11.1 KEY VARIABLES

The key variables extracted from the questionnaires for statistical analysis are as follows:

Demographic and family information: age, marital status, education, occupation or types of business, family size, number of children, savings and loan size.

Micro-credit details: Total amount of loan, total savings with DEC micro-credit institution and supervision. These variables were used to study the significant contribution of micro-credit to poverty reduction.

Poverty reduction: the measures adopted or used in the assessment of poverty in this study are business income and expenditure.

3.12 SUMMARY

This chapter discusses the research framework and the methodology as well as the development of the hypotheses. The framework is proposed as a mechanism to test the effect of micro-credit on poverty reduction. In line with the literature, several hypotheses are developed to investigate the causal relationship between micro-credit and poverty reduction. Other sections in this chapter include the research design, sampling and sample size, unit of analysis, measurement of variables, data compilation and analysis.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 OVERVIEW OF THE CHAPTER

The main purpose of this chapter is to discuss the results of the research, which comprise data analysis and outcomes. The data are analyzed in the following sections: the first section provides the demographic and family characteristics of the respondents; the second explains the empirical results of the model's specification, regression analysis, discussion of results and the results of the diagnostic tests to ensure the robustness of the estimation technique. It also analyzes the effects of micro-credit on poverty reduction of the beneficiaries in comparison to the non-beneficiaries in the study area on the mean difference in business income, expenditure and empowerment. In order to support the quantitative results, a discussion of the qualitative results is provided as well as the summary of findings.

4.1 DEMOGRAPHIC AND FAMILY CHARACTERISTICS

In this part or section, the demographic and family characteristics of women micro-credit beneficiaries and non-beneficiaries are presented in Table 4.1.

Table 4.1:
Demographic and family characteristics

Demographic	Beneficiaries Frequency (N = 53)	Beneficiaries Percentage (61%)	Non – beneficiaries Frequency (N = 34)	Non – beneficiaries Percentage (39%)	Total Frequency (N = 87)	Total Percentage (100%)
Age						
21– 30	6	11.00	7	21.00	13	15.00
31 – 40	19	36.00	13	38.00	32	37.00
41 – 50	21	40.00	7	21.00	28	32.00
Above 50	7	13.00	7	20.00	14	16.00
Total	53	100	34	100	87	100
Number of Children						
0 – 1	3	6.00	5	15.00	8	9.00
2 – 3	15	28.00	11	32.00	26	30.00
4 -5	27	51.00	14	41.00	41	47.00
Above 5	8	15.00	4	12.00	12	14.00
Total	53	100	34	100	87	100
Family Size						
1 – 3	6	11.00	6	18.00	12	13.00
4 – 6	32	60.00	15	44.00	47	54.00
7 – 9	13	25.00	11	32.00	24	28.00
Above 9	2	4.00	2	6.00	4	5.00
Total	53	100	34	100	87	100
Marital Status						
Single	2	4.00	5	15.00	7	8.00
Married	43	81.00	20	59.00	63	72.00
Divorce	4	8.00	4	11.00	8	9.00
Widow	4	8.00	5	15.00	9	11.00

Total	53	100	34	100	87	100
Education background						
Illiterate	8	15.00	5	15.00	13	15.00
Adult education	2	14.00	5	15.00	7	8.00
Primary	16	30.00	8	24.00	24	28.00
Secondary	17	32.00	11	32.00	28	32.00
Post secondary	10	19.00	5	14.00	15	17.00
Total	53	100	34	100	87	100
Business Type						
Palm & G/nut oil	7	13.00	2	6.00	9	10.00
Shoes and wears	6	11.00	2	6.00	8	9.00
Bean cake	10	19.00	8	24.00	18	21.00
Provision	7	13.00	4	13.00	11	13.00
Vegetables and fruits	8	15.00	6	17.00	14	16.00
Drinks	3	6.00	4	12.00	7	8.00
Tailoring	4	8.00	2	6.00	6	7.00
Foods stuffs and vendors	8	15.00	6	16.00	14	16.00
Total	53	100	34	100	87	100
Loan #						
30,000	16	30.00				
40,000	28	53.00				
50,000	9	17.00				
Total	53	100				

Business income						
#						
Less than 20,000	0	0.00	1	2.94	1	1.15
20,001 - 40,000	3	5.67	25	73.53	28	32.18
40,001 - 60,000	41	77.36	7	20.59	48	55.17
60,001 - 80,000	7	13.20	1	2.94	8	9.20
Above 80,000	2	3.77	0	0.00	2	2.30
Total	53	100	34	100	87	100
Expenditure						
#						
Less than 20,000	0	0.00	2	5.88	2	2.30
20,001 - 40,000	5	9.43	24	70.59	29	33.33
40,001 - 60,000	43	81.1	7	20.59	50	57.47
60,001 - 80,000	5	9.43	1	2.94	6	6.90
Above 80,000	0	0.00	0	0.00	0	0.00
Total	53	100	34	100	87	100
Savings						
#						
9,000	16	30				
12,000	28	53				
15,000	9	17				
Total	53	100				

The demographic and family characteristics of the micro-credit beneficiaries and non-beneficiaries collected from the survey interview questions are depicted in Table 4.1. The results provide information on the frequency distribution of the demographic and family features of the respondents. From the total sample size of 87 households, 53(61 percent) are micro-credit beneficiaries. The remaining 34 (39 percent) are non-beneficiaries.

With respect to age, the respondents have an age range of between 21-30 to above 50 years. In terms of the various age categories, the first category of microfinance beneficiaries and non-beneficiaries within the age bracket of 21-30 years are 11 percent and 21 percent. Those from 31-40 years are 36 percent and 38 percent. Meanwhile, those in the age range of 41-50 years are 40 percent of the beneficiaries, which is almost double that of the non- beneficiaries at 21 percent. However, those above 50 years is 13 percent of the beneficiaries, which is much lower than the 20 percent of the non-beneficiaries.

The average age of the respondents in this study is 40 years, which is almost the same as 39 years average age in Kasali et al. (2015) study. This indicates that the majority of the respondents are still within the active age and young enough to engage in income generating activities. This result is similar to Hasan et al. (2015), which opined that 84 percent of the respondents belong to young and middle age. The study conducted by Joseph (2005), concludes that the best age to enter into any group for the purpose of collecting micro-credit, become innovative and perform effectively in micro-credit is between the age ranges of 20-40 years. Figure 4.1 shows the distribution of respondents according to age range.

Figure 4.1:
Age distribution of respondents

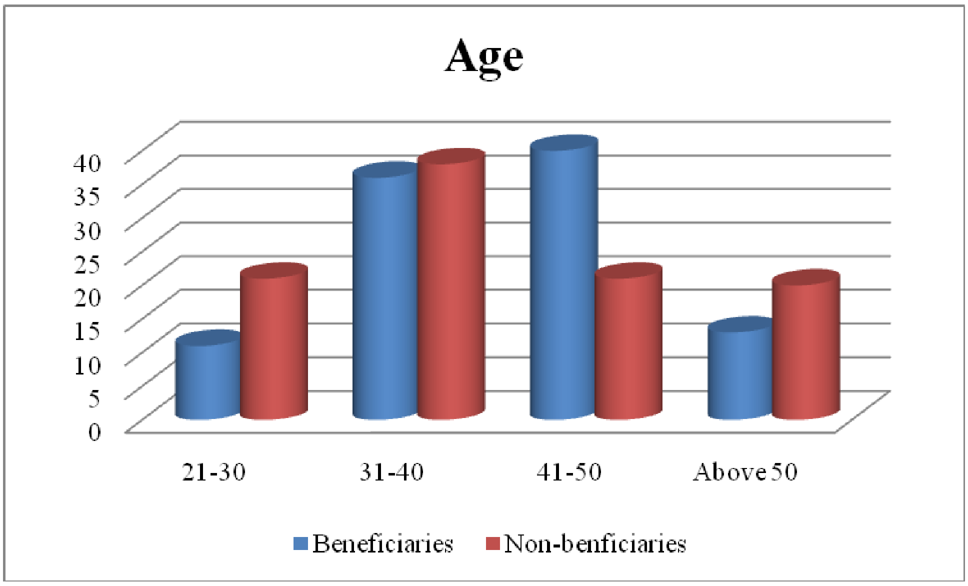


Figure 4.1 signifies that the non-beneficiaries are more than the beneficiaries, especially in the age range of 21-30 and above 50 with a slight difference in the 31-40 year category. There are more beneficiaries in the age range of 41-50, years compared to the non-beneficiaries.

However, as for the number of children, the majority of the beneficiaries and non-beneficiaries have 51 percent and 41 percent of children ranging from 4–5 in their households. Also six percent and 15 percent of the beneficiaries and non-beneficiaries have 0-1 children; 15 percent and 11 percent have 2-3 children and the remaining eight percent and four percent of the beneficiaries and non-beneficiaries have more than 5 children. This shows that majority of the respondents have 4-5 children.

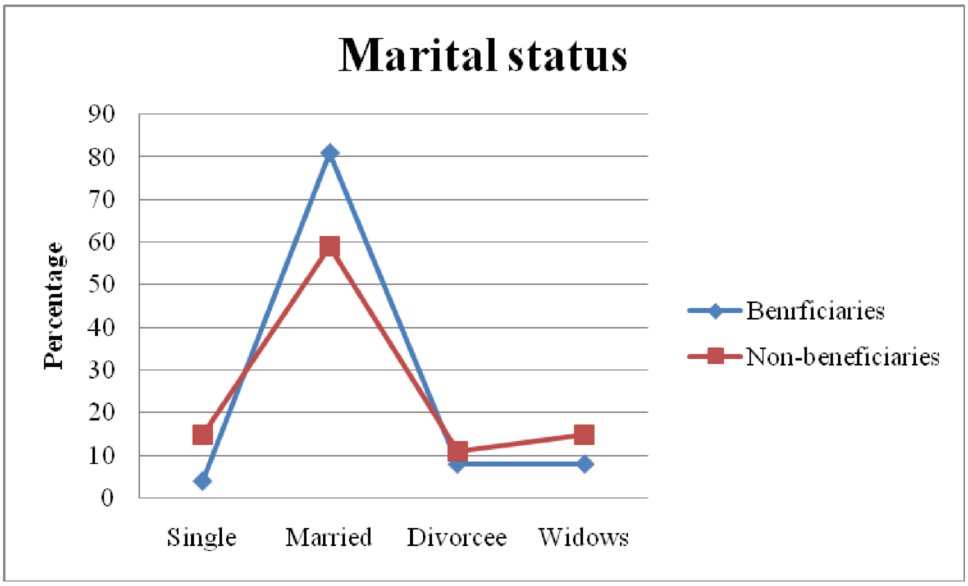
As for family size of 1–3, it is the beneficiaries: (11 percent) and non-beneficiaries:

(18 percent): as for family size of 4–6, it is the beneficiaries: (60 percent) and non-beneficiaries: (44 percent). For 7–9 family size, it is the beneficiaries: (25 percent) and non-beneficiaries: (32 percent); as for the family size of above 9, it is beneficiaries: (four percent) and non-beneficiaries: (six percent). This shows that the family size with the highest percentage are the 4–6 and 7–9 categories. This shows that family size in this study is high. The large size of the family is contrary to the result of a study carried out in Pakistan, where the respondents' family size is small with almost 90 percent having less than 3-4 family members (Hasan et al., 2015).

The large size of the family in this study is due to economic reasons, in that having a large size family is a source of wealth. Since there are many people in the household, they can work on the farm and increase productivity. Other reasons are culture and religion which forbid family planning and limiting the number of children. In addition, since the area is open to tribal and communal crisis, many children are adopted because their parents have been killed.

With regards to marital status, the majority with a significant percentage of 81 percent and 59 percent of beneficiaries and non-beneficiaries are married: four percent and 15 percent of the beneficiaries and non-beneficiaries are single; and others comprise 8 percent and 11 percent of divorcees; and eight percent and 15 percent widows. The married women in this study are the majority. This study supports the findings of Kasali et al. (2015) that the majority of the respondents are married. This shows that majority of the respondents are responsible and have the duty to care and provide for their families. This result is represented in Figure 4.2.

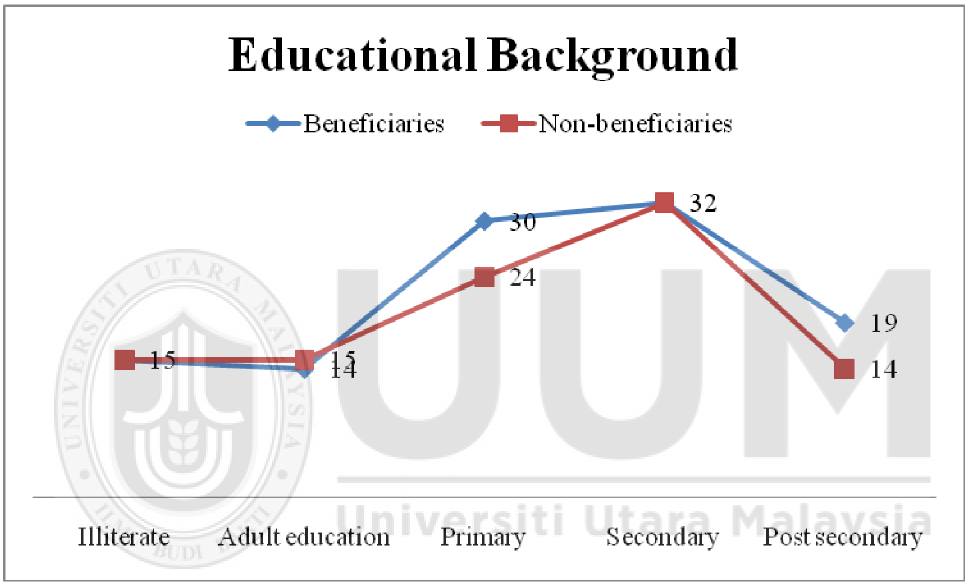
Figure 4.2:
Distribution according to marital status



Regarding educational level, Table 4.1, shows that respondents are divided into five categories. These are post-secondary, secondary, primary, adult education and illiterate. Majority of the respondents (85 percent) have obtained an education in one form or the other. This result is closely related with the results of 86 percent literacy rate by both Hasan et al. (2015 and Kasali et al. (2015). About 19 percent of the beneficiaries which is higher than the 14 percent of the non-beneficiaries, have post-secondary education. About 32 percent, respectively, of both the beneficiaries and the non-beneficiaries have secondary education. In addition, 30 percent and 24 percent of the beneficiaries and non-beneficiaries received primary education. Meanwhile, 14 percent of the beneficiaries which is lower than 15 percent of the non-beneficiaries possess adult education. Lastly, 15 percent each of both the beneficiaries and non-beneficiaries are illiterate.

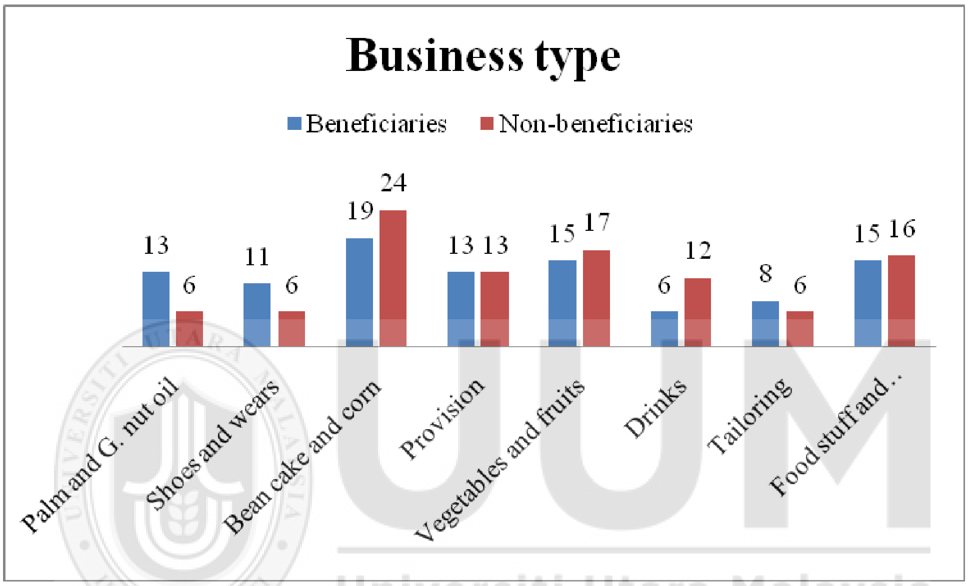
This shows that most of the respondents are literate women. This could be due to the availability of education facilities nearby. The illiterate women depend on the educated to fill loan forms, keep records of loans and savings payments. In conclusion, education whether formal or informal, assists the respondents to get involved and participate in economic activities (see Figure 4.3).

Figure 4.3:
Educational background of the respondent



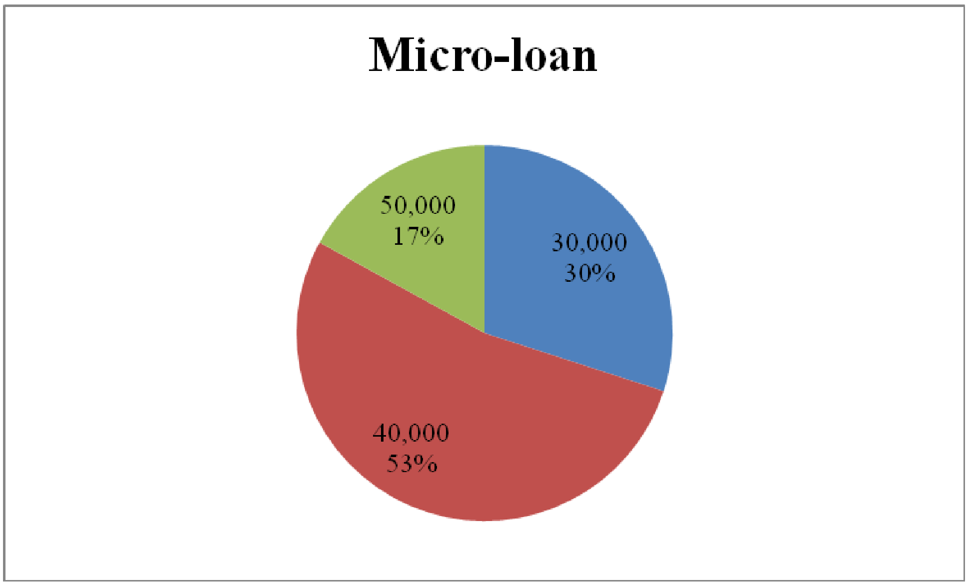
With regard to the occupation or business type the respondents are engaged in, 13 percent of the beneficiaries which is higher than six percent of non-beneficiaries are engaged in palm and ground nut oil business; about 11 percent and six percent are into shoes and wear business; those in bean cake and corn business constitute about 19 percent of the beneficiaries which is much lower than the 24 percent of the non-beneficiaries; provision sellers make up 13 percent each of the beneficiaries and non-beneficiaries; vegetables and fruits businesses contribute 15 percent and 17 percent of beneficiaries and non-beneficiaries; local drinks sellers, one of the traditional trade or business, formed six percent of the beneficiaries and 12 percent of non-beneficiaries and eight percent and six percent are engaged in tailoring; and lastly, 15 percent and 16 percent of the beneficiaries and non-beneficiaries are involved in foodstuff and vendor business. This is shown in Figure 4.4.

Figure 4.4:
Occupation of the respondents



Micro-loan is for the beneficiaries only. About 30 percent of the respondents have 30,000 naira of micro-loans; 53 percent who are the majority have 40,000 naira; and 17 percent have 50,000 naira of micro-loans. This shows that majority of the respondents are the ones with micro-loans of 40,000 naira only. Figure 4.5 shows distribution of micro-loans in a pie chart.

Figure 4.5
Micro-loan size of the beneficiaries



Regarding the business income, Table 4.1 shows that respondents are divided into five categories of business income. The categories of business income are less than 20,000; 20,001–40,000; 40,001–60,000; 60,001–80,000 and above 80,000 naira. About 0.00 percent of the beneficiaries which is lower than 2.94 percent of the non-beneficiaries have business income less than 20,000 naira; about 5.67 percent of the beneficiaries have business income of between 20,001–40,000 naira: and the non-beneficiaries have 73.53 percent of business income in this category, indicating that the non-beneficiaries are the majority at this level of business income; 77.36 percent and 20.59 percent of the beneficiaries and non-beneficiaries are between business incomes of 40,001–60,000 naira. The beneficiaries are the majority of the respondents who fall in this business income level; 13.20 percent of the beneficiaries have business income higher than the 2.94 percent of the non-beneficiaries in the business income of 60,001–80,000 naira; and 3.77 percent of the beneficiaries and

0.00 percent of the non-beneficiaries are within the business income above 80,000 naira. This shows that none of the non-beneficiaries is within this high business income range. In conclusion therefore, majority of the beneficiaries business incomes are high within the ranges of 40,001–60,000 to above 80,000, while for the non-beneficiaries; majority are at the lower level of less than 20,000 and 20,001–40,000.

As for the expenditure, Table 4.1 shows that none of the beneficiaries and 5.88 percent of the non-beneficiaries have expenditure less than 20,000 naira; 9.47 percent of the beneficiaries have expenditure of between 20,001–40,000 naira; while the non-beneficiaries have 70.59 percent. This shows that the non-beneficiaries are the majority of respondents at this level of expenditure; 81.14 percent and 20.59 percent of the beneficiaries and non-beneficiaries are between the expenditure of 40,001–60,000 naira. Surprisingly, the beneficiaries comprise the majority of the respondents who fall in this expenditure level; 9.43 percent of the beneficiaries have expenditure higher than the 2.94 percent of the non-beneficiaries in the expenditure level of 60,001–80,000 naira; and both the beneficiaries and the non-beneficiaries have 0.00 percent in the expenditure level of above 80,000 naira. In conclusion therefore, majority of the beneficiaries expenditure is high within the ranges of 40,001–60,000 to 60,001-80,000; while for the non-beneficiaries, majority are at the lower level of less than 20,000 to 20,001–40,000.

Micro-savings is for the beneficiaries only. Hence, 30 percent of the beneficiaries have 9,000 naira of micro-savings, while 53 percent who are the majority have

12,000 naira and 17 percent have 15,000 naira of micro-savings. This shows that majority of the beneficiaries have micro-savings of 12,000 naira only.

4.2 EMPIRICAL RESULTS OF THE MODELS SPECIFICATION

In order to evaluate or assess poverty reduction due to micro-credit in the study area, the Ordinary Least Squares regression model was explored. This model was employed in order to test the significant effect of micro-credit on business income and expenditure for poverty reduction. The use of Ordinary Least Squares regression model is in line with Babaji et al. (2015); Giang et al. (2015); Kwai & Urassa (2015); and Sulemana & Dinye (2016), who used Ordinary Least Squares method to estimate the extent to which micro-credit has been used to increase business income and improve expenditure of the households' and reduce poverty. In order to measure the significant effect of micro-credit on business income and expenditure, Ordinary Least Squares regression was regressed on the key variables in this study. These include credit, savings and supervision as independent variables and business income and expenditure as dependent variables.

This study has two models with business income and expenditure. Model 1 considers the effect of credit, savings and supervision on business income and model 2 deals with effect of credit, savings and supervision on expenditure. These models are discussed as follows:

4.2.1 REGRESSION ANALYSIS FOR BUSINESS INCOME MODEL

In addition to the above analysis on demographic and socio-economic factors, the researcher used multiple regression analysis to test the relationship among explanatory variables (credit, savings and supervision) and predictor variable (business income). The researcher applied the Ordinary Least Squares to aid in the computation of the measurements of the multiple regressions for the study as shown in Table 4.2.

Table 4.2:
Model 1 summary

Model	R-Square	Adjusted R–Square	F–Statistic
1	0.59	0.58	0.01

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by changes in the independent variables, or the ratio or percentage of variation in the dependent variable (business income) that is explained by all the three independent variables (credit, savings and supervision).

The three independent variables that were studied explain 59 percent of the influence of micro-credit on the business income in Lere and Bombar districts as represented by the R-Square. The corresponding F-statistic is highly significant at one percent significance level.

Ordinary Least Squares estimates of micro-credit on business income are shown in Table 4.3.

Table 4.3:
Ordinary least square estimates of micro-credit on business income

Business income	Coefficient	Std. error	t-value	p-value
Credit	0.17	0.02	9.35	0.01
Savings	0.05	0.03	1.94	0.05
Supervision	0.12	0.01	12.38	0.01
Constant	3.99	0.13	29.64	0.01

*Significant at 1% **Significant at 5%

In order to determine the relationship between the dependent variable (business income) in Lere and Bombar districts and the three explanatory variables (credit, savings and supervision), the researcher conducted a multiple regression analysis.

As the regression analysis establishes, if all factors are taken into account (credit, savings and supervision) to be constant at zero, business income will increase in Lere and Bombar districts By 3.99 units. The data analysis also shows that if all other independent variables are considered to be zero, a unit increase in credit facilities will lead to 0.17 units increase in the business income in Lere and Bombar districts. Further, a unit increase in savings will lead to 0.05 units increase in business income in Lere and Bombar districts; whereas a unit increase in supervision services will lead to 0.12 units increase in business income in Lere and Bombar districts. From the above analysis of the betas, it can be inferred that credit contributes a lot to the business income in Lere and Bombar districts followed by supervision and savings.

At the 5 percent level of significance, credit facilities have a 0.01 level of significance, savings, a 0.05 level of significance and supervision shows a 0.01 level of significance. Hence, the most significant factors are credit and supervision followed by savings. Thus, all the three variables are significant in explaining the business income of the beneficiaries and the non-beneficiaries in Lere and Bombar districts.

This result indicates that for any 1 percent increase in credit facility to the beneficiaries household, business income is expected to go up by 17 percent. This findings support the hypothesis that credit is positively related to business income. It also corroborate the findings by previous studies that providing credit may increase business income and hence, household income will also increase and poverty reduced (Kwai & Urassa, 2015; Odetayo & Onaolapo, 2016; Sulaimana & Dinye, 2016). This result is contrary to the findings of Duong & Thanh (2015) which argues that there is no proof of the effect on the income of the rural households and concludes that micro-credit may not serve the households that are poor. The difference in the findings may be attributed to the difference in contest of the study.

Similarly, 5 percent increase in savings of the beneficiaries households, business income is expected to grow by 5 percent. This findings support the hypothesis that savings positively influence business income. this result is in line with other discoveries that savings increases business income of the beneficiaries households (Bakhtiar & Touhidul, 2016; Kwai & Urassa, 2015). Karlan and Valdivia (2011) result shows no increment in business profit and jobs, but higher increase in maintenances of beneficiaries of microfinance. The difference may be due to the difference in time period when Karlan and Valdivia analyzed the household survey. This study uses the data for 2015.

In addition, 1 percent increase in supervision of the micro-credit beneficiaries, business income is expected to expand by 12 percent. The result support the hypothesis that supervision positively relate to business income of the beneficiaries .This discovery concur with other findings on supervision (Rehman et al., 2011; Tnay et al., 2013), where the results shows supervision to increase commitment of workers in pharmaceutical industry. Latif and Sher (2009) findings differ from this study and failed to establish any relationship between supervision and career satisfaction.

The difference may be connected to the fact that, the current study considered the relationship between supervision and business income of micro-credit beneficiaries, alternatively, Latif and Sher (2009) study was on supervision and employees. In addition, the context on which the study is carried out is different. Thus, the positive relationship between credit, savings and supervision on business income implies that micro-credit are used for the purposes such as business or trade and production instead of maintaining daily sustenance.

4.2.1.1 DISCUSSION OF RESULTS FOR BUSINESS INCOME

This section discusses the findings or outcomes of the study in connection to the direct relationships between the exogenous and endogenous variables. There are three hypotheses formed in this model to test direct associations. These hypotheses and summary of the results are presented in Table 4.4.

Table 4.4:
Hypotheses and summary of results for the relationships

Hypotheses	Relation	B	t-value	p-value	Decision
H_1	Credit positively influences business income of beneficiaries and non-beneficiaries	0.17	9.35	0.01	Yes
H_2	Savings positively influences business income of beneficiaries and non-beneficiaries	0.05	1.94	0.05	Yes
H_3	Supervision positively influences business income of beneficiaries and non-beneficiaries	0.12	12.38	0.01	Yes

The first research question is to know the level of effectiveness of credit, savings and supervision on business income of the beneficiaries and non-beneficiaries in the Northeast Nigeria? In line with this question, the first objective of this study is to examine the effectiveness of credit, savings and supervision on business income of the beneficiaries and non-beneficiaries in the Northeast Nigeria. To respond to the first research question, three research hypotheses (i.e., H_1, H_2, H_3) were formulated and tested using Ordinary Least Squares regression model. In relation to the direct impacts of this construct, this study finds that credit, savings and supervision have a significantly positive influence on business income.

Specifically, credit is defined as a component or unit of micro-credit factors that deals with extension of small loans to those who are living in poverty and are not qualified for traditional loans (Shepard, 2015). Thus, individuals who collect loans, manage it properly and use it for the purpose for which it is provided have less pressure. This is because the loan provided serves as capital which is used for income generating activities. The benefits derived from the business help repay the loan and there is enough to use as income in their households. Hence, poverty is reduced.

In this study, the first hypothesis (H_1) state that credit positively influences business income. As expected, the findings provide support for the hypothesis. The possible explanation of the direct influence could be viewed from theoretical perspective as well rather than just relying on empirical studies. Hence, the classical microfinance theory of change (Dunford, 2012), serves as a basis for the possible justifications of the new findings.

However, only small loans are provided to the poor women, which are used in business activities. The business activity carried out by the household leads to income generation. Consequently, the income realized from the business can reduce poverty. Therefore, the issue of using credit to improve income and alleviate poverty is consistent with the classical microfinance theory of change of (Dunford, 2012).

The classical microfinance theory of change emphasizes on poor person goes to a microfinance provider and takes a loan (or saves the same amount) to start or expand a small businesses which yields enough net revenue to repay the loan with major interest and still have sufficient profit to increase personal or household income enough to raise the person's standard of living. Microfinance helps some clients to access credit to invest in small businesses and thereby have an opportunity to escape from poverty (Dunford, 2012). Hence, micro-credit is created for the purpose of providing jobs for the poor to generate income and reduce poverty.

The findings corroborates other previous findings on the direction of the relationship, that there is significant and positive relationship between credit and business income

(Bakhtiar & Touhidul, 2016; Boateng et al., 2015; Crepon et al., 2014; Najmi et al., 2015; Odetayo & Onaolapo, 2016; Sulemana & Dinye, 2016), and credit leads to significant increase in business income and consumption expenditure becomes possible for beneficiaries to buy food and other goods.

Nigeria, especially the Northeast region of the country, there is high level of poverty compared to other regions. The positive direction of this study is in line with what is happening in the environment, since context also plays a great role in determining the outcome of a study. The loan provided is used for productive purpose (trading or business which generates a lot of income) because of its short gestation period, and it is given to the beneficiaries at the right time due to quick approval of the loan by the authorities.

The present study predicts that savings positively influences business income of the beneficiaries and non-beneficiaries (Hypothesis 2). The result provides empirical support for this hypothesis. The possible explanation of the direct influence could be view from the theoretical perspective rather than by just relying on empirical studies. Thus, this finding concurs with the classical microfinance theory of change on savings. Dunford (2012) reported that individuals would save enough money to invest in business to generate income to improve their standard of living, and concluded that micro-savings can be utilized as a means to engage income generating activities and poverty alleviation strategy. Thus, savings can be said to be a means to increase business income. Hence, the study shows support for savings as a means to improve business income.

Most importantly, in the context of this study, the current findings provide empirical support for this hypothesis, and concurs with the results of previous studies (Dupas & Robinson, 2011; Electrin et al., 2013; Kwai & Urassa 2015; Odetola & Onaolapo, 2016) that have found savings to have a much more significant influence on business income of the households and poverty reduction. This implies that as the savings of the households increases, poverty reduction is high.

The finding is positive because the beneficiaries who participated in the survey, are aware of the mechanism put in place by the micro-credit institutions for compulsory savings at the time of loan repayment. Moreover, the positive effect of savings on business income might be as a result of increase in business activities which lead to increase in business income. Increase in business income above household expenditure leads to savings. Savings lead to more investment. It could also be as a result of their willingness to save to take advantage of future investments. Thus, savings increases their ability to withstand unforeseen shocks, delve into new investments to generate income, whilst simultaneously reducing poverty.

Supervision according to Latif and Sher (2009) and Kokemuller (2007) is seen as a process of looking after the operations and performance of an individual or set of individuals in an activity. It means overseeing the activities of another person. Consistent with Hypothesis 3, a highly significant and positive relationship between supervision and business income is found. The findings of the direct effect could be explained theoretically and empirically, and is in tandem with the classical microfinance theory of change, as the classical microfinance theory of change has to do with providing credit, savings and other services to the poor people to assists them engage in productive activity to generate income and lift them out of poverty (Dunford, 2012). However, Dunford (2012) observed that for poverty to be removed, credit can be use together with other services in income generating activities that increase income and solicit the reduction of poverty level among groups of people.

Thus, apart from credit and savings, supervision can also be considered as other services to be used to generate increased in income from the business and reduce poverty. Hence, the provider of the funds needs to supervise the usage to ensure that the beneficiaries derive maximum benefits. Supervision shows great support for increase in business income and poverty reduction. The result shows supervision to be significant and having a positive effect on poverty reduction. This suggests that supervision of women encourages them to work in their business to gain income to repay loans, meet expenditure needs and consequently, reduce poverty.

Empirically, the positive relationship between supervision and business income is not in accordance with the study of Latif and Sher (2009) in human resource management, which discovered that even though supervision play an important role in employee career satisfaction, but current study failed to establish any relationship between supervision and career satisfaction. Alternatively, the study of Tnay et al. (2013) shows support and found that supervisory support act as an antecedent or factor in affecting the employee turnover intention. Similarly, Gentry, et al. (2007) also support the hypothesis and concluded that supervisory-support climate was important in part-time employees' retention. This finding is important because it evidence that the provision of adequate supervision to the beneficiaries will help boost their economic activities and entrepreneurial ability, which in turn, lead to income generation and poverty reduction.

4.2.2 REGRESSION ANALYSIS FOR EXPENDITURE MODEL

The researcher conducted a multiple regression analysis to test the relationships among the explanatory variables (credit, savings and supervision) and predictor variable (expenditure). The researcher applied the Ordinary Least Squares to aid in the computation of the measurements of the multiple regressions for the study.

For the expenditure model, the regression analysis is presented in Table 4.5:

Table 4.5:
Model 2 summary

Model	R–Square	Adjusted R–Square	F-Statistic
2	0.54	0.53	0.01

Coefficient of determination explains the extent to which changes in the predictor variable can be explained by the changes in the explanatory variables, or the percentage of variation in the dependent variable (expenditure) that is explained by all the three independent variables (credit, savings and supervision).

The three independent variables that were studied, explain 54 percent of the effects of micro-credit on expenditure in Lere and Bombar districts as represented by the R-Square. The corresponding F-statistic is highly significant at one percent level of significance.

Ordinary Least Square estimates of micro-credit and expenditure are shown in Table 4.6.

Table 4.6:
Ordinary least square estimates of micro-credit and expenditure

Expenditure	Coefficient	Std. error	t-value	p-value
Credit	0.16	0.02	8.65	0.01
Savings	0.05	0.03	1.76	0.05
Supervision	0.11	0.01	11.24	0.01
Constant	4.02	0.14	28.87	0.01

*Significant at 1%   **Significant at 5%

In order to determine the relationship between dependent variable (expenditure) in Lere and Bombar districts and the three explanatory variables (credit, savings and supervision), the researcher carried out a multiple regression analysis. As the regression analysis establishes, if all factors are taken into account (credit, savings and supervision) to be constant at zero, expenditure will increase in Lere and Bombar districts by 4.02 units. The data analysis also shows that if all other independent variables are taken at zero, a unit increase in credit facilities will lead to 0.16 units increase in expenditure in Lere and Bombar districts. Further, a unit increase in savings will lead to a 0.05 units increase in expenditure in Lere and Bombar districts, whereas a unit increase in supervision services will lead to 0.11 units increase in expenditure in Lere and Bombar districts. From the above analysis of the betas, it can be inferred that credit contributes a lot to the expenditure in Lere and Bombar districts, followed by supervision and savings.

At 5 percent level of significance, credit facilities have a 0.01 level of significance, savings, a 0.05 level of significance and supervision shows a 0.01 level of significance. Hence, the most significant factors are credit and supervision followed by savings. Thus, all the three variables are significant in explaining the expenditure of the beneficiaries and the non-beneficiaries in Lere and Bombar districts.

This result indicates that for any 1 percent increase in credit facility to the beneficiaries household, expenditure is expected to go up by 16 percent. This findings support the hypothesis that credit is positively related to expenditure. It also corroborate the findings by previous studies that providing credit may increase income and hence, household expenditure will also increase and poverty reduced (Ghalib et al., 2015; Giang et al., 2015; Qamar et al., 2016)), that income increases after collecting loans and consumption expenditure becomes possible for beneficiaries to buy food and other goods. This result is contrary to the findings of Karlan and Zinman (2010), which finds that access to micro-credit does not increase profit and household expenditure on consumption. The difference in the findings may be attributed to the difference in contest of the study.

Similarly, 5 percent increase in savings of the beneficiaries households, expenditure is expected to grow by 5 percent. This findings support the hypothesis that savings positively influence expenditure. This result is in line with other discoveries that savings increases expenditure of the beneficiaries households (Bakhtiar & Touhidul, 2016; Kwai & Urassa, 2015).

In addition, 1 percent increase in supervision of the micro-credit beneficiaries, expenditure is expected to expand by 11 percent. The result support the hypothesis that supervision positively relate to expenditure of the beneficiaries .This discovery concur with other findings on supervision (Rehman et al., 2011; Tnay et al., 2013), where the results shows supervision to increase commitment of workers. Contrarily from the above and current study, Latif and Sher (2009) study failed to establish any relationship between supervision and career satisfaction. The difference may be connected to the fact that, the current study is in the field of microfinance, while Latif and Sher (2009) study was in the field of human resource management. In addition, the context on which the study is carried out is different. Thus, the positive relationship between credit, savings and supervision on expenditure implies that micro-credit are used for the purposes such as business or trade and production to improve business income as well as expenditure of the household to meet daily sustenance and reduce poverty.

4.2.2.1 DISCUSSION OF RESULTS FOR EXPENDITURE

This section discusses the findings or outcomes of the study in connection to the direct relationships between the independent and dependent variables. Three hypotheses were formulated in this model to test the direct associations. These hypotheses and summary of the results are presented in Table 4.7.

Table 4.7:
Hypotheses and summary of results for the relationships

Hypotheses	Relation	β	t-value	p-value	Decision
H_4	Credit positively influences expenditure of beneficiaries and non-beneficiaries	0.16	8.65	0.01	Yes
H_5	Savings positively influences expenditure of beneficiaries and non-beneficiaries	0.05	1.76	0.05	Yes
H_6	Supervision positively influences expenditure of beneficiaries and non-beneficiaries	0.11	11.24	0.01	Yes

The following discussions are captured based on the research questions. The second research question is to know the level of effectiveness of credit, savings and supervision on expenditure of the beneficiaries and non-beneficiaries in the Northeast Nigeria? In line with this question, the second objective of this study is to examine the effectiveness of credit, savings and supervision on expenditure of the beneficiaries and non-beneficiaries in the Northeast Nigeria. To respond to the second research question, three research hypotheses (i.e., H_4, H_5, H_6) were formulated and tested using Ordinary Least Squares regression model. In relation to the direct impacts of this construct, this study finds that credit, savings and supervision have significantly positive relationships with expenditure.

Specifically, credit is defined as a component or unit of micro-credit factors that deals with extension of small loans to those who are living in poverty and not qualified for traditional loans (Shepard, 2015). Thus, an individual who collects loans and manages it properly or uses it for the purpose for which it is given, has less pressure. This is because the benefit derived is used as income in the household to meet daily expenditure and hence, helping to reduce poverty. In this study, the fourth hypothesis (H_4) states that credit positively influences expenditure. As expected, the findings provide support for the hypothesis. The possible explanation of the direct effect could be viewed from theoretical perspective as well rather than just relying on empirical studies. Hence, the classical microfinance theory of change (Dunford, 2012), serves as a basis for the possible justifications of the new findings.

However, only small loans are provided to the poor women and used for income generating activities. The incomes helps in meeting their daily expenditures and consequently reduces poverty. Therefore, the issue of using credit to generate income to improve expenditure and alleviate poverty is consistent with the classical microfinance theory of change (Dunford, 2012). The theory emphasizes on the use of credit for income generating activities or to have gainful employment to help the poor have access to basic expenditure needs (Dunfotd, 2012).

In a similar vein, the impact of micro-credit is expected to be shown in the changes occurring in the standard of living of the beneficiaries. The items used to measure changes in standard of living are many: income, expenditure on food, clothing, shelter health, education and social involvement (Nghiem, Coelli & Rao, 2007; Onakoya & Onakoya, 2013). Thus, Rudd (2011) also opined that microfinance is the channeling of small amounts of financial capital into poor markets to overcome the barriers of not being able to access credit in the traditional banks, thus resulting in welfare gains for both lenders and borrowers as latent productive potential can be unlocked. Hence, the performance of micro-credit is assessed using individual household studies on whether there is an increase in income and consequently, improvement in expenditure on food, clothing, healthcare, education and shelter (Congo, 2002).

In addition, this finding is similar to previous studies on the direction of the relationship, that there is significant positive relationship between credit and expenditure (Bakhtiar & Touhidul, 2016; Ghalib et al., 2015; Giang et al., 2015; Qamar et al., 2016), that income increases after collecting loans and consumption expenditure becomes possible for beneficiaries to buy food and other goods. Credits often have spillover effects on the areas of poverty reduction, including education and health (Ghalib et al., 2015).

However, in Nigeria, especially the Northeast region of the country, where there is high level of poverty compared to other regions many people are willing to get out of poverty. The quest to get out of poverty makes it possible for the poor to look for means to generate income to help improve expenditure. The positive direction of this study is in line with what is happening in the environment, since context also plays a great role in determining the outcome of a study. The people in the area are industrious and want to generate income and get out of poverty and hence, they use the loan in productive activities, which generate income to meet their expenditure. In addition, women in the area of the study are mostly allowed to provide for themselves and their children or family members. For the women to meet the household expenditure, they have to be committed to their business to raise money.

Savings according to Keynes (1936), is the surplus or residue of income over consumption expenditure. Similarly, Umoh (2003); and Uremadu, (2006) observed that saving is that aspect of income of the period that is not consumed. Thus, savings can be said to be equal to surplus of income over consumption.

Similarly, the present study predicts that savings positively influences expenditure (Hypothesis 5). The result provides empirical support for this hypothesis. The possible explanation of the direct effect could be viewed from the theoretical perspective as well rather than just relying on empirical studies. Thus, this finding concurs with the classical microfinance theory of change on savings. Dunford (2012) reported that savings can be invested in small business to generate income for the household to meet its expenditure needs. Thus, savings can be said to be part of the micro-credit factors to be used in meeting the expenditure needs of the household. Hence, the study shows great support for savings as a means for expenditure and poverty reduction.

Similarly, and most importantly, in the context of this study, the current findings provide empirical support for this hypothesis, and significantly agree with results of previous studies (Bakhtiar & Touhidul, 2016; Dupas & Robinson, 2013; Kwai & Urassa, 2015) that have found savings to have a positive impact on the household expenditure and in reduction of poverty. This implies that as savings of the households increases, poverty reduction may also be high because savings might be deployed for to meet unexpected expenditure in the household.

However, the findings could be positive because the beneficiaries who participated in the survey were aware of the importance of savings, especially when they want to invest in business, purchase an asset, clothes for the family during festivities, pay school fees for the children and health services. Moreover, when a family is expecting ceremonies (wedding and naming) within the year, they have to save in order to meet such expenditure. Therefore, the positive effect between savings and expenditure in the study area is surprising. Similarly, it could be as a result of their willingness to save for future investment expenditure. Thus, savings increases their ability to withstand unforeseen shocks and other planned expenditures as well as poverty reduction.

Supervision according to Tnay et al. (2013) is the physical and psychological encouragement by the supervisor or employer to the employees or clients who helps to promote their development. This could affect the employees' or clients' performance and effective development. Consistent with hypothesis 6, a highly significant and positive relationship between supervision and expenditure is found. Since the finding regarding this construct is a main contribution of this study, possible explanation of the direct effect could be viewed theoretically and empirically. Thus, this finding concurs with the classical microfinance theory of change. Since, the classical microfinance theory of change has to do with providing credit and other services to the poor people in order to engage in productive activity to generate income to improve expenditure of the household and lift them out of poverty (Dunford, 2012). Thus, apart from credit and savings, supervision is among the other services to be used to improve expenditure to achieve the aim of poverty reduction. Hence, the providers of the funds need to supervise the usage to ensure that the beneficiaries derive maximum benefits.

Surprisingly, supervision shows great support for the improvement of expenditure as a poverty reduction mechanism. The result shows supervision to be significant and having positive influence on increasing expenditure. This suggests that supervision of women encourages hard work in their business to gain income to meet their daily household expenditure and consequently, poverty reduction.

In the same vein, empirically, the positive influence between supervision on expenditures is also in accordance with the study of Rehman et al. (2011) in human resource management, which stated that supervisory support plays a critical role on organizational commitment, as the results shows supervision to increase commitment in pharmaceutical industry. However, this result is contrary to the study of Latif and Sher (2009) which disclosed no support for supervision. The study finding is important because the provision of adequate supervision to the beneficiaries will help boost their economic activities and entrepreneurial ability. This will, in turn, lead to income generation and improvement in household expenditure and hence poverty reduction.

4.2.3 REGRESSION ANALYSIS FOR BUSINESS INCOME MODEL IN RELATION TO DEMOGRAPHIC FACTORS

In addition to the above analysis on business income model in Table 4.2 and 4.3 above, and In trying to look at the influence of the combination of micro-credit and demographic factors on business income, this model, which has business income as its dependent variable also aims at predicting the variables that determine business income with credit, savings and supervision as a variable of interest and social demographic variables in Northeast Nigeria. To this end, specific characteristic variables of the respondents like age, business type, number of children, duration, family size, marital status, education and village were included in the explanatory variables. This goes in line with some previous literature on the subject matter that included such social demographic variables to explain the dependent variable (for example; Hasan et al., 2015; Kasali etal., 2015; Yusuf et al., 2013).

The researcher conducted a multiple regression analysis to test relationship among explanatory variables (credit, savings, supervision, age, business type, number of children, duration, family size, marital status, education and village) and predictor variable (business income). The researcher applied the Ordinary Least Squares to aid in the computation of the measurements of the multiple regressions for the study.

For the business income model, the following regression analysis is presented in Table 4.8:

Table 4.8:
Model 3 summary

Model	R–Square	Adjusted R-Square	F-Statistic
3	0.68	0.67	0.01

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by changes in the independent variables, or the ratio or percentage of variation in the dependent variable (business income) that is explained by all the three independent variables (credit, savings, supervision, age, business type, number of children, duration, family size, marital status, education and village).

The eleven independent variables that were studied explain 68 percent of the influence of micro-credit on the business income in Lere and Bombar districts as represented by the R-Square. The corresponding F-statistic is highly significant at one percent significance level.

Ordinary Least Squares estimates of micro-credit on business income are shown in Table. 4.8.

Table 4.8:
Ordinary Least Squares of micro-credit, demographic and Business income

Business Income	Coefficient	Std. error	t-value	p-value
Credit	0.25	0.02	12.50	0.01
Savings	0.05	0.02	2.03	0.05
Supervision	0.12	0.01	10.32	0.01
Age	0.00	0.00	1.41	0.16
Business type	0.06	0.00	3.45	0.01
Children	0.00	0.00	1.27	0.20
Duration	0.06	0.01	7.79	0.01
Family Size	0.00	0.00	2.58	0.05
Marital status	-0.31	0.01	-4.01	0.01
Education	0.14	0.00	4.06	0.01
Village	-0.02	0.01	-1.94	0.05
Constant	3.44	0.15	23.41	0.01

[x] Significant at 1% [xx] Significant at 5%

In order to determine the relationship between the dependent variable (business income) in Lere and Bombar districts and the eleven explanatory variables (credit, savings, supervision, age, business type, number of children, duration, family size, marital status, education and village), the researcher conducted a multiple regression analysis.

As the regression analysis establishes, if all factors are taken into account (credit, savings, supervision, age, business type, number of children children, duration, family size, marital status, education and village) to be constant at zero, business income will increase in Lere and Bombar districts By 3.44 units. The data analysis also shows that if all other independent variables are considered to be zero, a unit increase in credit facilities will lead to 0.25 units increase in the business income in Lere and Bombar districts. Further, a unit increase in savings will lead to 0.05 units increase in business income in Lere and Bombar districts; whereas a unit increase in supervision services will lead to 0.12 units increase in business income in Lere and Bombar districts.

Similarly, a unit increase in age, children and family size will lead to no increase or 0.00 units of business income, a unit increase in business type and duration will lead to 0.06 unit increases in business income. Lastly, a unit increase in marital status and villages will lead to -0.31 and -0.02 unit decrease in business income. From the above analysis of the betas, it can be inferred that credit contributes a lot to the business income in Lere and Bombar districts followed by supervision, business type, duration and savings, whereas, age, family size and number of children do not contribute anything to the increase in business income. Meanwhile, marital status and village contribute negatively to business income in Bombar and Lere district.

This shows that if micro-credit institutions increase the amount of credit to the beneficiaries, the household business income will increase as well. Similarly, if savings and supervision of the beneficiaries are encouraged by the micro-credit institutions, the business income of the beneficiaries household will also increases. The study also shows that an increment in business types and duration of membership in micro-credit, contribute to the increase in business income of the beneficiaries' household. However, for a proportional increase in age, number of children and family size of the micro-credit beneficiaries does not lead to the probability of increases in business income as could be seen above. Further proportional increases in marital status and village leads to the decrease in business income in Bombar and Lere districts.

At the 5 percent level of significance, credit facilities, supervision, business type, duration, marital status and education shows or have 0.01 level of significance, whereas, savings, family size and village has 0.05 level of significance. Surprisingly, age and number of children has 0.16 and 0.20 level of significance. Hence, the most significant factors are credit, supervision, business type, duration, marital status and education followed by savings, family size and village. This study is in line with Hasan et al. (2015); Kasali et al. (2015) and Thanh et al. (2015) also discovered credit, marital status household size to have a statistical significance in improving the income of the beneficiaries, while, in a contrary opinion, Kasali et al. (2015) and Yusuf et al. (2013) found education and family size to be insignificant in predicting income of the beneficiaries. The difference may be attributed to the difference environment where these studies are carried out

Whereas, the study also concluded that age and number of children are insignificant. This is also similar to Kasali et al. (2015) and Yusuf et al. (2013) that discovered age to make insignificant contribution to income and poverty reduction. This shows that age and number of children may not matter in business income generation. Thus, nine variables are significant in explaining business income of the beneficiaries in Lere and Bombar districts. While two are insignificant in explaining business income in Lere and Bombar districts.

In a nutshell, to compare the results generated on the effect of micro-credit (credit, savings and supervision) and micro-credit and demographic factors on business income model, the results shows an improvement on the R-square in a business income model with micro-credit and demographic factors of 0.68 as against the 0.59 of the R-square using only micro-credit (credit, savings and supervision). That is an improvement of 0.09 of the influences or uses of micro-credit and demographic factors in increasing business income in the study area. This shows that demographic factors also have a great influence on business income of the beneficiaries in Lere and Bombar district.

In addition, the coefficient of the two model remain the same for credit, savings and supervision, but the unit increase in business income for any addition of credit increases more by 0.25 units when micro-credit and demographic factors are considered jointly unlike in the first model micro-credit factor of 0.17. This shows an increment of 0.08, which means demographic factors matters and should be considered when credit is to be issued to the beneficiaries for income generation purposes of the family.

4.2.4 DIAGNOSTIC TESTS

To ensure the robustness of the estimation technique, the Breusch-Pagan test for heteroskedasticity, the Ramsey test for functional misspecification and Mardia's test for multivariate normality were conducted for the two models. Table 4.11 shows the various diagnostic tests conducted.

Table 4.11:
Summary of the diagnostic tests

	Business income	Expenditure
Tests conducted	Model 1 p-value	Model 2 p-value
Breusch-Pagan test for heteroskedasticity	0.07	0.18
Ramsay reset test for functional misspecification	0.51	0.37
Mardia's multivariate normality test	0.66	0.65

From the Breusch-Pagan test for heteroskedasticity which uses the chi-square statistics, the result shows that there is no evidence of heteroskedasticity in the models with business income and expenditure as dependent variables. Table 4.11 shows the estimated chi-square probabilities of 0.07 for business income model and 0.18 for expenditure model, are insignificant.

To test for specification errors, Ramsey (1969), in his study, considered the test for specification errors in order to determine whether there are omitted variables in a model using reset test for functional misspecification. Thus, in line with this idea, the study also used the Ramsey reset test for functional misspecification. The test, as shown in Table 4.11, reveals that the two models are free of specification errors. This test used the F-statistic to test for omitted variables in the specified models. The reported F-statistic of 0.51 for business income model and 0.37 for expenditure model, are insignificant. These results show that there are no omitted variables in the models.

In order to check for multivariate normality, Korkmaz, Goksuluk and Zararsiz (2015) observed that it is important to assess multivariate normality in order to continue with statistical analysis. Pallant (2011) opined that Multi Linear Regression Model needs to be normally distributed. Hence, a check for normality in the distribution of variables was conducted. Following the normality check using Mardia's (1970) multivariate normality test for multivariate normal distribution, it is observed that the data set follows a multivariate normal distribution. The estimated chi-square of 0.66 for business income model and 0.65 for expenditure model, are insignificant as shown in Table 4.11. Therefore, the study does not have any reason to reject the null hypothesis.

4.3 EFFECT OF MICRO-CREDIT ON POVERTY REDUCTION

The effect of micro-credit on household business income and expenditure were evaluated using mean comparison between the two samples of beneficiaries and non-beneficiaries. This is because the mean method is suitable for comparing the mean scores on continuous variables, for two different groups of people or respondents (Pallant, 2011).

Any mean increase in business income and expenditure of the beneficiaries against the non-beneficiaries is a sign that micro-credit improves business income and expenditure and eradicates poverty. The use of mean method to determine the mean difference in this study is in line with other studies (Babaji et al., 2015; Girabi & Mwakaje, 2013; Jegede et al. 2011; Kwai & Urassa, 2015). This study used the mean method to compare the mean differences between two groups. Therefore, the mean differences of the following were determined.

4.3.1 MEAN BUSINESS INCOME EFFECT FROM 1 MARCH TO 31 AUGUST 2015

The total business income generated throughout the study period presented here is arrived at by computing and adding the monthly business income. It comprises the profit generated from 1 March to 31 August 2015. Table 4.12 shows the mean values of the source of business income for each month and the differences between the beneficiaries and non-beneficiaries.

Table 4.12:
Mean values of each source of business income from 1 March to 31 August 2015

Business income sources	Beneficiaries Mean #	Non-beneficiaries Mean #	Difference Mean #
March	9,307	7,876	1,431
April	11,015	8,294	2,721
May	9,612	7,186	2,426
June	9,278	6,096	3,182
July	8,236	6,300	1,936
August	6,500	6,993	-493
Total	53,948	42,745	11,203

Business income is a very important source of income that improves welfare of the households. Table 4.12 describes the monthly business income patterns of the households of the beneficiaries and non-beneficiaries. The business income for the month of March of the beneficiaries is: (mean = 9,307 naira) and non-beneficiaries is: (means = 7,876 naira). The difference shows a positive mean increase of 1,431 naira of the beneficiaries income as against the non-beneficiaries.

In the month of April, business income of the beneficiaries is: (mean = 11,015 naira), whereas non-beneficiaries is: (mean = 8,294 naira). The month recorded a positive increase in mean value difference between the beneficiaries and the non-beneficiaries of 2,721 naira. For the month of May, the business income of the beneficiaries is: (mean = 9,612 naira) and non-beneficiaries is: (mean = 7,186 naira) respectively. This result shows a positive mean difference of 2,426 naira.

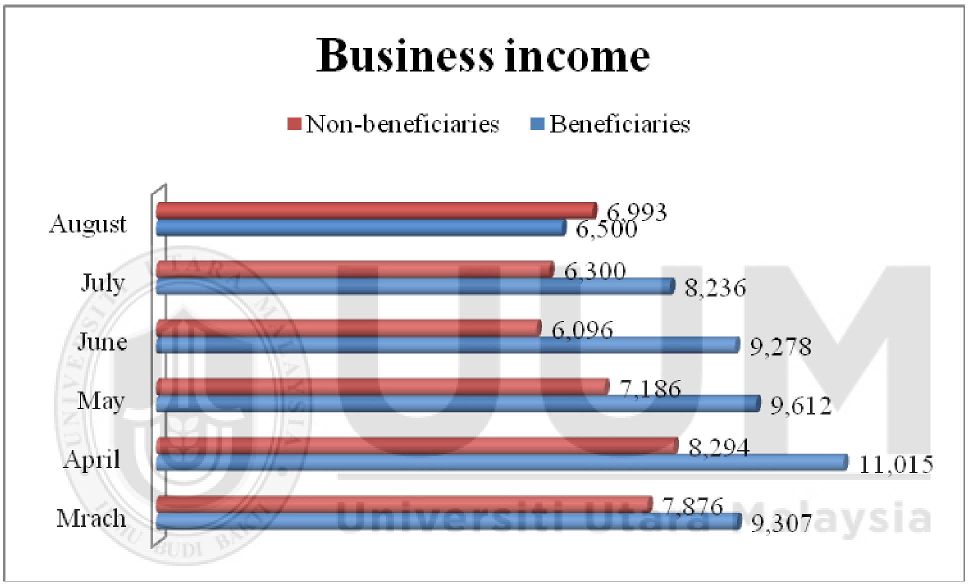
In the month of June, business income has a mean score value for beneficiaries (mean = 9,278 naira), whereas for the non-beneficiaries it is: (mean = 6,096 naira). The mean difference is positive with a value of 3,182 naira. In the month of July, the business income for the beneficiaries is: (mean = 8,236 naira), likewise, for non-beneficiaries is: (mean = 6,300 naira). This shows a positive difference in mean score of 1,936 naira. In August business income for beneficiaries is: (mean = 6,500 naira) and for non-beneficiaries it is: (mean = 6,993 naira). The month recorded a negative (mean = 493 naira), signifying that the non-beneficiaries average profit is greater than the beneficiaries.

This negative difference may be connected to the fact that it is the rainy season. So, most women go to the farm before coming back to open their business. At times, they do not open the business when they come back late or it is raining, or when they are tired. In addition to that, some women have used their money meant for the business on their farm and hence, do not have enough goods for sale to make profit. These factors affect the sales and profit of beneficiaries business.

The Table 4.12 also shows the average total business profit (beneficiaries mean = 53,948 naira and non-beneficiaries mean = 42,745 naira). The mean difference is 11,203 naira. This shows that there is an increase in the mean business income of the beneficiaries of 11,203 naira. This confirms the positive effect of micro-credit program on the life of the beneficiaries. Generating more income to meet their daily expenditure, and acquiring assets to reduce poverty are the main purposes of engaging in trade or business. If the beneficiaries could meet these comfortably, it means that there are changes in their poverty level. This result tallies with other studies (Electrin et al., 2013; Kwai & Urassa, 2015; Lhing et al., 2013; Sulaiman & Dinye, 2016) that have reported that households that choose to collect credit have a greater effect on business profit or income. there are other results that closely aligned with this and found to have significant effects on income of the beneficiaries. (e.g., Boateng et al., 2015; Ghalib et al., 2015; Hasan et al., 2015; Odetayo & Onaolapo, 2016).

Figure 4.6 shows the pattern of mean business income of the respondents from the month of March to August 2015.

Figure 4.6:
Pattern of the mean business income of the respondents



From the information in Figure 4.6, it can vividly be seen that there are changes in the monthly mean business income pattern. At the beginning of the research period, from the month of March to April, the mean business income of the beneficiaries and the non-beneficiaries increased steadily. It started falling gradually from the month of May to August. The increase in income of the business was recorded possibly due to the relative peace people were enjoying at that time. Hence, the businesses were experiencing more sales.

However, immediately after the election, economic activities began to slow down as there was no more hand-outs money. Moreover, there was political instability that led to fighting between the tribal groups immediately the election was over. In addition, the rainy season affected sales and profit. These contributed to the downward trend in the business income generated by the women.

4.3.2 MEAN EXPENDITURE EFFECT OF THE RESPONDENTS FROM 1 MARCH TO 31 AUGUST 2015

This part deals with the way and manner expenditures of the households was incurred. All the sources of expenditure of the households were identified and measured. These included expenditure on food, health, education, clothing, assets, alcohol and tobacco and others. The mean values are used to show the variance of the various sources of total expenditure of the beneficiaries and non-beneficiaries.

Table 4.13 discloses the mean expenditure of the respondents.

Table 4.13:
Mean scores of expenditure sources from 1 March to 31 August 2015

HH Expenditure sources	Beneficiaries Mean #	Non-beneficiaries Mean #	Difference Mean #
Food	28,366	21,859	6,507
Health	2,288	1,206	1,082
Education	4,214	2,162	2,052
Clothing	1,864	1,264	600
Assets	6,490	2,096	4,394
Alcohol and tobacco	2,102	1,952	150
Others	3,926	4,923	-997
Total	49,250	35,462	13,788

Table 4.13 reveals the details of the mean value of the respondents' sources of expenditure, the total expenditure and the difference between the beneficiaries and non-beneficiaries. Expenditure on food for the beneficiaries is: (mean = 28,366 naira), and non-beneficiaries is: (mean = 21,859 naira). The beneficiaries gained a mean = 6,507 naira above the non-beneficiaries. This is in line with the results of other studies (e.g., Attanasion et al., 2012; Bakhtiah & Touhidul, 2016; Devi, 2013; Thanh et al., 2015; Imai et al., 2010) that micro-credit leads to increase in access to more nutritious food.

As for health, for the beneficiaries it is: (mean = 2,288 naira) and for non-beneficiaries, it is: (mean = 1,206 naira). The calculation shows a mean = 1,082 naira spending on health care increased for the beneficiaries above the non-beneficiaries, signifying that the beneficiaries normally take their family members to better hospitals where they are provided with good health care services, unlike the non-beneficiaries that depend on hospitals that are cheap with poor service quality. This result is closely related to other findings (Bakhtiah & Touhidul, 2016; Devi, 2013; Electrin et al. 2013; Ghalib et al., 2015; Kesanta, 2015) that expenditure on health care of the beneficiaries has increased significantly.

As for expenditure on education, for beneficiaries, it is: (mean = 4,214 naira), whereas, for non-beneficiaries, it is: (mean = 2,162 naira). There is an improvement on the mean = 2,052 naira expenditure on education. Boateng et al. (2015); Devi 2013; Electrin et al. (2013); Najmi et al. (2015); and Qamar et al. (2016) also found significant improvement in expenditure on education. It means that the beneficiaries are able to send their children to good schools as a result of their contact with the micro-credit program. In other words, the beneficiaries send their children to private schools and pay heavily to get a quality education, while, the non-beneficiaries send their children to public schools with low fees and poor quality of education.

As for expenditure on clothing, for the beneficiaries, it is: (mean = 1,864 naira), while for non-beneficiaries, it is: (mean = 1,264 naira). There is an increase in the mean = 600 naira of the beneficiaries above the non-beneficiaries. This result is closely related to Ghalib et al. (2015) where their study recorded an increase in expenditure on clothing.

Similarly, for expenditure on the assets of the beneficiaries, it is: (mean = 6,490 naira), whereas, for non-beneficiaries it is: (mean = 2,096 naira). There is a high increase in the expenditure on purchase of assets with a mean = 4,394 naira of the beneficiaries compared to non-beneficiaries. There is great improvement or increase in assets of the beneficiaries as compared to non-beneficiaries. The result of increase in assets is aligned with other findings (Ajagne & Bolaji, 2013; Crepon et al., 2014; Ghalib et al., 2015).

The expenditure scores on alcohol, tobacco and snacks for beneficiaries is: (mean = 2,102 naira) and for non-beneficiaries, it is: (mean = 1,952 naira). A positive difference in mean = 150 naira is recorded for the beneficiaries. This indicates that consumption of alcohol, tobacco and snacks has increased slightly for the beneficiaries. This result is in line with the findings of Karlan and Zinman (2010).

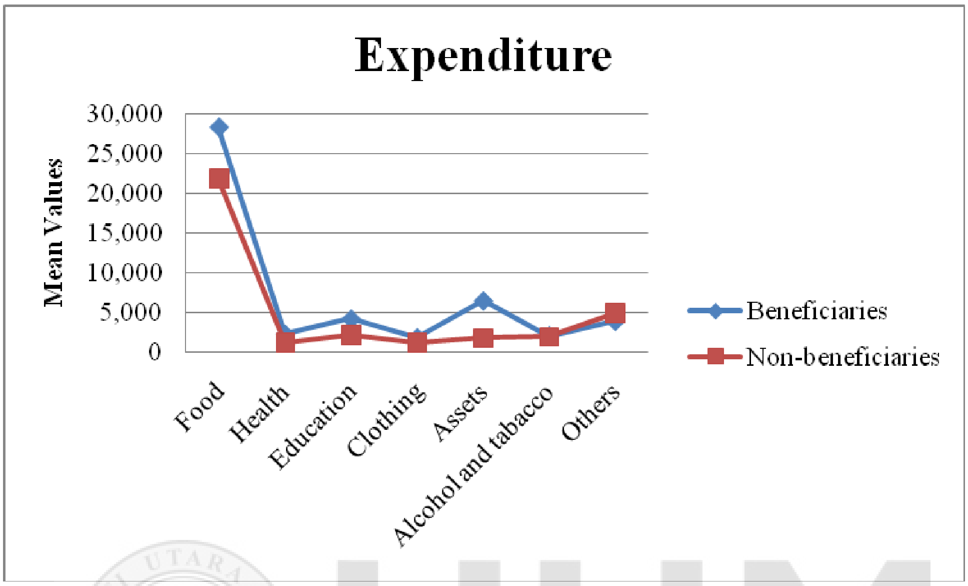
Other expenditures include: ceremonies, festivals, rent and electricity bills. For these, for beneficiaries, it is: (mean = 3,926 naira), consequently, for non-beneficiaries, it is: (mean = 4,923 naira). This shows a mean = -997 naira increase in other expenditure of the non-beneficiaries compared to the beneficiaries. This result indicates that the non-beneficiaries spend more on rent, ceremonies and festivals as compared to beneficiaries. The beneficiaries do not incur other expenditures, possibly due to their consciousness of the need to repay their loan, save and invest in businesses to make profit.

Table 4.13 above also presents the average total expenditure of both the beneficiaries and non-beneficiaries (beneficiaries mean = 49,250 naira and non-beneficiaries mean = 35,462 naira), respectively. There is a mean increase of 13,788 naira. The positive increase in the expenditure is in favor of the beneficiaries. This confirms the positive effect of micro-credit on the expenditure of the beneficiaries.

In addition, it means that meeting expenditure needs comfortably is a sign of improvement or upliftment in the welfare status of the beneficiaries. This result is in line with other studies (Bakhtiar & Touhidul, 2016; Ghalib et al., 2015; Giang et al., 2015; Lhing et al., 2013; Qamar et al.,2016) that micro-credit has a positive effect on the mean expenditure of the poor households. The expenditure of the households who have credit has increased more. As a consequence, increase in expenditure of the beneficiaries is an indication of improvement in their welfare and subsequently, a reduction in poverty.

Figure 4.7 shows the distribution of household mean sources on expenditure.

Figure 4.7:
Distribution according to mean sources of household expenditure of the respondents



From Figure 4.7, both the beneficiaries and non-beneficiaries expenditure incurred on food doubled that of the other expenditures. From the trend, it can be deduced that the expenditure incurred by the beneficiaries on food is greater than non-beneficiaries expenditure. This result shows that beneficiaries are now more able to meet their food needs due to their contact with micro-credit. Similarly, the beneficiaries' expenditure on health, education, clothing and assets has also increased on average above the non-beneficiaries. This is an indication that the beneficiaries are now more able to fulfill most of their basic needs of having access to education, healthcare, clothing and food, unlike the non-beneficiaries.

However, expenditure on assets and alcohol, tobacco and snacks reveals some differences between the beneficiaries and the non-beneficiaries. The beneficiaries' expenditure has increased a little higher than the non-beneficiaries. Consequently, the non-beneficiaries have an increase in expenditure on other expenses more than the beneficiaries. This shows that the beneficiaries are aware of their obligations and so they do not want to spend unnecessarily on other expenditures that are not important.

4.4 QUALITATIVE RESULTS

To gain insights from the quantitative results obtained from the previous sections, an in-depth interview was undertaken. The responses given by micro-credit beneficiaries are stated verbatim reinforce the results of the quantitative analysis in the previous sections. The opinions and experiences of the women benefiting from micro-credit are provided to support some of the conclusions arrived at from the quantitative analysis in the study.

The interviews were conducted in two stages. At the first stage, the interview was conducted to assess the performance of women in terms of group solidarity and continuation in the microfinance institution and the group. To measure group solidarity, the cooperation and togetherness of women members in meeting or solving their social, personal and financial troubles were the indicators.

The second stage was to assess and confirm the quantitative results as to whether micro-credit programs have improved the beneficiaries business income generation and household expenditure.

Group solidarity and continuation in microfinance institutions.

The micro-credit groups act as solidarity groups where members in the groups support each other to address their social, personal and financial problems in their households. They promote welfare as well as encourage members to adopt measures to resolve their problems.

Thus, continuing participation of women in microfinance institution creates a relationship with individuals, organizations and institutions. Moreover, this relationship is essential for maintaining group solidarity as well as women empowerment. Some of the responses of the beneficiaries are as follows:

Hannatu Zumunta, aged 35, from Lere village is running bean cake business. Her educational qualification is primary school. She is married to her tribal man. This was her story.

> "My husband, used to drink alcohol, every day he comes back home drunk and abused me verbally and physically all the times. I tolerate such abuses and I am very ashamed to inform others or my friends about him. One faithful day he beat and injured me. Seeing my situation at that time, one of my friend elder sister, asked me about what happened to me. I informed her about all that happened about my husband. My friends came and advised him, but he refused to listen. Three weeks later, he went out and did not come back or return home. Nobody knows his where about. I cried for many days starved living without food with my children. My friend sister who was a member of DEC micro-credit group introduced me, helps me and motivated me to live a good life for the sake of my children. At that time I got a loan from DEC micro-credit bank from the help of my friend sister and her group. I started a bean cake business. Now I am getting nearly 300 naira to 500 naira every day with which I can manage my family or household. After joining micro-credit group, I really enjoy and feel the depth or bound of friendship among us, assuming if my friends have not assisted me to join the group I wouldn't have had any other source of help. Presently, I am independent, empowered and have the belief and confidence of feeding and bringing up my

> children. In addition, I take decisions on what happen in my family without any interference by relatives and even when my husband returned. This is happening because I am contributing greatly now to the upkeep of the family unlike before."

Yet another example is Naomi, aged 38 years with a vegetable business, who described her group solidarity and cooperation as follows:

> "In our micro-credit group, we are like one family. The group is known in our village. We are united and do everything in common. We discuss all our businesses, finances and personal issues with our micro-credit group members. We help any member who is in problem or having an occasion in her house. We no longer feel the stress or burden of running our domestic and business works or activities. We manage time very well. Whenever we are free, we do visit each other's house and assist one another where necessary. Because of this unity and cooperation within us, every member is being motivated to do well in business and domestic affairs. Finally, I feel proud of my friends and myself."

The above are responses from micro-credit beneficiaries giving their accounts of how micro-credit bank assisted in uniting and empowering women as well as helping them to become self-reliant.

Group solidarity seems to be crucial, most especially, when it involves financial matters. Some beneficiaries are asked questions in relation to this issue.

Victoria gave the report below about her friend, Rhoda:

> "My friend Rhoda, had a difficulty in paying her loans. She incurred loss in her business and she was afraid to tell her husband. We decided to assist her, by sharing the loss in order to pay the loan installments on her behalf. We and the loan officer advice and encourage Rhoda to take another loan. She took it and continued with the business she was doing before. This time she was favored and did well. Presently, she is paying her debts gradually."

Mary, a beneficiary of DEC microfinance bank aged 48 years, is a foodstuff vendor.

She gave her report about one group member.

> "Naomi Amos is one of our group members, she has 4 children, and she has a vegetable business. Her husband is incapacitated. As the bread winner, she suddenly felt sick and was taken to a nearby village for treatment. She stayed there for some days. The group members assisted in paying her medical bills. We took care of her children for the period she was down. Apart from that, every one of us took a turn to feed her household members and paid her share of loan installments jointly. When she recovered from the sickness, she continued with her business and paid her debts gradually. We supported because her relatives refused to assist her. Because of the concern and help render or given to her when she was down, she become very helpful to all of us. I am very proud to say that, the group members are the first to come to our help or aid at all times whenever there is any emergencies before our relatives do".

Continuity in the micro-credit group

With regards to the wish of the micro-credit beneficiaries to continue, all the members who were interviewed agreed to continue to be members of the micro-credit group. Thus, the following responses were collected:

Martina, aged 35, a member of the micro-credit group and a self-employed woman who is running a chemist business described her experiences:

> "Before now, I was only bordered with myself and my family working from morning till evening. I only come back to eat dinner and sleep. I was running a kind of one way routine life. Following the advice of one of my friends I join the micro-credit bank group. Immediately, I become a member of the group. I learn many good things from the group members of which ordinarily I wouldn't have known if I have not joined the micro-credit group. Then I understood the importance of uniting with others in a group. I wish to say that I am presently, very happy and excited to continue in our group." This is because the group provides a sense of belonging."

Linda, a member of the micro-credit group, responded thus:

> "Before joining the group I always to go to my neighbors, when the need arise to get money when there are urgent financial needs

> or emergency. At times it takes me some time to get it, even though, the amount is small, like 300 naira. Presently, I am more independent, since I start collecting loan from the micro-credit bank and used it to start my business; I have been generating and saving some little amount. Whenever, there is emergency I take money from my savings. When the amount is not enough I feel comfortable requesting credit from my group members at all times. Even if the amount is small like, 1,500 naira to 3,000 naira. I get it from them. Now I don't worry about any problem. So I wish to continue with the micro-credit group."

The business of the micro-credit group has the capacity to be profitable. The present research observes also that the microfinance institutions do reach the poor groups with loans, and savings services that appear to provide socio-economic gains or benefits to the members of the group. This shows that the members of the groups could make profit and be sustainable.

Business income of the beneficiaries of micro-credit

When women do not have money, it slows down their economic growth. This research concludes that injection of loan will open doors for women to go into business, generate profit and improve income of the household. The quantitative analysis done earlier concludes that women's business income has improved after joining microfinance institutions. However, to verify the claim that their business income has improved, qualitative analysis was carried out. Majority of the respondents stated that their business income has improved after they joined DEC microfinance institution. For example:

Asabe, who sells vegetables, gave her own experience as:

> "Before, I work as a domestic servant. Later on, my friend joined a micro-credit group and asked me to join. At the first instance, I wasn't interested because I was told that, if I failed to pay the loan

> in time the micro-credit bank will arrest and jail me. But she and the loan officer convince me to join. It was after I might have joined, that I realized the gain or benefits. The micro-credit has assisted us to meet our financial needs. I collected a loan with which I started my vegetable business in my area I used to go to Dass village where I will buy at a wholesale price and sell them in my area. The business usually gives me a reasonable income. I do get an amount of 10,000 naira to 20,000 naira every month as income. We also use some of the vegetables in the house. The money generated from the business, has helped me to repair our house and now we can sleep comfortably. Our life has changed now. I am grateful to my friend."

Another microfinance institution beneficiary Jamima, runs a local drink business. She has studied up to secondary school level before joining the micro-credit group. She was a full time house-wife, engaging in only domestic work or activities at home. During her free time, she does some small jobs for her neighbor. Immediately after joining the group and collecting her loan, her life changed from being a full-time house wife to an entrepreneur. She feels that DEC microfinance institution have brought great and remarkable changes in her life. She described her situation as follows:

> "Before the family is being managed by the little money the husband generated. This is not always enough to meet our needs. Then, things were very difficult for us. Then I decided to join micro-credit group and collected loan and start my business. I started making a lot of profit, which gave me the opportunity to contribute to the family. The business has grown big and is generating more profit. Before, we leave in a room and parlor no toilet with a common bathroom. Presently, we have a new house with two rooms and a parlor and separate toilet and bathroom inside the house. The new house is more comfortable. I assist my husband in paying the rent through the money I generated from my business. The scenario took place as a result of the income I now realized from my business. Presently, I am planning to expand the business."

Thus Victoria, aged 36, a member of a group and beneficiary of the micro-credit loan had this to say:

> "I was only a full time house wife who was told that my main duties are cooking and taking care of the children in the house. One of my friends, told me to join their micro-credit group. I join and collected a loan from micro-credit bank. I started doing a small business, food vendor business and I sold it to people in my neighborhood. Now I make an income of between 8,000 naira to 18,000 naira from my business with which I used to support my family comfortably, unlike it was before. Joining micro-credit group has changed my life. I am very proud because I have a source that gives me income to support my family unlike it was before. Hence, my status has changed or improved."

Linda, a respondent, aged 42, owns a tailoring business and confesses as follows:.

> "I received training with an NGO. I collected a loan from micro-credit bank I began a tailoring business instead of working for another person. I felt it's better to be self-employed and so I took the decision to be a tailor. Later on, I invite one of my friends and taught her how to make cloths. My income has increased more than how it was before I join the micro-credit bank group. I know earn good income four times than before joining the micro-credit group. Presently, I am very happy and proud about the way I am growing. At least, I can support my family and keep or save some part."

Improvement in savings

The amount usually collected as savings as well as loan repayment by each person is significant and the responses are positive. Improving the saving capability of the group is one of the core objectives of micro-credit institutions. The repayment of loans, saving capacity, discipline and group responsibility are vital for the smooth operations of micro-credit institutions and the group. Most of the women interviewed were very proud about their present savings.

Naira gave her report:

> "Since our earnings are very small, whatever we generate, we spend on our day to day expenses. Often it is very difficult or hard

> to manage our expenses during the month end. The time I first join the micro-credit bank group, I was afraid as how will I be able to manage to repay the savings and the loans. But after a while, I was determined, then, I managed my expenditure and paid my savings. Now our group savings kept with the micro-credit bank is 2,000 naira each month. This amount is being kept for us. The expectation is that after some time we will collect our savings and use it as capital to continue with our business without going back to collect loan again. So, you can see that we are relaxed."

Improvement in expenditure

When women's income increases, the welfare of the family improves. This is because women are known to spend most of their income on the welfare of the household. Therefore, they need to be assisted or supported, since their success benefits many people. The income earned by the women beneficiaries of micro-credit is one of the important determining factors for the household's welfare. The income of the loan recipients has increased after joining the micro-credit group. Members of the micro-credit groups are presently more independent to take care of their personal needs and of the household.

Household expenditure in this study consists of expenses on food, education, clothing, health, buying of assets and others. The improvement in expenditure is a sign of improvement in welfare. The quantitative result above shows a significant improvement in the household expenditure. One beneficiary Naomi had this to say:

> "Before I was doing nothing, spend the whole day at home with neighbors talking. The money my husband usually generated is not enough to feed, pay school fees, medical expenses and other expenses. When I got my loan from the micro-credit institution, I started selling vegetables in my neighborhood. Now we have food to eat every day. In addition, as I am speaking to you now I just paid a medical bill for my son who is sick. Apart from that next week my children school will open for another time, I have already

sown new uniforms and bought books for them and I will also pay their school fees, all because of the money I generate from my business. Now I am doing well in my business and I am happy because I don't have to go borrowing to pay medical expense and other expenses as it used to be".

In terms of interest in providing better education for their children, the study finds that majority of the respondents are determined to educate their children. Nearly all the women send their daughters and sons to school. Formerly, the focus was to educate the sons only but this has changed immediately they made contact with the microfinance institution. Almost all the respondents report that they are very keen on providing good education for their children, most especially the daughters. When the beneficiaries were asked as to whether the loan from microfinance institution was useful to meet expenditure, like health and education, most of them responded positively.

Jamima, a single mother reported:

> "I had so much sorrow or sadness that I did not have any other good thoughts about my life. I wished to give my daughter the right education and to bring her up properly. I took my micro-credit loans and start a business from where I generate income to settle her school fees. I sent her to a good school. My daughter is presently in primary 2 and doing very well in her studying. I am trying to provide her with good education in spite of the suffering. Only my micro-credit group friends assisted me during the period of my needs."

Bilhatu, the vegetable seller had this to say:

> "I don't know how to write and read. I have not at all gone to school anytime in my life. After joining the micro-credit group, I learned to write my signature. My only wish is that my daughters

> become DEC workers. I send them to a government school. It is very hard to manage with our income. Despite from that, I am determined to provide good education to them so that they will not face any difficulty in life. I have taken the micro-credit loan used it to do business in order to pay their school fees. Joining the DEC micro-credit bank has been of great assistance to us".

This shows that there has been a remarkable improvement in expenditures of the micro-credit beneficiaries as can be seen above. Lastly, the overall results of the qualitative analysis confirmed the results generated in the quantitative analysis that micro-credit has had a positive impact on the business income and expenditure of the beneficiaries.

4.5 SUMMARY OF FINDINGS

The three independent variables studied in the two models (business income and expenditure), explain 59 percent of business income and 54 percent of expenditure of the effectiveness of micro-credit in Lere and Bombar districts. In addition, when micro-credit and demographic factors were studied in a model with business income, explain 68 of business income of the effectiveness of micro-credit and demographic factors in Lere and Bombar districts The corresponding F-statistic for the models are highly significant at one percent level of significance.

If all factors are taken into account (credit, savings and supervision) to be constant at zero, business income and expenditure will increase in Lere and Bombar by 3.99 units, 4.02 units respectively. Similarly, when demographic factors age, business type, number of children children, duration, family size, marital status, education and village) are added to micro-credit and hold constant at zero, business income will increase by 3.44.

The data analysis also shows that if all other independent variables are taken at zero in all the two models, a unit increase in credit will lead to 0.17 units increase in business income, 0.16 units increase in expenditure in Lere and Bombar districts. Furthermore, a unit increase in savings will lead to 0.05 units increase in business income, 0.05 unit increase in expenditure in Lere and Bombar districts, whereas a unit increase in supervision will lead to 0.12 units increase in business income, 0.11 units increase in expenditure in Lere and Bombar districts. From the above analysis of the betas in all the two models, it can be inferred that credit contributes a lot to business income, expenditure, followed by supervision and savings of the beneficiaries in Lere and Bombar districtst.

In addition, the data analysis on micro-credit and demographic factors as independent variable in business income model, shows that if all other independent variables are considered to be zero, a unit increase in credit facilities will lead to 0.25 units increase in the business income in Lere and Bombar districts. Further, a unit increase in savings will lead to 0.05 units increase in business income in Lere and Bombar districts; whereas a unit increase in supervision services will lead to 0.12 units increase in business income in Lere and Bombar districts.

Similarly, a unit increase in age, children and family size will lead to no increase or 0.00 units of business income, a unit increase in business type and duration will lead to 0.06 unit increases in business income. Lastly, a unit increase in marital status and villages will lead to -0.31 and -0.02 unit decrease in business income. From the above analysis of the betas, it can be inferred that credit contributes a lot to the business income in Lere and Bombar districts followed by supervision, business type, duration and savings, whereas, age, family size and number of children do not contribute anything to the increase in business income. Meanwhile, marital status and village contribute negatively to business income in Bombar and Lere district.

At 5 percent level of significance, credit has a 0.01 level of significance in all the two models with business income and expenditure, respectively; savings has 0.05 level of significance, respectively on business income and expenditure; supervision shows a 0.01 significance level in all the two models. Hence, the most significant factor is credit and supervision, followed by savings. Thus, all the three variables are significant in explaining business income and expenditure in Lere and Bombar districts.

Similarly, At the 5 percent level of significance, credit facilities, supervision, business type, duration, marital status and education shows or have 0.01 level of significance, whereas, savings, family size and village has 0.05 level of significance. Surprisingly, age and number of children has 0.16 and 0.20 level of significance. Hence, the most significant factors are credit, supervision, business type, duration, marital status and education followed by savings, family size and village. Thus, nine variables are significant in explaining business income of the beneficiaries in Lere and Bombar districts. While two are insignificant in explaining business income in Lere and Bombar districts.

However, the performance of the beneficiary's households after having received a loan from a microfinance institution, compared to non-beneficiaries in Lere and Bombar districts shows that the beneficiary's total business income has increased by a mean score difference of 11,203 naira against the non-beneficiaries. This shows that loans and operational assistance received from microfinance institution is helpful in running their business. The result also shows that there is an increase in total expenditure of the family of the beneficiaries above that of the non-beneficiaries with a mean score difference of 13,788 naira.

Similarly, the beneficiaries recorded an advantage over the non-beneficiaries in the following expenditures: food with a mean score difference of 6,507 naira, better access to health with a mean difference of 1,082 naira; education, 2,052 naira; clothing, 600 naira and snacks, alcohol and tobacco with a small increase of 150 naira. Lastly, the non-beneficiaries had an increase of 997 naira in other expenses compared to the beneficiaries.

Conclusively, the study finds that micro-credit has positively affected business income and expenditure of the beneficiaries more than the non-beneficiaries. The improvement is seen in the increase in income, expenditure on food consumption, education of their children, health, clothing and assets possession, due to their contact with micro-credit. The responses of the beneficiaries of micro-credit in the qualitative analysis attest to the results realized in the quantitative analysis.

4.6 SUMMARY

This chapter provides the statistical results and discussion of the study. The results include the analysis of demographic and family features of the beneficiaries and non-beneficiaries of micro-credit, the empirical results of the model's specification comprising the regression analysis for business income and expenditure models, as well as the diagnostic tests. Other section in this chapter include the mean difference of the effectiveness of micro-credit on business income and expenditure the qualitative results of the respondents and the summary of the findings.

CHAPTER FIVE

SUMMARY AND CONCLUSION

5.0 OVERVIEW OF THE CHAPTER

The previous chapter highlights the results and discussion. This chapter presents a discussion on the concluding part of the research. The summary of the major findings, the discussion of the policy implication and recommendations as well as the theoretical implication and contribution of the study are discussed. Others aspects highlighted are the limitations of the study, discussion of the implication of the study for future research direction, conclusion of the entire thesis and the summary of the chapter.

5.1 SUMMARY OF FINDINGS

This study examines the effectiveness of credit, savings and supervision on business income and expenditure of micro-credit beneficiaries in Lere and Bombar districts. The study is guided by the following specific research objectives:

1. To know the effectiveness of credit, savings and supervision on business income of the beneficiaries and non-beneficiaries.
2. To know the level of effectiveness of credit, saving and supervision on expenditure of the beneficiaries and non-beneficiaries.

A total of six hypotheses representing the construct's relationships or effects were developed. The results provide empirical support for all the six hypotheses in the models. Concerning the direct relationship between the exogenous variable and the endogenous variables, the findings of this study reveal that six hypotheses are supported.

The outcome of the Ordinary Least Squares regression models shows that credit significantly and positively affect business income and expenditure. Similarly, savings significantly and positively affects business income and expenditure. Supervision which is the main contribution of the study, is found to have a significant and positive effect on business income and expenditure. In addition, looking at the effect of demographic factors and micro-credit on business income model, eleven construct relationship where considered, The results shows that nine out of the eleven relationships where significant. These are credit, supervision, business type, duration, marital status and education followed by savings, family size and village. Whereas two, age and number of children were not significant. Out of the demographic factors considered in the study, education was discovered to be the most significant contributing factor to business income in the study area.

In addition, the study finds that micro-credit positively effects mean business income and expenditure of the beneficiaries more than the non-beneficiaries. The improvement is seen in the mean of business income, household expenditure on food consumption, education of their children, health, clothing and increase in assets possession. Thus, the study concludes that micro-credit helps in the increase of business income and expenditure, consequently, reduce poverty.

5.2 POLICY RECOMMENDATIONS

Drawing from the results of this study, some policy recommendations are proffered as a guide to give direction to the areas that need improvement. The study recommends the following:

1. Since access to micro-credit has improved business income and expenditure as well as reduced poverty of the beneficiaries, the non-beneficiaries should be encouraged by the microfinance institution to join. This could be done by making available evidence and proof of records of increase in return on business and improvement on the expenditure of the beneficiaries's households. This will enable the non-beneficiaries to practically see the possibility of paying off the loan as well as having enough income to carter for their families needs and to reduce poverty.

2. The study shows education to be significant and important and contributes to the increase in business income of the beneficiaries. Thus, the government should reconsider the provision of education by giving the beneficiaries the right education curriculum. This will improve their knowledge and skills on how to run small scale business effectively and efficiently to derive maximum benefit or increase in income. In addition, microfinance institutions, NGOs should reconsider the provision of relevant training and workshops from time to time on what nature of business, record keeping of the business of women micro-credit beneficiaries. This will enhance their efficiency in the use of loans and improve business income.

3. Similarly, supervision shows great support to business income and expenditure of the beneficiaries. Therefore, the micro-credit institutions should consider the introduction of supervision in Nigeria and the developing countries, in order to encourage and enhance the use of loan for the purpose of income generating activities. The income realized will help in meeting the expenditure needs of the household.

4. The poor women or the non-beneficiaries need to be enlightened by the government or microfinance institutions on the importance and the need to access

micro-credit. This can be done through public enlightenment campaigns.

5.3 THEORETICAL IMPLICATION AND CONTRIBUTION OF THE STUDY

Drawing from past and recent literature, shows that, a lot of theoretical development on micro-credit models has been ensued (Girabi & Mwakaje, 2013; Hasan et al., 2015; and Odetayo & Onaolapo, 2016). This study, unlike other studies further expands the micro-credit model to include supervision together with credit and savings in relation to poverty reduction in the model. Thus, the present results have contributed to literature and theory development on the influence of supervision on the poverty reduction, hence, extending the frontier of knowledge.

With regards to the direct influence of micro-credit on poverty reduction, literature in this area has indicated a significant relationship between micro-credit and poverty reduction. Although not much has been documented on the direct relationship of supervision and poverty reduction, the strong evidence of a positive influence of supervision on poverty reduction has theoretically provided new knowledge by revealing that supervision has a positive and significant influence on poverty reduction. This indicates that supervision exerts considerable influence on poverty reduction. In addition, the study further reaffirms the findings of previous studies concerning the influence of micro-credit on poverty reduction.

In a nutshell, this study has further enriched the micro-credit and poverty eradication literature, especially in relation to the introduction of supervision as a micro-credit factor. As such, this research has expanded the frontiers of knowledge by providing empirical evidence about the influence of micro-credit on poverty reduction.

5.4 LIMITATIONS OF THE STUDY

This study is vulnerable to some weaknesses or imperfections that obstruct precision in data collection, compilation and generalization of results. The first problem is difficulty in retrieving data about the income and expenditure of the households of the respondents. The respondents were tight-lipped in disclosing data about their weekly earnings and spending at the beginning. But after sometime, when they became used to the researcher, some of them started to relax. Even so, some of them were skeptical of disclosing some information due to security and cultural reasons.

Secondly, savings and consumption make up income. The respondents found it difficult to disclose their savings to a strange person except for the compulsory savings of the beneficiaries kept in the DEC microfinance institution. This also might be associated with security reasons. Therefore, the information obtained about their personal savings was not much.

Thirdly, peace in the area of the study is always affected due to frequent attacks on the inhabitants of that area by gun men. These attacks normally have an adverse effect on businesses and other activities in the area. This affects the women's businesses and their ability to generate income to assist the households to reduce poverty. Moreover, when this happened, the researcher also found it difficult to meet the respondents and enhence, some interviews had to be rescheduled over and over again.

Lastly, the limited geographical scope of the households for the study area, limits the extent to which the findings in this study can be generalized. Thus, the result cannot be attributed beyond the community of Lere and Bombar districts.

5.5 IMPLICATION OF THE STUDY FOR FUTURE RESEARCH DIRECTIONS

This study tries to evaluate the effect of micro-credit programs on reduction of poverty in Lere and Bombar districts in Bauchi state, Northeast Nigeria. In the process of analyzing the data collected, it shows that there are some areas of micro-credit which require attention for research in future. Issues of paramount importance emerging from this study that requires future research are:

1. This study concentrated on the intended beneficiaries approach, i.e., the outcome of micro-credit intervention on the beneficiaries business income and expenditure. Studies can be conducted in the study area on the intermediary beneficiaries approach. The intermediary beneficiaries approach deals with the beginning of the impact chain, to assess institutional sustainability and outreach.
2. In the course of the study, the study adopted a cross-sectional research where data were collected at one specific point in time. Thus, longitudinal or panel data research designs need to be considered in the future, so as to have an estimate and measurement of the study's constructs at different time intervals in order to further confirm or validate this study.
3. This study used triangulation in analyzing data, future research in this area should

consider the use of cross tabulation to confirm and strengthen the current findings

5.6 CONCLUSION

Poverty is a pervasive problem in our society. Poverty exists in various forms and different levels all over the world. At the present threshold of USD1.25 a day, the World Bank estimates that around 25 percent of the population in developing countries exists below the poverty line (Elecric et al., 2013; United Nations, 2012). This figure translates to 1.3 billion people living in extreme poverty, or about 20 percent of the global population (World Bank, 2010).

In general, the present study has provided additional evidence to the growing body of knowledge. Theoretically, important gaps existed in the literature concerning the effect of micro-credit on reducing poverty. In addition, past studies in this area (Aziz, 2012; Girabi & Mwakaje, 2013; Hasan et al., 2015; Mahmood et al., 2014; Odetayo & Onaolapo, 2016) have not addressed the issue of supervision as a microfinance factor.

Thus, the present study has contributed to the body of knowledge by providing empirical evidence about the effect of supervision. A side from the major contributions, this study has contributed to the body of literature by further validating other results (Aziz, 2012; Electrin et al., 2013; Girabi & Mwakaje, 2013; Kato & Kratzer, 2013; Odetayo & Onaolapo, 2016) in relation to significant relationship of credit and savings on business income and expenditure for poverty eradication.

The study of the beneficiaries of Lere and Bombar districts in Bauchi state, Northeast region of Nigeria, shows that micro-credit has a significantly positive relationship with business income and expenditure. This is due to the fact that the nature of businesses undertaken in the area is trading, which can be carried out daily. This might have contributed to the significant and positive effect of micro-credit.

Basically, the findings of this study have shown a link between credit, savings, supervision and business income and expenditure. The findings indicate that the newly introduced determinant gives the microfinance institutions a lead introducing supervision of micro-credit to beneficiaries, not only on loan and savings collection, but in the utilization of the loan. This has motivate the beneficiaries to work hard to generate income and meet their expenditure, consequently, reduce poverty.

In addition, the study concludes that the beneficiaries of micro-credit have improved their business income and expenditure on: food consumption, education, health, clothing and assets possession in the family, thereby reducing poverty. The study's policy implication is that the recommendations of the study, if strictly implemented, would serve as a poverty reduction policy to the immediate households and the community benefiting from micro-credit. The households or community will not only improve or increase business income and expenditure but also reduce poverty, which means more will be out of poverty in the community, which is the ultimate goal of microfinance.

5.7 SUMMARY

This Chapter discusses the summary, conclusion and recommendations, highlighting the summary of findings as well as the breakdown of the policy recommendations to guide the policy-makers on what to do in the future. The theoretical implications and contributions of the study are described, indicating a strong influence of supervision on business income and expenditure of women households. The limitations of the study show respondents to be skeptical on releasing data on their sources of income, expenditure and savings of the household. Other sections in this chapter include the implication of the study for future research, conclusion of the thesis and the summary of the chapter.

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APPENDIX

Appendix 1:
Interview questionnaire sample

This survey is designed to collect information on micro-credit beneficiaries and non-beneficiaries of Development Exchange Centre microfinance institution to ssess the effect of micro-credit on poverty reduction in the Lere and Bombar districts. It is also in partial fulfillment of the award of doctoral degree in finance in the School of Economics, Finance and Banking, Universiti Utara Malaysia. Hence all information collected shall be treated confidentially and used strictly or solely for academic exercise. I therefore entreat all respondents to provide the right and accurate responses to these interview questions.
Thank you for your co-operation.

Section one: Demographic and socio-economic data

1. Name……………………………………………………………………………

2. Age ……………………………………………………………………………..

3. Marital status ………………………………………………………………..

4. Educational qualification………………………………………………………

5. No. of children ………………………………………………………………

6. Family size …………………………………………………………………..

7. Business type ………………………………………………………………

8. For how many years have you been dealing with DEC micro-credit ? ....

9. What is the name of your village? ....

10. Who owns and control the business? ....

11. What is the total value of the business? ....

12. Who make-decision relating to the family affairs? ..……………………………

13. Did you have any training? Yes or No…………………………………………

14. What nature of training? ....

15. Supervision exist (5). Strongly agreed (4). Agreed (3). Undecided (2). Disagreed (1). Strongly disagreed.

16. You are supervised on business and loan repayment. (5). Strongly agreed (4). Agreed (3). Undecided (2). Disagreed (1). Strongly disagreed.

17. Supervision encourages you to work hard in your business. (5). Strongly agreed (4). Agreed (3). Undecided (2). Disagreed (1). Strongly disagreed.

18. Supervision encourages you to pay loans and meet household expenditure.

(5). Strongly agreed (4). Agreed (3). Undecided (2). Disagreed (1). Strongly disagreed.

Section two: Inflows:

1. Amount of Loan or balance of loan from DEC …………………………………..

    a. What amount of loan from DEC used for the business……………………

    b. What amount of loan from DEC used for household …………………….

    c. What amount of loan from DEC used for the purchase of assets (livestock etc)………………………………………………………………………………

2. Loan from friends/relatives, savings clubs or neighbors ………………………….

    a. What amount used for the business……………………………………….

    b. What amount used for household expenditure……………………………

    c. What amount used for the purchase of assets (livestock etc) ………………………………………………………………………….

3. What amount of savings did you collect from DEC or friend/relatives ………………………...

    a. What amount used for households…………………………………

    b. What amount used for the business……………………………………..

    c. What amount used for purchase of assets……………………………….

4. Money from employment (side work)……………………….............................

    a. What amount used for household……………………………………

    b. What amount used for the business……………………………………..

    c. What amount used for purchase of assets……………………………….

5. Gift from friends/relatives or neighbors…………………………………………

    a. What amount used for household…………………………………...

    b. What amount used for the business……………………………………..

    c. What amount used for purchase of assets……………………………….

6. Any other sources of income……………………………………………………

7. Income from business sales……………………………………………………..

Section 3: Outflows:

Expenditure on business:

1. What is the value of goods purchased for the business for sale last week ……………………………………………………………………………………….

2. What is the amount paid as Transport cost (carriage inward/outward) last week ………………………………………………………………………………………..

3. What is the amount of Wages/salaries to employees last week ……………………………………………………………………………………

4. Other business expenses (firewood/kerosene/and rent, electricity) last week

…………………………………………………………………………………………
.

Household expenditure:

1. What amount did you spend on food consumption last week:
    Amount for meat or fish/meat last week………………………………………
    Amount for vegetable last week……………………………………………
    Amount for Rich/grains last week………………………………………….
    Amount for salt and maggi last week………………………………………
    Amount for tomato, onion and pepe last week……………………………
2. What amount did you spend on sickness (healthcare) informs of drugs last week ……………………………………………………………………………………..
3. What amount did you spend on education of the children (books, uniform, sch. fees) last week…………………………………………………………………...
4. What amount did you spend on clothing's last week……………………………
5. What amount did you spend on beer, cigarette, snacks (kosai, alele, chinchin) last week………………………………………………………………………………
6. What amount did you spend on electricity bill, and rent last week…………………
7. How much did you spend on durable assets e.g. livestock (chicken, goat, cow), radio, television, hand set last week …………………………………………………..

8. Amount spend on wedding, funeral or festivals if any ……………………………
9. Amount spend on gift to friends/relatives …… ………...………………………..
10. Contribution to church or mosque buildings ……………………………………...
11. Any other household expenses…………………………………….………
12. What amount of savings kept with DEC ………………….………………………..
13. What amount of savings kept or contributed to savings clubs,……………………
14. What amount of savings kept with friends/relatives or neighbors ………………..

Section 4: Assets

Record of household opening and closing inventory

Assets:	**Opening balance** #	**Closing balance** #
1. Radio		
2. Television		
3. Mobile phone		
4. Kerosene stove		
5. Land		
6. House		
7. Bicycles		
8. Animals		
Sub total		

INDEPTH INTERVIEW QUESTIONS

1.What do you do before joining the micro-credit institution group?

2. What motivated you to join the micro-credit group?
3. How long have you been a member of the micro-credit group?
4. Do you have a good relationship and cooperation among the members of the micro-credit group?
5. How do you cooperate with one another? Is it when a member is in great need(financial difficulty or sick) or has an occasion or both?
6. What was your monthly income before joining the micro-credit group?
7. Was the household income enough to feed the family?
8. What type of business do you do now?
9. What is your monthly income from the business after joining micro-credit group?
10. Is the income enough to pay your credit, savings and meet your household expenditure?

Appendix 2: Letter for data collection and research work

OTHMAN YEOP ABDULLAH
GRADUATE SCHOOL OF BUSINESS
Universiti Utara Malaysia
06010 UUM SINTOK
KEDAH DARUL AMAN
MALAYSIA

Tel. 604-928 7118/7113/7130
Faks (fax): 604-928 7160
Laman Web (Web): www.oyagsb.uum.edu.my

KEDAH AMAN MAKMUR • BERSAMA MEMACU TRANSFORMASI

UUM/OYAGSB/K-14
25 January 2015

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **Emmanuel John Kaka (Matric No: 95063)** is a bonafied student of Doctor of Philosophy (PhD), Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia. He is conducting a research entitled ***"Micro-Credit And Poverty Eradication : An Analysis Of Micro-Credit Finance Institutions in Nigeria"*** under the supervision of Assoc. Prof. Dr. Fauziah Bt Zainal Abidin.

In this regard, I hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"SCHOLARSHIP, VIRTUE, SERVICE"

Yours faithfully

ROZITA BINTI RAMLI
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c : Supervisor
Student's File (95063)

Universiti Pengurusan Terkemuka
The Eminent Management University

Appendix 3: Approval letter from DEC

Development Exchange Centre

Corporate Head Office:
No.5 Kaduna Road,
Off Ahmadu Bello Way,
Box 832, Bauchi, Bauchi State.

DEC
IT/CERT NO 10826

Cellphone: 234-08088953034
E-mail: dexcenter@yahoo.com
Website: www.dexcentre.org

Mr. Emmanuel John kaka

2nd / March / 2015

School of EFB
College of Business
University Utaza Malaysia
06010 UUM Sintok, Kedah
Malaysia.

Dear sir,

RE- APPLICATION FOR DATA COLLECTION

Sequel to your request to use our institutions to conduct Research on micro credit and poverty Alleviations, the management has approved Tafawa Balewa branch for you to use as the source of the data you want for your research.

You are to report to the branch manager Tafawa Balewa who will assist you with a list of client to select for your research.

Please note that we treat our client's record as confidential. You are to restrict whatever client data collected for the purpose of research only.

Wishing you success in your research.

Yours truly,

J.C Makka

HMF

VISION: A society with equal opportunities.
MISSION: Empowering women to improve their living conditions and status through integrated community development initiatives