# IMPACT OF CREDIT FACILITIES ON RICE PRODUCTION IN DOKO LOCAL GOVERNMENT AREA OF NIGER STATE, NIGERIA

**BY**

**NLEMCHI CHUKWUDI JOHN**

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## DECLARATION

I, NLEMCHI CHUKWUDI JOHN, hereby declare that the contents of this project, reflect the research work duly conducted by me.

NLEMCHI CHUKWUDI JOHN

Research / project Candidate

Date: 29/12/2005

## CERTIFICATION

This is to certify that this project entitled "The impact of credit facilities on rice production in Doko local government Area of Niger State, Nigeria" by NLEMCHI CHUKWUDI JOHN meets the regulations governing the award of degree of bachelor of Agriculture in the Department of Agricultural Economics and Extension Technology of Federal University of Technology, Minna, Niger State, Nigeria.

MALLAM I. S. UMAR
(Project Supervisor)

29/12/2005
Signature / Date

R. S. OLALEYE (DR)
(Head of Department)

Signature / Date

NAME:
(External examiner)

Signature / Date

## DEDICATION

This project is dedicated to my Lord and Saviour, Jesus Christ and also to my beloved parents, DR. A.C. NLEMCHI and H.O. NLEMCHI for their support and assistance. May the compassionate and the merciful God bless you both abundantly. Amen

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# ABSTRACT

This study assessed the impact of credit facilities on rice production in Doko LGA of Niger State. It also determined the Socio – economic characteristics of the farmers, examined the various sources of credit available to farmers and the constraints farmers had in obtaining agricultural credit. Questionnaires were randomly administered to 100 farmers in four villages namely: Boku, Batagi, Doko, Mambe. However, only 80 useful questionnaires were used for data analysis. Analytical tools such as descriptive statistics and ANOVA were used in data analysis. The socio – economic characteristics shows that the average age of farmers was 49 years for borrowers and 50 years for non – borrowers. The average years of farming experience were 11 years for borrowers and 10 years for non – borrowers. The mean output (57.1kg/ha) of the borrowers was higher than the mean output (35.775kg/ha) of the non – borrowers. The difference between the outputs was statistically significant. Therefore the Null (Ho) was rejected. Major constraints faced by the farmers include; flooding and high interest rate. It is therefore recommended that farmers should be encouraged to form cooperative societies and while the interest rate charged by commercial banks should be reduced.

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# CHAPTER ONE

## 1.0 INTRODUCTION

## 1.1 RICE; *Oryza Sativa*

Rice (Oryza Sativa) is a prime income source for farmers in Nigeria as about 80% of its production is commercialised. Rice, a cash crop and fadama crop is the fourth major cereal in Nigeria after sorghum, millet and maize in terms of output and cultivated land area. The area of land put to cultivation of sorghum, millet, maize and rice is 5.5 million ha, 3.3 million ha, 3.2 million ha and 1.82 million ha, respectively FMARD (2002). Rice which thrives in water logged conditions is grown and consumed in all the ecological zones of the country. It is one of man's oldest foods which is easy to prepare compared to other traditional cereals. Most poorest household in urban centres obtain 33% of their cereal based calories from rice and rice purchases represent a major component of cash expenditures on cereals (World Bank, 1983)

The three major rice producing ecologies in Nigeria are: Rain fed upland, Rain fed lowland, irrigated lowland and marginally in the mangrove swamp. Most rice farmers are small scale with farm of 1 – 2 ha. Akpokodje (2003) reported that the lowland rice system (with 2.2 tons / ha) is the largest rice production system in Nigeria representing 48%. This is followed by the upland (with 1.7 tons / ha) representing 30% and irrigated (16%) with the yield of 3.5 tons / ha. While the floating and mangrove systems account for 5% and 1% respectively.

Despite this, the area cultivated to rice appears small, for instance in 2000 out of about 25 million hectares of land cultivated to various food crops only 6.7 % was used for rice cultivation. Currently, Nigeria's annual demand for rice is estimated at 5 million

tonnes while production level is 3.0 million tonnes resulting in a gap of 2.0 million tonnes as deficit (FAO 2002).

The above indices show a drastic increase in rice consumption in Nigeria which could be attributed to population increase, rise in income levels, high rate of urbanization and its ease of preparation. Report show that the per capita rice consumption rose from 3kg in the 1960s to 18kg in the 1980s and reached 34kg in 1999 (Akpokodije 2003). The average Nigerian now consumes 24.8 kg of rice per year, Representing 90% of total calories intake (rice Web, 2001). Despite the increase in rice intake in Nigeria over the years, there is still limited capacity of the Nigerian economy to meet domestic demand which is presently at about 5 million metric tonnes while supply and production is 3 million metric tonnes per annum. Consequently a significant demand – supply gap of 2 million metric tonnes as deficit with imports making the short fall.

Since rice has become a strategic commodity in the economy, the Nigerian government has actually intervened through specific policies such as production incentives, import tariffs and import restriction and subsequent ban in 2006 in order to boost its domestic production. However, domestic productions have not increased sufficiently to meet the rising demand. This could be attributed to the fact that rice farmers in Nigeria are dominated by small scale farmers who are responsible for the present domestic production of rice. These small scale farmers have very poor socio – economic status. These low economic status is thus having a negative effect on the development and growth of rice production in Nigeria. In order to actualise increase in rice production, a significant degree of financial commitment is required in form of credit (Miller, 1977)

As bulk of the production is done by the small scale producers who were mainly in rural areas and operate under limited capital base. Under this condition, the objective of increased rice production may be difficult to achieve. Increased rice production requires massive investment in improving Agricultural technologies associated with rice production. Such investment is expected to raise the productivity and income of the farmers as well as make rice sufficiently available for the rapidly growing population. For many small scale rice farmers with low productivity and income, raising enough capital to invest in improved agricultural technologies is often difficult. However if the objective of increased rice production is to be achieved through the small scale operations, the need for adequate farm credit is imperative.

It is in recognition of these crucial roles of credit that successive governments in Nigeria have made several concerted efforts in ensuring steady supply of fund to boost Agricultural production in the country. Among these efforts were the establishment of Nigerian agricultural co-operative and rural development Bank (NACRDB), Agricultural credit Guarantee scheme fund (ACGSF), rural banking scheme (RBS) and the mandatory allocation of allocation of loans and advances from commercial banks such as Union Bank Plc to Agriculture.

Recently, UBN plc issued loan to small scale rice farmers in Doko LGA of Niger State. It is against this background that this study seeks to find and determine the impact of the credit facility on the production of rice in the study area.

## 1.2 PROBLEM STATEMENT

Inadequate finance has remained one of the major constraints to agricultural development in Nigerian especially to rice farmers. Government,. In recognition of this

problem, have made available various source of farm credit and loan schemes to farmers but the performance of existing agriculture financing institutions of the government such as NACRB and the commercial banks, have been less than expected. Credits have continued to be given to wrong individuals and the small farmers at whom all the endeavours are directed have not received the benefits (Akpa 1989)

High interest often raises cost of production, consequently discouraging most small rural farmers from obtaining credits. Inspite of all these challenges facing the credit sectors and the small scale rural farmers, the credit sectors are still making significant impact on the production of the farmers. It is against this background that this study intends to provide answers to the following questions:

i. What are the various types of credit sources available to the farmers?
ii. What are differences in the performance of rice production between users of credit and none users
iii. What factors determine the amount of credit required by rice farmers?

## 1.3 OBJECTIVES OF THE STUDY

The broad objective of this study is to determine the impact of credit facilities in rice production. The specific objectives are to:

1. To determine socio – economic characteristics of rice farmers
2. Identify the various sources of credit available to farmers in the study area.
3. Determine the factors which influence the amount of credit requirement.
4. To compare the average output between borrowers and non – borrowers in rice production in the study area
5. To examine problems associated with the credit.

## 1.4 HYPOTHESIS

$H_0$ – There is no significant difference in the average output between farmers using credit and those not using credit.

$H_1$ – There is significant difference in the average output farmers using credit and those not using credit.

## 1.5 JUSTIFICATION FOR THE STUDY

The bulk of agriculture productivity in the country are derived from the small scale farmers and they occupy a pivotal position in the country's food productivity efforts. Since Nigeria Agricultural food sector is characterised by those small scale farmers operating with virtually no capital, whom are low income earners with every low disposable income. Productivity is drastically affected by low investment resulting to low efficiency in the utilization of resources which can also affect their ability to repay the credit.

No matter how knowledgeable or well desirous he may be, without credit he cannot adopt new technologies such as the use of improved varieties fertilizers, herbicides, tractors etc consequently credit institutions have over the years assumed the role of making farm credit available to small scale farmers. Because of the attendant problems associated with source of credit, evaluating their respective impact to the production activity of the small scale farmers may have been difficult.

This study therefore is justified by the need for an empirical work on the socio – economic factors influencing farmers' willingness to continue to seek credit in their rice production in the study area and thus throw light on other source of credit used by the farmers. It has become a very important consideration as the nation seeks to avert the

constraints for farmers in obtaining credit and ensure that he remains in business. It is a means of stabilising farmers' income, provision of employment, production and supplies of agricultural products.

This study will therefore come up with data from its result; will bring to focus the relevance of credit in terms of its respective influence on farmers' production. The study is also expected to provide information which will assist policy makers on how to test the farm credit schemes can be improved to serve the credit need of the small scale rice farmers particularly in Doko local government of Niger State and Nigeria in general.

# CHAPTER TWO

## 2.0 LITERATURE REVIEW

## 2.1 AGRICULTURAL CREDIT IN NIGERIA.

Agricultural credit in Nigeria can be categorised into two main sources; the formal and informal credit sources. The need for formal credit lending became imperative in view of certain problems identified in the informal credit sector.

Among these problems are the exploitativeness of the informal credit sources; inability of the source to cope with the increasing demand of the small scale farmers for credit and the tendency of increasing the level of poverty of these farmers who depend entirely on credit to do their farm work. (Oluwasanmi and Alao 1980)

The first attempt to establish source of formal credit dates back to 1930 when the Northern Nigerian government established the native Authority advance system (Oluwasanmi and Alao 1980). The scheme provided loans to farmers in order to encourage them in mixed farming. About the same time, loans to farmers in the western Nigerian were the sole responsibility of finance co-operation until 1964 when the western Nigeria agricultural co-operation was established. (Olatunbosun, 1968)

## 2.2 AGRICULTURAL CREDIT; DEFINITION AND SOURCES

Credit is a device for facilitating the temporary transfer of purchasing power from one individual or organisation to another. It provides the basis for increased production efficiency through specialization of function, thus bringing together in more productive union the skilled farmer with small financial resources and those who have substantial resources who lack farm management ability (Oyatoye 1981)

Agricultural credit encompasses all loans and advances granted to farmers to finance and service agricultural production activities relating to processing, marketing, storage and distribution of products resulting from those activities. Credit could be formal or informal (institutional or non – institutional) based on its sources.

The institutional sources include banks, insurance, co-operatives, government grants, subsidies and foreign finance. Non – institutional sources are those from friends and relatives, local money lenders among others. All these various sources have their peculiarities, which range from mode and conditions of granting the credit to the rate of interest. Of the two sources, the formal credit offers moderate interest rate but with sometimes unnecessary bureaucracies and stringent conditions.

According to a paper presentation at the national productivity centre 2004, there are two distinct sources of funds for farmers: internal and external sources. Internal funds arises from net cash flow from farm operations. External funds are derivable from: Net flow of loan funds from banks, equity introduced by new owners. Reliance on internal funds has its own severe limitations due to the pronounced seasonality in farming. External financing is feasible to only large farms which are very few in Nigeria.

## 2.3 ROLE OF AGRICULTURAL CREDIT

The importance of credit to Agricultural development and increasing food production cannot be neglected as it has attracted the attention of several scholars who hold the opinion that small holder farmers who form the chunk of farming population should be provided with credit to enable them adopt new technologies.

Teriba (1992) admitted in his study of rural credit and rural development in Nigeria that rural credit was one of the pre –requisites and perhaps the most important

one for rural development. He stated that increasing productivity in rural sector was a function of capital base. Therefore, the vicious cycle of low investment called for credit assistance in aid of rural investments from outside the rural economy.

Mbata (1991) in his view reported that credit also is pertinent to increased efficiency required by the small scale farmers. Farmers in Africa have demonstrated that when given the opportunity to earn higher income, they can be dynamic producers Harsch (1994)

The significance of credit in agricultural development has been widely recognised. Lack of agricultural development was seen as a consequence of shortage of capital. A vicious circle of low capital, low productivity, low income and consequently low savings seemed to be operating in most developing countries; therefore credit was perceived as an instrument which could break this circle.

According to World Bank (1974) publications, Agricultural credit is a key element in the modernisation of Agriculture. Not only does it remove financial constraint of the farmers but it may also facilitate adoption of new technologies that would otherwise be slowly adopted. Baker and Bhagara (1978) identified capital shortage as a significant constraint to economics development of small farmers in developing countries.

Awoyemi (1981) also submitted that if small scale farmers in Nigeria were to grow and eventually operate on a large scale, the farmer must have among other things an assured supply of credit for short, medium and long terms. The importance of credit to agricultural development cannot be over- emphasized. Without credit, high return investments, long term or short term would be infeasible for many farmers (Norton and

Aluwang, 1993). Therefore credit is essential as a country moves from traditional to modern Agriculture.

According to Ndanitsa (2005), there are many different types of production credit and their appropriate classification will facilitate financial analysis. He says 4 – 6 primary classifications are common. Loans or credit could be classified by their length, uses, source or type of lender, security provided by the lender or repayment plan.

## 2.4 IMPACT OF CREDIT IN RICE PRODUCTION

A study of the impact of loan scheme on food producing farmers in Akoko South and Akoko North local government Area of Ondo State by Ilebemi (1983) showed that borrowers cultivated larger hectarages and earned larger total and net incomes than non – borrowers and spent more on capital input.

Fabiyi and Osotimehin (1984) studied the impact of credit on rice production in Ondo and Oyo states of Nigeria using simple linear regression model. In the study, it was found that farm size, credit experience were significantly related to credit. It was also found that output of rice was jointly determined by the amount of credit, farm size and rice farming experience. Revenue from the rice farm was jointly determined by the amount of credit farm size and rice farming experience.

## 2.5 SIGNIFICANT DEVELOPMENT IN RICE PRODUCTION IN NIGERIA

Unlike now, almost all the rice consumed in the country before 1960 was produced locally. Such local production however declined from about 99% to 38% between 1960 and 1980 because of insufficient encouragement of rice farmers (Odigbo 1989). This period incidentally coincides with the time of petroleum oil boom that attracted a lot of foreign exchange from non –agricultural sector.

Rice, Oryza sativa, is the staple food which feeds more than half of the worlds population. (Food and Agricultural Organisation (FAO), 2004). Once reserved for ceremonial occasions, rice has grown in importance as Nigeria now consumes 21kg of rice per year, representing 9% of total calorie intake and 23% of total cereal consumption has increased at an average annual rate of 11% of which only 3% can be expounded by population growth. The remainder represents a shift in diet towards rice at the expence of the coarse grain (millet , sorghum and wheat). An estimated 2.1 million tons of rice are consumed annually (FAO, 2004)

Rice is the fourth major cereal in Nigeria. It's a major staple and popular cereal crop of immense nutrient value, grown and consumed in all the ecological zones of the country. The demand in rice has maintained a persistent rise in the last three decades. Rice today has assumed a tremendous economic importance. It constitutes a major component in the food basket of over 70% of the population in West Africa sub – region. Reports revealed that rice alone represents approximately over 16% total cereal production in the West African sub – region

Nigeria has the potential of 4.6 million hectares of land suited for rice production annually, presently, only 1.6 million hectares are currently utilized (Ukwungu 1998). The country is well endowed ecologically to produce enough rice for domestic and to meet export demands. It has vast agricultural land and suitable climatic conditions. The great potential to achieve large scale production of paddy in Nigeria must however be complemented with capacity for high quality post – harvest processing technologies improved marketing structures for both domestic and export market and quality control. When these are achieved, it will make Nigeria rice competitive in the global world.

## 2.6 TRENDS IN NIGERIA'S RICE ECONOMY

### 2.6.1 RICE POPULATION

Rice is cultivated in virtually all the agro ecological zones in Nigeria, although the area under cultivation remains small for example, in 2000, of the 25 million hectares of land cultivated for various food crops, only 6.3% was devoted to rice. Rice output rose progressively from 133,000 tons in 1961 to 388,000, 1,241,000, 3,226,000 and 2,065,000 tons in 1971, 1981, 1991 and 2002 respectively.

The average output growth in the 1970s was 14.9 percent and was facilitated by the establishment of the Federal Rice Research Station (FRRS) in 1970. National Seed Service (NSS) (1975) and National grain production company (NGPC) (1975) which were all aimed at boosting grains production. Average output of rice further to 17.4% in the 1980s due to the sustained efforts by the institutions mentioned above. Similarly, trade and exchange arte policies of SAP tended to discourage imports and promote local production; ban on the importation of rice in 1985, expanded the demand for local production. However the average output growth in rice production fell sharply to 1.0% and a further to 0.2% decline in the 1990s and 2000s. The decline in production was induced chiefly by the lifting of the ban on the importation of rice in 1995, which resulted in the flooding of the market with cheaper foreign rice, by further depressing the demand for local production.

2.6.2 RICE DEMAND

The demand for rice in Nigeria has been on the increase. During the 1960s the per capita annual consumption of rice averaged 3 kg but has grown significantly at 7%per annum

since then. Rice per capita consumption during the 1980s and 1995 – 1999 averaged 18kg and 22kg respectively, FAO (2002). The average consumption stood at 24.5kg in 2001 about 9% of the total caloric intake (Rice Web, 2001)

A combination of factors triggered the increase. The rising demand was partly the result of population growth and also increases income levels (Akanji, 1995) rapid urbanisation and the associated changes in family occupational structures contributed to the stiff in consumer preferences away from traditional staples towards rice. As more people migrate into the urban areas, the opportunity cost of their time increases and the demand for convenient foods such as rice also increased. Also rice was no longer a luxury food, which it was in the 1960s but had become a major source of calories for most Nigerians

### 2.6.3 RICE IMPORTS

(Wudiri and Fatoba, 1992; and Ladebo, 1990) submitted that in order to meet the increasing demand for rice, Nigeria has had to resort to importation of milled rice. This is because production capacity is far below the natural requirement. Rice importation into Nigeria was very insignificant in the 1960s and early 1970s. There was however a phenomenal rise in rice imports in 1977 as the quantity imported in the year alone (40,000 tonnes) was more than the aggregate quantity of rice imported during the 1961 to 1975 period.

The quantity of rice import in recent time has increased from 300, 000 metric tonnes in 1995 to 794,000 metric tonnes in 2000 valued at $300m. It is also evident that between 1961 and 1999, Nigeria had spent over $4 billion on rice importation alone.

According to a CBN Annual Reports various issues (2002), specifically $ 605 million and $756 million were spent on rice importation in 2001 and 2002 respectively. This situation represents a major drain in the foreign exchange in the country. This raises a number of questions; among which is why spend such a huge amount of limited foreign exchange on rice when the country has the capacity to be self sufficient in rice?

## 2.7 ECONOMIC IMPORTANCE OF RICE

Rice remains a regular item in the diet of most Nigerians, Asians and the world over, ironically rice was considered a luxury food in West Africa only two decades ago (Nwanze 2004). Rice contributes more calories and protein than any other cereal in humid West Africa and about the same as all roots and tubers combined. This is because, firstly due to its high nutritive value and also rice could be stored for long periods of time (i.e. they are durable).

The cereal grains therefore have great importance for the welfare of a country; No wonder that more than three quarters of the daily calories intake of some 2 billion Asians (almost half of mankind) consists of rice. In the developing world as a whole; rice produces 27% of dietary energy supply and 20% of dietary protein intake (FAO 2003).

Rice despite feeding half of the world's population provides income for millions of rice producers, processors and traders. Rice based production systems and their associated post harvest operation employ nearly one billion people in rural areas of developing countries.

Milled rice consists approximately 90% carbohydrate, 9% protein and 1% fat and fibre which is exclusively for human consumption eaten boiled with stew or sauce. The usefulness of rice globally is indeed encompassing because man benefits not only from

usefulness of rice globally is indeed encompassing because man benefits not only from edible starch grain for food but also from other parts of the plant and the bi – products of its processing.

The grain with the hull, bran and germ removed by milling is used in drying cereal (head rice). The total yield of milled rice varies from 67 – 72 percent and the energy of 100kg of milled kernels equals 359 calories.

Due to its high digestibility and high nutritive value, white rice has v\become indispensable for use in baby and breakfast foods and also a form of diet for the sick. Rice is also used for the production of starch, alcoholic beverages. Rice flour containing little or no gluten could be used as blender in baking wheaten bread and in biscuits (Konokhowa, 1991).

The husk of rice are used primarily for livestock feed and also used as subordinate in fertilizers to prevent it from soaking.

Rice straw and hulls can also be used as fuel, much or as industrial raw materials for making abrasives, card board (Cattling, 1992)

Rice bran can be used as litter in poultry houses. It could also be utilised to improve soil status. The phosphorus and silica in the organic matter reduce acidity in soil and help rice respond to nitrogen and hence increase rice yield. (Konokhowa, 1991)

## 2.8 CONSTRAINTS OF RICE PRODUCTION IN NIGERIA

Not only has the importation of rice over the years dampened the domestication of rice in Nigeria, according to a concept note submitted to USAID by the West African Rice Development Association 2000, also highlighted certain constraints which are being talked about below as the major hindrance to rice production in Nigeria.

i. Ignorance

Rice production by a Nigerian farmer has been a phenomenon that is characterized by first and foremost his personal illiteracy and ignorance on agronomy where his practices are dominated by traditional; land tillage and tenure system where he uses his personal energy and the local (traditional) tools. He persistently uses the seeds he either inherited from his father. The seeds are hardly potent, hardly viable and highly susceptible to drought and diseases. He has no access to modern gadgets that till the land deeper and work faster covering large fields in relatively shorter time.

ii. Absence of capacity building faculties

When there is a workshop, seminar or symposium where the rice farmer might be privileged to pick some vital information to help him, such fora are dominated by the elite, civil and public servants (who already posses the know – how) just because of the stipend accruable to those who attend.

iii. Absence of modern technologies of processing rice.

Most Nigerian rice farmers by necessity reside in almost land locked areas without electricity to warrant the establishment of cottage industrial milling machines. The makeshift mills do not possess destoner and other purifying gadgets. This poor parboiling technique renders Nigerian processed rice poor with occasional offensive odour.

### 2.8.1 COMMON HAZARDS

Rice being predominantly fadama or lowland and wetland crop, there are such common hazards that are characteristic with the Nigerian Rice farming.

i. Floods

Because of the low lying topography, most times between adjacent higher elevations, during torrential tropical rains, wash – down from the higher elevations always result floods that wash away the farmers' rice plantation. He has no remedy to it and he has no option since the wet and dry season divinely and strictly observes their start and stop rules.

ii. Erosion

The soil nature of most rice farms cannot be cropped without rendering the soil loose. Zero tillage has not been well accepted by farmers. When rains come in squalls, the run – off water usually creates erosion tracts washing away the top soil and any fertilizer or chemical that could have been applied.

## 2.9 INSTITUTIONAL FRAMEWORK FOR DELIVERY OF AGRICULTURAL CREDIT IN NIGERIA

Prior to 1970, there were no development finance institutions at the national level to take care of the agricultural sector. However, in 1972, the Nigerian Agricultural and Co -operative bank (NACB) was established to encourage the purveyanceof credit to the sector. In order to ensure better Agricultural Credit delivery the Nigerian Agricultural Cooperative and rural Development Bank (NACRDB) emerged through the merger and

restructuring of the erstwhile NACB, the peoples bank of Nigeria and the assets of the family Economic Advancement Programme (FEAP)

The rural banking programme (RBP) was also introduced in 1977 to extend banking services to the rural areas. The specific objectives of the programmes included financing, productive activities in rural areas including small scale industries as well as agricultural; and allied industries in order to attain self sufficiency in food production. Its implementation was in three phases which ended in 1989.

The agricultural credit Guarantee scheme fund (ACGSF) was introduced in 1977 to boost the flow of funds to the sector by guaranteeing 765.0 percent of lending by banks to farmers. The fund was co-ordinated by commercial banks and guaranteed by CBN. Consequently the number of banks lending to Agriculture under the ACGSF declined to 9 in the last 5 years from 26 in the late 1980s. It is however potent to note that loans for grains production which represented an average of 22.6% of the total agricultural loans guaranteed between 1978 and 1987. It increased to 64.1 and 60.3% between 1988 – 1997 and 1998 – 2003 respectively and also available data on specific credit granted to rice farmers for the period 1978 to 1990 shows that an average of only ₦5.6m went to rice farmers all over Nigeria (CBN statistical Bulletin)

## 2.10 PROBLEMS OF AGRICULTURAL CREDIT DELIVERY AND ADMINSITRATION

Agricultural credit institutions in Nigeria are beset with many problems which limit their outreach and sustainability. Some of their problems are peculiar to institutions while others are general and affect financial institutions clientele.

Ojo, (1981) in his study of agricultural lending outlined the problems involved in agricultural credit acquisition. One of such is the problem of reaching, appraising and assessing credit worthiness of most farmers. The peasant farmers lack acceptable collateral security. Banks are interested in collateral; which are highly liquid and possess "money value" certainty. Farm land is about the most common security farmers have. In cases where land ownership is shared between the individual and community, it becomes a difficulty with regard to acceptance of land as security for bank loans.

Despite the importance of credit in agricultural development, it has its problems. Akinwunmi (1998) gave the problems of credit as:

1. Timely release of credit

   Farmers need credit in March to prepare for planting in April; loans are usually not released until August or September. In this case, the farmer cannot buy and use improved seeds and fertilizer in time. Therefore yield is reduced when loan is released late. Some farmers misuse the money and find it difficult to pay back.
2. Measurement of plots: it is very difficult to measure different small plots available to farmers. This prevents or acts as a setback in procuring loans.
3. Given more than needed credit: This is due to borrowers given more than the hectarage they have and so misuse the money and cannot payback. This could be solved by institutions sending out their own agents to man such farms
4. Under capitalisation and low savings mobilization, insufficient equity and inadequate funds continued to constrain most of the agricultural credit schemes that benefit the Nigerian agricultural credit schemes that benefit the Nigeria agriculture including rice farmers. Specialized institutions like the NACRDB rely

on government subventions from government cannot be a continuous practice as funds from this source depends on the buoyancy of government and in most cases are unreliable.

## 2.11 THE DEMAND FOR AND SUPPLY OF AGRICULTURAL CREDIT

The central role of agriculture in the development process in Nigeria is encompassing. Food supplies and food security, income and employment, exports and absorptive market capacity for domestic manufacturers are key functions assigned to agriculture. But much more; there is the macro – economic challenge of Agriculture contributing to a buoyant, non – inflationary and dynamic economy. For agriculture to fulfil these expectations there must be an increasing stock of productive capital in the sector.

The use of credit is seen as one way of increasing the productive capacity of agriculture. Agriculture requires a vast amount of capital for farm supply; marketing and processing, capital is also required for improvements. Acquisition and accumulation of capital is greatly facilitated by application of credit (Ojo and Ukeje 2002).

Balogun and Otu (1991) observed that government of most developing countries often foster growth of institutional financial markets mainly to provide credit facilities to farmers on concessionary terms. The commercial banks influenced through the central banks are the major means of governmental achievement of its end. But, according to Nwankwo (1976) the financial institution operations have been very disappointing and have neither matched the hopes of the founders nor justified the concession made by the government.

On the other hand banks have continually justified themselves on the account of high default arte among farmers. According to National bank news (1990), failure in repayment system at the grassroots economically non – viable as it faces negative net margins as a result of bad debts and overdue cost. To further confirm the above alarm, Mahal (1990) states that the mounting overdue unpaid credit indeed cause problems and make financial institutions to be discouraged in granting farmers credit to small scale farmers.

Studies have show that most developing countries provide an ideal environment for substitution and diversion of agricultural credit to flourish because of distorted exchange rates, balance of payment problems, rigid interest rate policies and inflation coupled with negative real rates of interest. Long (1973) had before argued that failure to allow economic factors of demand and supply to allocate loans to purpose which could produce highest return have continually led to delinquency and default among the small scale farmers.

According to the national agricultural credit study team (1986), past credit policies in Nigeria have emphasized production over years. But have overlooked the fact that peasants have consumption needs because of the seasonal character of their operations. This in itself might be why farmers default purposes, as such would have been used to meet consumption purpose. And according to David et al (1980) this is a result of focusing on the farm (production) rather than the farm household thus ignoring the possible welfare effects of borrowing.

To further confirm the above claim, Ndanitsa (2005) states that limiting loans to productive purposes sometimes leads to situations which are difficult to defend. For

instance where loans form consumption purpose is forbidden. It means that loan for the farm shelter, clothing and health care for the farm labourer and his family are not considered as productive loans. For a small farmer who typically operates a labour intensive system of farming, labour maintenance represents one of his major farm expenses.

According to Adam (1980) due to the supply strategy adopted in many developing countries, the following assumptions are made that:

1. At farm house hold level, the poor face credit shortages
2. They pay exorbitant amounts for the use of informal credits
3. Most farmers need additional loans in order to adopt profitable new technology
4. Interest charges make up the bulk of the borrowing cost of farmers.
5. Concessionary interest rates are needed in formal loans to induce farmers to borrow.

According to him, policy makers have concluded that rapid expansion in the supply of financial services combined with concessionary interest rates and non – market loan rationing can be used to accelerate economic development. The most basic notion behind using the technique of supply increases is that of sufficient loanable funds are poured into rural financial markets, eventually some of these funds will further down to the desired target groups (Adams, 1980)

But for supply of credit to march demand, precise estimation in estimating the demand are not satisfactory. Therefore, Demand of credit for different schemes is over estimated. It should of course be apparent that demands for credit are far from being met by available funds.

# CHAPTER THREE

## 3.0 METHODOLOGY

### 3.1 AREA OF STUDY

The study area is Doko Local government area, Niger State. Doko local government was created in 2002. The local government lies between latitude 8°36' and 9°10' North and longitude 5°50' to 10' east with the estimated total land area of 1, 210 sq m km. it shares common boundary with Bida and Gbako local government areas to the north and in the East with Katcha local government area and Muregi local government to the South.

A successive survey conducted has shown its population estimate to be 155,000 (1991 estimates). Its main areas of population concentration are in Doko, Gaba and Jima towns. Agriculture is the main stay of the economy of Doko local government with the in habitants of this community being predominantly farmers; by occupation. The farmers are involved in seasonal farming and fishing activities. The agricultural sector practiced in the local government includes food production for subsistence purposes and some cash crops for sale. The main ethnic groups are nupes who constitute about 99% of the total population in the local government area while about 1% of the total urban population in the local government are Gwarris, Hausa, Igbos and Yorubas

Vegetation of the area is principally shrubs grassland, savanna tree at varying densities and reminant of high forest in the South with its topography being predominantly plain lands. Its climate is characterized by dry and wet seasons. The dry season is between November and April with a mean monthly temperature of about 35.5°C (87°F) and lowest in August. The rainy season is between May and October with mean

monthly temperature of about 25.1°C ( 77°F) and a mean annual rainfall which varies from around 1100mm in the North to more than 1600mm in the east. From April to October there is an influence of the dominance of the cool, moisture laden south westerly air masses. The consequence of this is reduction in temperature, increasing humidity and the annual rainfall distribution.

Major crops grown include Guinea corn, millet, yam, Bambara nut, potatoes, Rice, melon, groundnut and cassava. The area is rich in fertile soils which range from sandy, loam to clay loam. Animals reared include goats, cattle, sheep, poultry and pigeon.

## 3.2 SAMPLING PROCEDURE

In this study, rice producers were purposely identified through a cross – section sample survey design. The population for the study was made up of rice producers using credit and those who do not use credit for production. A sample size of 100 rice farmers was selected from 4 villages namely: (Doko, Batagi, Boku, Mambe) in the study area was used for this purpose. The sampling technique used was simple random sampling. The purpose of choice of this method was to give the farmers an equal and independent chance of being selected. Table 3.1 below is the sampling outlay for the study.

**Table 3.1: Distribution of farmers according to their sampling locations**

| Location / village | Sample size |
|---|---|
| Doko | 25 |
| Boku | 25 |
| Mambe | 25 |
| Batagi | 25 |
| Total | 100 |

## 3.3 METHOD OF DATA COLLECTION

The data for this study were collected from both the primary and secondary sources. The primary source was through the aid of structured questionnaire, 100 questions were administered to the respondents and 80 was returned. Also personal interviews and observations were employed in the course of the study. The data collected include:

i. The socio – economic characteristic of the respondents which include sex of farmer, age of farmer, family size, educational level, size of farm and farming experience. Economic variable such as income from rice farm, output. Data was also collected on problems faced by rice producing farmers in acquiring credit.

ii. Secondary data were obtained through books, journals, newspapers, seminars and paper presentations. Internet and other written documents related to the study.

## 3.4 ANALYTICAL TECHNIQUES

The analytical techniques in this study to achieve the objective of the study are:

i. Descriptive statistics

ii. Inferential Analysis

### 3.4.1 DESCRIPTIVE STATISTICS

i. Descriptive statistics have been generally used to describe and summarize a body of data in a format that best reveals the major characteristic features of the sample. In this study, descriptive statistics such as mean, percentage and frequency distribution was used to describe parameters as farmers age, farming

experience, literacy level and sources of credit to rice farmers and also used to achieve objectives 1, 2, 3 and 5.

ii. Inferential statistics

For this study, ANOVA was used to achieve objective 4.

## 3.5 LIMITATION OF THE STUDY

The study was not able to cover all the villages under the local government where rice is being produced. Therefore, four villages were selected. This is due to time factor and resource constraints; however only villages that benefited from the loan and have high potential for rice production were selected.

# CHAPTER FOUR

## 4.0 RESULTS AND DISCUSSION

The presentation of the outcome of field survey carried out through the use of structured questionnaires to farmers using credit and not using credit in rice production and its discussion is done in this chapter.

## 4.1 FARMERS' SOCIO – ECONOMIC CHARACTERISTICS

The important socio – economic characteristics of the farmers which were considered in this study include Age, educational level, farm size and farming experience

### 4.1.1 AGE

Age is a very important factor in production process, most especially rice production. The table below shows age distribution of farmers.

**Table 1: Age distribution of respondents**

| | Non – borrowers | | Borrowers | |
|---|---|---|---|---|
| Age (years) | Frequency | Percentage | Frequency | Percentage |
| 21 – 30 | 3 | 7.5 | 2 | 5 |
| 31 – 40 | 10 | 25 | 9 | 22.5 |
| 41 – 50 | 6 | 15 | 10 | 25 |
| 51 – 60 | 10 | 25 | 12 | 30 |
| 61 – 70 | 9 | 22.5 | 5 | 12.5 |
| 71 – 80 | 2 | 5 | 2 | 5 |
| Total | 40 | 100 | 40 | 100 |

Source: field survey (2005)

Non – Borrowers – mean = 50 years, minimum = 27 years, maximum = 68years

Borrowers – mean = 49 years, minimum = 28 years, maximum = 72years

Table 1 shows the age distribution of farmers. It was observed that the minimum age for non – borrowers was 27 years and 28 years for the borrowers. It was observed that 12.5% of the respondents (borrowers / non – borrowers) are 30 years below. This shows that the youth too are involved in rice production. This may be as a result of government's call to the youths to participate actively in agriculture to earn them means of livelihood.

The survey shows that 40% of the non – borrowers are between the ages of 31 and 50 years and 47.5% of the borrowers are also within the age range of 31 and 50 years. The implication is that people within this range are still virile and could do a lot of farm work if given necessary incentives.

However, maximum age for borrowers was 72 years and 68 years for non – borrowers. A positive relationship is known between age and credit (Adekanye 1983). The fact being that the older the farmer, the greater his awareness about the availability of credit, the better placed he is to meet lending requirements and the greater therefore his access to credit.

The second assumption is that the older the farmer, the more likely he is to have a large household and a greater probability for him to expand production for consumption and for sale to meet financial obligations. Therefore, the need for credit to increase his production in order to achieve his needs.

### 4.1.2 EDUCATIONAL LEVEL

The number of years the respondent spent in formal education contributes significantly to the understanding and adoption of new agricultural practices. Education is one important socio – economic variable that influences farmers' decision because of its

sharp influence on farmers awareness, perception and adoption of modern technologies in that education raises the skill and qualities of farmers, narrows down their information gap and also increases their allocative abilities, thereby leading to more productive performance (Asogwa, 1987). Therefore a highly educated farmer will also find it very easy to find credit than a non – educated farmer.

**Table 2: Educational status of respondents**

| | Non – borrowers | | Borrowers | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| Non formal Education | 19 | 47.5 | 13 | 32.5 |
| Quaranic | 11 | 27.5 | 9 | 22.5 |
| Adult Education | 7 | 17.5 | 5 | 12.5 |
| Primary | 3 | 7.5 | 6 | 15 |
| Secondary | ___ | | 5 | 12.5 |
| Poly/University | ___ | | 2 | 5 |
| Total | 40 | 100 | 40 | 100 |

Source: field survey (2005)

Table 2 shows the educational status of respondents (borrowers and non borrowers). It shows that 47.5% of non – borrowers had no - formal education while the percentage of Borrowers with no formal education was 32.5%. None of the non - borrowers had either a secondary or tertiary education but about 5% of the borrowers had tertiary education. It was also noted that 52.5% of the non – borrowers had undergone one form of education (Quaranic, Adult and Primary Education) while about 67.5% of borrowers had also undergone one form of education.

This would invariably promote adoption of new technology and techniques in traditional agriculture. Also (Asogwa 1987) in his work pointed out that formal education enhances the farmers entrepreneurial ability, defined as the ability to perceive, interpret and respond to new events in the context of innovations and farmers appreciating the demands of modern farming.

The educational level of respondents above shows how well informed farmers are about the credit facilities. This is because the borrowers have more educational qualifications than the non – borrowers.

### 4.1.3 FARM SIZE

Land is the most valuable asset a farmer possesses, due to the fact that it is a basic resource for farming. The size of farmland determines the level of capital investment which may consequently influence the farmers' decision to seek for credit.

**Table 3: Hectarage cultivated by respondents**

| | Non – borrowers | | Borrowers | |
|---|---|---|---|---|
| Farm size | Frequency | Percentage | Frequency | Percentage |
| 1 – 1.5 | 1 | 2.5 | — | — |
| 2 – 2.5 | 5 | 12.5 | — | — |
| 3 – 3.5 | 8 | 20 | 14 | 35 |
| 4 – 4.5 | 13 | 32.5 | 7 | 17.5 |
| 5 – 5.5 | 5 | 12.5 | 9 | 22.5 |
| 6 – 6.5 | 4 | 10 | 4 | 10 |
| 7 – 7.5 | 2 | 5 | 3 | 7.5 |
| 8 – 8.5 | 2 | 5 | 3 | 7.5 |
| Total | 40 | 100 | 40 | 100 |

Source: field survey (2005)

**Table 4: classification of the farmers according to farming scale**

| | Non – borrowers | | Borrowers | |
|---|---|---|---|---|
| Farming scale | Frequency | Percentage | Frequency | Percentage |
| Small scale 1.0 – 5.0 ha | 27 | 67.5 | 21 | 52.5 |
| Large scale 5 – 8.5 ha | 13 | 32.5 | 19 | 47.5 |
| Total | 40 | 100 | 40 | 100 |

Source: field survey (2005)

The study shows that 12.5% of the non – borrowers cultivated farm size of 2 – 2.5 ha, those who owned farmland from 1 – 1.5 accounted for 2.5%, also 20% cultivated

farmland ranging between 3 – 3.5 ha. Also 12.5 cultivated between 5 – 5.5ha, while 20% cultivated between 6 and 8.5ha.

For the borrowers, none of the farmers cultivated farmland less than 3 ha, 35% cultivated 3 – 3.5ha, 17.5% cultivated 4 – 4.5ha. 22.5% cultivated 5 – 5.5ha, while 25% cultivated between 6 and 8.5ha.

Furthermore for the purpose of this study farm size range of 1 – 5.0ha and 5ha and above have been chosen to represent small and large scale farms respectively. 32.5% of the non – borrowers cultivated large scale farms while 47.5% of borrowers cultivated large scale farms also (Table 4). In this regard, it can be seen that more of the borrowers cultivate larger farmland size compared to the non – borrowers. This could be due to borrowers' access to funds that enable them to source for more land and increase their farm sizes.

This implies that the larger the farmland the greater the input requirement which quite often cannot be met from personal savings, thereby necessitating borrowing. Barau (1987) also reported that as the farm size increases, farms become more specialized and the need for large investments in the latest technologies also increases and to meet those requirements, majority of farmers would seek for credit.

In this regards it was found from the study that majority of the borrowers (52.5%) were small scale farmers before acquiring credit. Therefore accessibility of farmers to funds is one of the factors affecting farm size. (Osuntogun, 1980)

### 4.1.4 FARMING EXPERIENCE

Most researchers and institutions use years of farming experience of farmers in lieu of management as a factor of production

**Table 5: Distribution of respondents according to years of farming experience**

| | Non – borrowers | | Borrowers | |
|---|---|---|---|---|
| (Years) farming experience | Frequency | Percentage | Frequency | Percentage |
| 1 – 5 | 4 | 10 | 4 | 7.5 |
| 6 – 10 | 22 | 55 | 20 | 50 |
| 11 – 15 | 8 | 20 | 9 | 22.5 |
| 16 – 20 | 5 | 12.5 | 5 | 15 |
| 21 – 25 | 1 | 2.5 | 2 | 5 |
| Total | 40 | 100 | 40 | 100 |

Source: field survey (2005)

Non – borrowers mean = 10 years, minimum = 3years, maximum = 21 years

Borrowers mean = 11 years, minimum = 4years, maximum = 23 years

From the result of the analysis shown in table 5, it was found that 85% of non borrowers have farming experience ranging between 1 – 15 years, while 15% had 16 – 25 years of farming experience.

The borrowers (80%) have farming experience ranging between 16 – 25. The mean year of experience for the borrowers was 11 years and 10 years for non – borrowers. Considering this, it can be said that the borrowers have more years of farming experience than the non – borrowers.

Therefore the years of experience of a farmer in farming does affect his management ability and decision in many farm operations. Table 5, shows that rice farmers have accumulated a wealth of experience in rice farming business such that they

are more familiar with credit sources. Also Osuntogun (1980) noted that several factors are known to affect the credit needs of farmers prominent among these factors are farm experience.

## 4.2 FINANCING FARMING ACTIVITIES

Apart from looking into how farmers were able to finance their farming activities, this section also highlights the various sources of credit available to the farmers (Borrowers) under study.

Most of the interviewed farmers disclosed that their farming operations have previously been financed through personal effort i.e. sourcing fund from their savings, sales of crops and assets. However due to inadequacy of finance from this source and coupled with the increasing desire to raise their productivity the need to seek for agricultural credit became very imperative.

### 4.2.1 SOURCES OF CREDIT AVAIALBLE TO BORROWERS (RICE FARMERS)

The study revealed that rice farmers (Borrowers) in the area of study acquire their credit from commercial bank, community bank, cooperative societies; and village money lenders.

There were 2 banks operating in the area; union bank of Nigeria plc (UBN) located in the neighbouring Bida local government Area (LGA) which serve the Agricultural credit needs of the farmers in the location of the study, Bejin Community bank, Doko.

**Table 6: Distribution of Respondents according to source of credit**

| Sources | Frequency | Percentage |
|---|---|---|
| Friends and money lenders | 2 | 5.0 |
| Cooperative societies (groups) | 3 | 7.5 |
| Commercial Bank (UBN) | 34 | 8.5 |
| Community Bank (Bejin Community Bank Doko) | 1 | 2.5 |
| Total | 40 | 100 |

Source: field survey, 2005

Table 6 shows that 7.5%of the farmers obtained their credit from cooperative societies while 5% procured theirs from money lenders. 2.5% representing an individual farmer who obtained his credit from Bejin Community Bank Doko. Majority, 85% of the farmers obtained their credit from Union bank of Nigeria (Bida) this statistics indicates that UBN is simply the major supplier of Agricultural credit to rice farmers in the study area. Therefore it can be inferred that the role of UBN in financing rice farmers is in Doko, Batagi; Mambe and Boku cannot be under estimated.

### 4.2.2 CREDIT FACILITIES FROM FORMAL AND INFORMAL INSTITUTIONS

**Table 7: Formal and informal sources of credit.**

| Type of source | Frequency | Percentage |
|---|---|---|
| Formal | 38 | 95 |
| Informal | 2 | 5 |
| Total | 40 | 100 |

Source: field survey, 2005

During the study it was discovered that more farmers, about 95 percent used formal credit (e.g. cooperative society and banks) than informal credits 5% (Table 7). The earlier findings in this study which revealed that majority of the borrowers were educated or literate (table 2) explains this observation. They (majority of the borrowers) were able to fill forms and accomplish all other relevant loan application processes which, thus places them in a vantage position to acquire credit from formal sources.

## 4.3 IMPACT OF CREDIT

The impact of credit refers to the positive or negative influence which access to credit had on the rice farmers in the survey area. Having collected the credit and using it for farm operation, it is therefore necessary to assess its impact. To determine this, the output of the borrowers and non borrowers was compared. Also compared were amount of labour used and adoption of technologies.

### 4.3.1 IMPACT OF CREDIT ON FARM PRODUCTION

Agriculture production practically involves employment of resources such as land, labour and capital which include farm inputs like seeds, fertilizers, pesticides and

farm machineries. The amount and quality of these resources utilized in farm production is a function of financial resources at the farmers' disposal. This subsection therefore assesses how farmers used the financial opportunity provided by the credit collected on the utilization of land, labour and of course improved practices towards increasing their farm output.

### 4.3.2 FARMERS FARM SIZE AFTER COLLECTING CREDIT

**Table 8: Hectarage cultivated by respondents after collecting credit**

| | Non – borrowers | | Borrowers | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| 1 – 1.5 | 1 | 2.5 | — | — |
| 2 – 2.5 | 5 | 125 | — | — |
| 3 – 3.5 | 6 | 15.0 | 9 | 22.5 |
| 4 – 4.5 | 13 | 32.5 | 4 | 10.0 |
| 5 – 5.5 | 7 | 17.5 | 12 | 30.0 |
| 6 – 6.5 | 4 | 10.0 | 7 | 17.5 |
| 7 – 7.5 | 2 | 5.0 | 5 | 12.5 |
| 8 – 8.5 | 2 | 5.0 | 3 | 7.5 |
| Total | 40 | 100 | 40 | 100 |

Source: field survey, 2005

From the survey, 37.5% of the non – borrowers cultivated large scale farms during the 2005 farming season. This represents only a very little increment of 5% over the 2004 farming season as revealed in Table 3. It can be deduced from the study that only 2 non – borrowers moved up to operate large scale farm in the present farming

season. This could be attributed to the fact that non – borrowers have funds in short supply, that is they depend on income from sales of produce which would ordinarily not really enhance further production.

For the borrowers, Table 4 indicates that 47.5% were large scale farmers. However, after the credit was collected 67.5% cultivated on a large scale, representing a 20% increment. Therefore, access to credit enabled the borrowers to expand production when compared to non – borrowers. To this effect Ilebami (1983) in his study of the impact of loan scheme on food producing farmers showed that cultivation of larger hectarage by farmers (borrowers) would certainly lead to earned larger total and net incomes than non – borrowers.

### 4.3.3 LABOUR SOURCES FOR BORROWERS AND NON BORROWERS

**Table 9: Distribution of respondents according to sources of labour**

| | Non – borrowers | | Borrowers | |
|---|---|---|---|---|
| Labour use | Frequency | Percentage | Frequency | Percentage |
| Family labour | 17 | 42.5 | 9 | 22.5 |
| Hired labour | 10 | 25.0 | 19 | 47.5 |
| Group labour | 12 | 30.0 | 11 | 27.5 |
| All of the above | 1 | 2.5 | 1 | 2.5 |
| Total | 40 | 100 | 40 | 100 |

Source: field survey (2005)

The distribution of the respondents according to labour sources is shown in table 9. The analysis revealed that 22.5% of the borrowers used family labour and 47.5% used

hired labour as compared to the non – borrowers with 42.5% using family labour and 25% using hired labour.

The results indicate that more of the borrowers used hired labour as compared to non – borrowers. This is due to the fact that small holder agriculture is characterized by labour – intensive technology and low labour productivity, because farmers lack the complementary inputs that will raise their labour productivity.

Therefore, access to credit enables the borrowers to use more hired labour when compared to non – borrowers: this view is likened to Osuntogun (1980) which states that availability of labour influences farm size which would certainly affect production.

### 4.3.4 OUTPUT LEVELS OF BORROWERS AND NON BORROWERS

**Table 10: The minimum and maximum output levels of respondents**

| | Minimum (50kg bags) | Maximum (50kg bags) | Mean |
|---|---|---|---|
| Borrowers | 10 | 150 | 57.1 |
| Non - Borrowers | 8 | 89 | 35.77 |

Source: field survey (2005)

Table 10 shows that the borrowers had a minimum output of 10 bags (50kg bags) as compared to the non – borrowers output of 8 bags. The maximum output of the borrowers is 150 bags while the non – borrowers are 89 bags. The very narrow output per bag of respondents was due to the occurrence of natural disaster (flood) during the farming season where farmlands were submerged. A personal interview with the borrowers with a minimum of 10 bags says that there last output was 95 bags and that

with the acquiring of credit and before the disaster, they were sure of getting over 180 bags.

Despite the disaster upon farmlands, especially in Mambe and Boku; where rice production is at its peak and cultivated on several hectares. The above results show that the borrowers had higher yield as compared to the non – borrowers; it is expected that in the face of such adversities the output of the borrowers is expected judging from their more beneficial position of having higher educational qualification, larger farmlands, access to credit, more farming experience, use of hired labour and the fact that they adopted technology as compared to the non – borrowers.

As was shown in table 4, 67.5% of the borrowers cultivated large scale farms and above;while 37.5% non – borrowers cultivated same. Therefore more of the borrowers are relatively large scale farmers compared to the non – borrowers.

As a result of the flood which submerged the farmlands, farmers visibly showed their anger when interviewed due to low output turnout in bags, refused to talk about their income saying that due to low output there was little or no income but were fast to say that if not for the credit obtained most of them would have had no output at all. Therefore, it is safe to say that the impact of credit was acknowledged. So as a result of this, impact on credit on farmers income could not be measured during the study but was determined with output which was quite positive in the face of adverse farming conditions.

### 4.3.5 ADOPTION OF TECHNOLOGY AMONG BORROWERS AND NON-BORROWERS

Miller (1977) argued that agricultural credit schemes require much more than providing additional credit. He maintained that unless the right conditions such as (new improved technology, timely supply of farm inputs and adequate markets for inputs and outputs) exists, extending credit to small scale farmers will be a disservice. Where these conditions exist or can be created, agricultural credit can give a strong boost to agricultural development.

**Table 11: Proportion of farmers who adopted innovation**

| | Non – borrowers | | Borrowers | |
|---|---|---|---|---|
| Adoption of innovation | Frequency | Percentage | Frequency | Percentage |
| Yes | ___ | ___ | 30 | 75 |
| No | 40 | 100 | 10 | 25 |
| Total | 40 | 100 | 40 | 100 |

Source: field survey, (2005)

**Table 12: Distribution of farmers according to type of innovation adopted**

| Borrowers (adopters) | Use of improved seeds | Use of pesticides | Use of recommended Fertilizer | Application of fertilizer appropriate time. |
|---|---|---|---|---|
| Total number of adopters | 30 | 30 | 30 | 30 |
| Frequency | 8 | 3 | 30 | 26 |
| Percentage % | 26.2 | 10 | 100 | 86.6 |
| Total | 40 | 100 | 40 | 100 |

Source: field survey (2005)

According to Aihonsu (1993) financing the adoption of modern inputs and other farm innovations for modernizing and transforming agriculture is a key requirement for bringing about increased farm production. Results in table 11 indicates that none of the non- borrowers adopted any new technology while 75% of the borrowers adopted one form of innovation or the other.

The most commonly adopted innovations among the interviewed farmers (borrowers) after obtaining credit were use of recommended fertilizer, its application at appropriate time, the use of genetically improved varieties. This is evident from the results presented in table 12.Out of 30 respondents who adopted the practice, 86.6% of them adopted the practice of using the fertilizer at the appropriate time while all of the respondents adopted the practice of using a recommended fertilizer.

However, in the cause of study, it was observed that the use of improved seed variety and pesticides were the least adopted practices among the respondents. This could

be linked to insincerity on the part of the credit institution which the respondents pointed out bitterly in the course of the field study.

## 4.4 COMPARISON OF THE AVERAGE OUTPUT FOR FARMERS WITH CREDIT AND WITHOUT CREDIT IN RICE PRODUCTION

This section helps to explain whether there is a statistical significant difference between the output of the borrowers and the non borrowers. To determine this, ANOVA test was carried out and tested at 0.05 level of significance.

### 4.4.1 HYPOTHESIS

$H_0$ – There is no significant difference in the average output between farmers using credit and those not using credit

$H_1$ – There is significant difference in the average output between farmers using credit and those not using credit.

**Table 13: Result of average output for rice production of farmers with and without credit**

| | N | Mean | Std Deviation | Std Error |
|---|---|---|---|---|
| Borrowers | 40 | 57.100 | 28.26777 | 4.46953 |
| Non – Borrowers | 40 | 35.7750 | 22.38416 | 3.53925 |
| Total | 80 | 46.4375 | 27.51287 | 3.07603 |

| | Sum of squares | df | Mean square | Fcal | Ftab | P. value | Decision |
|---|---|---|---|---|---|---|---|
| Between Groups | 9095.113 | 1 | 9095.113 | 13.991 | 3.92 | .000 | $P < 0.05$ |
| Within Groups | 50704.575 | 78 | 650.059 | | | | |
| Total | 59799.688 | 79 | | | | | |

Source: field survey, (2005)

The result indicated that the mean output of farmers with credit was 57.1 and was greater that those without credit whose mean output was 35.77. The F calculated (13.991) was greater than F tab (3.92) at 0.05 level of significance. This means ($P < 0.05$). It can be deduce that there is a highly significant difference in the average output of farmers with credit and those without credit; meaning there is a great impact of credit on the output of borrowers in the area under study.

According to decision rule, if F cal is greater than F tab, $H_0$ (null hypothesis) should be rejected and $H_1$ (alternative hypothesis) should be accepted. Therefore $H_1$ accepted and this further implies that there is a significant difference between the average output among farmers using credit and those without credit.

## 4.5 CONSTRAINTS FACED BY RICE PRODUCING FARMERS IN ACQURING CREDIT

**Table 14: Distribution of farmers according to problems encountered in relation to credit.**

| Constraints | Frequency | Percentage |
|---|---|---|
| a. Delay in loan disbursement | 6 | 15 |
| b. Long distance from credit source | 1 | 2.5 |
| c. Cumbersome collateral requirements | 1 | 2.5 |
| d. High interest rate (19%) | 14 | 35 |
| e. High interest rate and small loan size | 5 | 12.5 |
| f. Long distance from credit source and small loan size | 1 | 2.5 |
| g. Cumbersome collateral requirement and High interest rate | 2 | 5.0 |
| h. Delay in loan disbursement and high interest rate | 5 | 12.5 |
| i. Small loan size | 5 | 12.5 |
| Total | 40 | 100 |

Source: field survey, (2005)

The constraints enumerated by the borrowers as it affects credit acquisition in the study are presented in table 14. Some of these problems were

a) Delay in loan disbursement – 15% of the respondents
b) High interest rate - 35%; which were the major problem that the respondents are faced with.
c) Small amount of loan – 12.5% of the respondents
d) Long distance from credit sources - 2.5% of the respondents

e) Cumbersome collateral requirement – 2.5% of the respondents

Some of the respondents had multiple or more problems. 12.5% had problems of high interest rate and small amount of loans. 2.5% had problem of long distance from credit source and small amount of loan. 12.5 % had problems with delay in loan disbursement and high interest rate.

The responses of the respondents showed that the borrowers were faced with a lot of problems which could be viewed as coming from the part of the credit institutions. Therefore more work needs to be done in putting our credit institutions right, so that these problems are minimized and farmers would not be discouraged from borrowing as a result of these artificial problems created by credit institutions.

**Table 15: Distribution of farmers according to the problem of loan repayment**

| Problems | Frequency | Percentage |
|---|---|---|
| Rising cost of production | 10 | 25 |
| Low market price | 8 | 20 |
| Natural disaster (flood) | 22 | 55 |
| No problems | – | – |
| Total | 40 | 100 |

Source: field survey, (2005).

Table 15, revealed that natural disaster (flood to be specific) was a major problem farmers faced during the farming season especially Boku and its now a major factor militating against loan repayment due to low output. This implies that a lot of work still needs to be done in sensitizing the farmers on modern agricultural practice.

# CHAPTER FIVE

## 5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary of findings, conclusion and recommendations

## 5.1 SUMMARY

The study is aimed at describing some selected socio–economic characteristics of rice farmers and to identify the various sources of credit available to rice producing farmers in the study area as well as compare the output of farmers in rice production. To achieve this aim, a total of 80 farmers ere randomly selected, descriptive statistics and ANOVA test were used for data analysis.

The study revealed that 47.5% of borrowers are within the range of 31 – 50 years while 40% of the non – borrowers are within same range. Meaning that quite a number of the farmers are within the active farming age.

About 45% of borrowers have attained certain levels of education ranging from Adult education to tertiary while 25% of non – borrowers have (Adult education and primary). Also 37.5% of non – borrowers cultivated land area of 5.0 hectares and above while 67.5% of borrowers cultivated farm size of 5.0 hectares and above. Non borrowers mean farming experience was 10 years as compared to that of borrowers' which was 11 years.

Credit had a positive impact on rice output. Maximum output of borrowers was 150 bags that of non – borrowers was 89 bags. Analysis of variance (ANOVA) was used to determine whether there is a significant difference in the average output of the farmers of which the result indicates that there is significant difference in the average output of borrowers and non – borrowers. This means $P < 0.05$ and also the mean output

(57.1kg/ha) of borrowers was higher than the mean output (35.77kg/ha) of non – borrowers; which also indicates difference in the output of two categories of farmers.

Borrowers (47.5%) used hired labour while 25% of non – borrowers used hired-labour. Similarly, 75% of borrowers also adopted a new technology (improved seeds, pesticides, recommended fertilizer) while none of the non – borrowers adopted any technology.

Sources of credit available to the borrowers were formal and informal sources.95% obtained credit from formal sources (UBN); while 5% obtained credit from informal sources. Problems encountered in obtaining credit from formal sources were delayment in loan disbursement, high interest rate (19%) and small loan size.

## 5.2 CONCLUSION

For the small scale farmers operating with little or no improved capital, access to credit is critical for production purposes. From the foregoing analysis, the following conclusion were made; farmers in the area rely more on credit from formal sources like (UBN) for their credit requirement. More farmers would participate in credit programmes if adequate credit is approved for them, therefore credit is a necessary instrument to facilitate the process of agricultural development to meet the continuous increasing demand of the growing population.

## 5.3 RECOMMENDATIONS

In order to make farm credit more meaningful to farmers in the study area the study recommends that;

Farmers should be encouraged to group themselves into several kinds of saving associations in order to enable farmers benefit from more loan from credit institutions.

There should be sincerity of purpose on the part of the credit institutions especially the formal credit institutions in their dealing with farmers and not seeing their ability to offer credit to farmers as a way of exploiting farmers or an extra profit making business for officials.

Efforts should be made at simplifying conditions of credit from the formal sources to the farmers such as collaterals, the documentation process and other protocols should be made as simple as possible in order to attract farmers. Banking scheme should be made more useful, transparent and reinforced to cover all the rural areas in Nigeria. Credit supplied to farmers should be backed up with support services.

The amount of interest charge on loanable fund by both formal and informal credit markets should be simple in such a way that it will not discourage farmers from obtaining credit for production

Both formal and informal credit institution should be given the necessary opportunity to exist side by side so as to widen the sources of obtaining loan in order to lift the farmer's productivity beyond subsistent level.

Abalu (1984) identified the small peasant Nigerian farmers as the most effective means of meeting the food needs of the country. Yet the farmer continues to remain the external policy underdog. Therefore this group of farmers should be encouraged by involving them in policy formation that affects them.

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## QUESTIONNAIRE

Project topic: impact of credit on rice production a case study of Doko L.G.A Niger State

Dear respondent:

All the information here are for research purposes and it shall be treated with absolute confidentiality.

**SECTION A:**

Personal characteristics of the farmer

1) Name of village _____
2) Sex _____
   a. Male ☐ b. Female ☐
3) Marital status
   a. Single ☐ b. Married ☐ c. Divorced ☐
4) What is your age? _____
5) Level of education
   a. No formal ☐ b. Quranic education ☐ c. Adult education ☐
   d. Primary ☐ e. Secondary ☐ f. Poly / University ☐
6) How long have you been in rice farming
   a. 1 – 5 yrs b. 6 – 10 yrs c. 11 – 15 yrs d. 16yrs and above
7) How many crops do you grow in your farm apart from rice? _____
8) What is the area of land cultivated (hectares) last season? _____
9) Are you a co-operative member? a. Yes b. No

**SECTION B: SOURCES OF AGRICULTURAL CREDIT**

10) Did you obtain credit for your farm operation?
    a. Yes ☐ b. No ☐

i. If yes , what were your source of credit
   a. Commercial bank
   b. Agricultural co-operative societies
   c. Friend and relatives
   d. Local contribution
   e. Own savings
   f. Others specify

ii. For what purposes did you borrow?
   b. Buying farm implements and equipment

c. Hiring
d. In purchasing farm labour
e. In purchasing improved seedling; agrochemical fertilizer
f. Land purchase
g. Solving family problems
h. Others specify

iii. What kind of security did you offer for the credit obtained

a. Land b. Cash in banks c. Crops d. Others (specify)

II If your answer to question 9 is "No" what was your reason

a. No need for credit
b. Lack of credit
c. Not ware of credit availability'
d. Others specify

ii. What is your rice output _____ / bag

**SECTION C: AMOUNT OF CREDIT FACILITY AND PRODUCTION**

11) How much credit did you apply for?

I. 10, 000 – 20,000
II. 20,000 – 30,000
III. 30,000 – 40,000
IV. 40,000 – 50,000
V. 50,000 and above , specify _____

12) What amount of credit did you obtain? _____

13) What is the total amount invested in production? _____

14) What is the size of farm land

i. 1 – 5ha ii. 6 – 10 ha iii. 11 – 15ha iv. 16ha and above

15) How did you acquire the land on which you are farming?

a. Gift b. Inheritance c. Rent d. Community

16) How was the credit used

I. Consumption purposes
II. Purchase of fertilizer, improved seeds, pesticides
III. Purchase of irrigation development, machines
IV. Agricultural marketing
V. Employment of more labour

VI. Establishment of new farm

VII. Expansion / maintenance of existing farm

17) Did you plead a collateral?

a. Yes ☐ b. No ☐

18) What is the monetary value of the collateral you plead _____

**SECTION D**

19) Did the credit obtained from the bank impact on the crop produced and income

a. Yes ☐ b. No ☐

20) What was your rice output before you obtained credit? _____ / bag

21) What was your rice output after you obtained credit? _____/bag

22) Was there an increase in your income due to use of credit?

a. Yes, specify _____ to _____

b. No, specify _____ to _____

23) Below are list of possible problems encountered in procuring credit. Tick likely one that affects you

I. Provision of security

II. Lending policies of credit institutions

III. Lack of knowledge of rules and regulations

IV. No problems

24) Did you encounter the following problems in repayment of the credit?

I. Raising cost of production V. No problems

II. Low market price

III. Family responsibilities

IV. Natural disaster