THE DETERMINATION OF CREDIT NEEDS AND FACTORS AFFECTING REPAYMENT ABILITY OF FARMERS' CO – OPERATIVE SOCIETIES IN KOGI STATE

BY

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DECLARATION

I declare that the work in the thesis entitled 'The determination of credit needs and factors affecting repayment ability of farmers' cooperatives societies in Kogi State' has been performed by me in the department of Agricultural Economics and Rural sociology under the supervision of Prof. J.O. Olukosi and Dr. Ben Ahmed.

The information derived from literature has been duly acknowledged in the text and list of reference provided. No part of this thesis was previously presented for another degree or diploma at any university.

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CERTIFICATION

This thesis entitled 'THE DETERMINATION OF CREDIT NEEDS AND FACTORS AFFECTING REPAYMENT ABILITY OF FARMERS' COOPERATIVE SOCIETIES IN KOGI STATE' by Adah, Lilian Ojochide meets the regulations governing the award of the degree of Master of science of Ahmadu Bello University, Zaria, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This thesis is dedicated to the memory of my beloved brother **Mr. Anthony Idenyi Adah.**

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ABSTRACT

This study was conducted in three Local Government Areas in Kogi State namely Dekina, Lokoja and Ijumu. The objectives were to describe the socio-economic characteristics of members of farmers' cooperative societies; determine their credit needs; determine the relationship between their credit needs and socio-economics characteristics; determine their level of loan repayment and determine factors that affect their repayment ability. Both primary and secondary data were used for this study. Analytical tools used were descriptive statistics, Budgeting techniques and regression analysis. The study revealed that most of the members of farmers' cooperative societies (88%) in the study area were within the ages of 15-64 years defined by FAO as economically productive age. There were more males (93.3%) than females (6.7%) members of farmers' cooperative societies. Most (88%) of the respondents attained both formal and non-formal education. The average family size in the study area was 9 persons. About 60% of the respondents had between 1 to 3 hectares of land and a majority (66%) had over 10 years of farming experience. About 67% of the respondents practiced other occupations such as civil service, brick laying, trading and so forth apart from farming. The study revealed that farmers estimated credit needs ranged from ₦2,520 to ₦35,100. The results of the linear regression between socio-economic characteristics and credit needs showed that age, farming experience, farm size, non – farm activities and cost of production were significantly related to credit needs. Also, the result of the logistic regression showed that family size, farming experience, farm size, membership of organization, non-farm activities and return to investment to significantly ($P = 0.05$) affect repayment ability in the study area. In conclusion, credit is needed by members of farmers' cooperative societies in the study area, the identification of

socio-economic factors that affect credit needs and repayment ability will help emphasis factors that should be considered before loan disbursement as this will go a long way to curb or reduce the level of loan default. The credit worthiness model will help identify financial capability of a borrowers before any loans are disbursed to help curb non-repayment. On the basis of the findings of the study, it is recommended that there is need for the availability of credit to farmers for procuring inputs and the credit should be made available through well established and registered farmer groups for easy monitoring, evaluation and the recovery of such credit. The repayment ability of prospective borrowers should be analysed before any form of credit is disbursed, such that where probability of recovering the loan/credit is low such applications should be rejected. Insurance policies should be extended to cover both farm and non-farm enterprises to encourage more banks to make credit available to farmers. The Agricultural Credit Guarantee Scheme Fund (ACGSF) should speed up settlement of claims to banks involved in the scheme to encourage greater participation in the scheme. Farmers need to be educated on the fact that repayment is vital to project performance and lender's survival. Prompt repayment should be rewarded and farmers should be encouraged to keep savings accounts with banks of their choice.

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CHAPTER ONE

INTRODUCTION

Agriculture was the main stay of Nigeria's economy at independence in 1960, contributing about 58.7% to the total Gross Domestic Product (GDP) but this plummeted down to 26.4% in 1985 and 15% in 1990, agricultural export crashed from 50% in 1960 to a shameful 2% in 1990. In 2000, agriculture contributed as low as 5% to the GDP (Odigbo, 2000). The Nigerian agricultural sector was unable to fulfill it's most basic and traditional role of being the source of food for the nation despite the fact that about 60-70% of Nigeria's working population are engaged in agriculture therefore food import continued to rise (Adegeye, 2002; Odigbo, 2000; CBN, 1991). However, in the last few years agriculture has increasingly been contributing to the GDP. Agricultural output grew at an average of 8.21% in 2005 from 4.44% and 7.5% in 2003,2004 respectively (CBN, 2004). Now agriculture contributes the largest share of about 40% to the GDP (CBN, 2004; Anonymous, 2004; Bureau of Public Enterprises, 2006).

About 94.37% of farmers in Nigeria are small scale when judged by standards in developed countries, where all farms less than 10 hectares are classified as small scale. About 98% of food crops are produced by the small scale farmers though their access to agricultural innovations are often limited by unfavorable economic, socio-cultural and institutional conditions (Ogungbile and Olukosi, 1991; Ozowa, 1995; Olubiyo and Hill, 2002). Many factors

have contributed to the decline in agricultural production in Nigeria. Insufficiency of capital has been a major constraint to agricultural development (Agu, 1998). In order to increase agricultural production, modern farm inputs such as fertilizer, improved variety of seeds and seedlings, feeds, plant protection chemicals and agricultural machinery are needed over the hoe and cutlass technology. These improved technologies enhance farmer's productivity (Oludimu and Fabiyi, 1984).

Most of these new technologies have to be purchased; yet, very few farmers have the financial resources to finance such purchases. A greater majority of the farmers are caught in a vicious cycle of poverty, that is, low level of income leading to a low rate of savings which in turn leads to low rate of capital investment which leads to low level of agricultural production and income generation. In order to escape from this vicious cycle or cushion the adverse effect of this cycle suffered by most farmers, the farmers need some outside financial assistance (Ater, *et al.,* 1991). There are various sources of agricultural credit in most developing countries. The problem is that many of the sources are inefficient and ineffective probably because they are not well adapted to finance agricultural development. These sources can be categorized into two financial markets: institutional and non – institutional. The institutional sources include government lending agencies, farmers' cooperative societies, cooperative banks, commercial and merchant banks. The non-institutional sources include local money lenders, relatives and friends and so forth (Agu, 1998).

The Food and Agricultural Organization (FAO) defines Cooperative as a business organization owned by those who use its services. The control also rests equally with all its members and the surplus earnings of which are divided amongst themselves in proportion to the shares each member holds in the cooperative society (Thordason, 1990). Cooperatives can also be defined as the association of persons usually of limited resources or means who have voluntarily joined together to achieve a common economic gain through the formation of democratically controlled business organization making equitable contributions to the capital required and accepting a fair share of the risks and benefits of the undertakings (Uotila and Dhanapals, 2003).

Farmers' cooperative societies grant most of their loans on short – term basis and only to their members. Certain conditions are usually required of members before farm loans could be granted. These include the requirement that the borrower must be a bona fide farmer resident in the area and should physically and other wise be able to manage and perform agricultural work. A prospective borrower is expected to use all agricultural loans in the manner agreed with the cooperative management. This is an advantage, which is aimed at efficient use of the available funds (Agu, 1998). The purpose of cooperative credit organization is to make credit facilities available to members at reasonable cost. Indeed, cooperatives are strongly recommended as channels for agricultural credit administration because the village cooperative is made up of villagers themselves and only a villager can rightly identify not only the village farmer but also his farm. Besides, there are no stronger corporate organizations at the grass root level other than cooperatives, through

which majority of our farmers could be reached, advised and assisted (Udeozo, 1998).

The success of many agricultural projects depends to a large extent on the availability of adequate financial resources and application of proper management principles. Over the years, deliberate efforts have been made to bring about agricultural development in Nigeria without much to show for it. Much of the failure can be attributed to the adapted transformation approach to agriculture where to achieve any level of productivity, mechanization is expected. This approach is characterized by the introduction of a wide range of large-scale farming and processing technologies. However, there is now a shift in emphasis from the big scale transformation approach to the small-scale improvement strategy approach, which is attuned to African age – long farming practices. This approach has enabled the farmers to achieve some level of efficiency through deployment of their indigenous knowledge (Ozowa, 1995).

Although farming in Nigeria is still far from the level attained in developed countries, it is gradually assuming modern characteristics such as the use of machineries, agro- chemicals and so forth.

1.1 PROBLEM STATEMENT

The provision of credit is considered necessary for short and long-term capital investment in agriculture since modern techniques and expansion of farm operations entails availability of financial resources. In recognition of the

necessity for credit to improve agricultural production, the Federal Government had established many agricultural credit programmes and directed commercial financial institutions to lend to agriculture however the various institutions providing credit are often reluctant to provide much assistance to the agricultural sector because of the more attractive returns from the other sectors of the economy. In addition, credit administration to individual farmers is costly due to the small size of individual farms coupled with the large size of the farming population. Thus, lending to farmers Co-operative Societies hold a lot of appeal as an alternative channel for the provision of farm credit though this has not been effective. Most of these programmes if not all have been disappointing, primarily due to non-repayment of loans by beneficiaries, in fact, many such programmes have folded up.

Based on the foregoing, this study intends to answer the following questions:

1. What are the socio-economic characteristics of members of farmers' cooperative societies affecting credit needs and repayment?
2. What are the credit needs of members of farmers' cooperative societies and the relationship between credit needs and socio-economic factors?
3. What factors determine the credit repayment ability of members of farmers' cooperative societies?
4. To what extent do the factors above affect the credit repayment of members of farmers' cooperative societies?

1.2 OBJECTIVES

The broad objective of this study is to determine credit needs and the relationship between socio-economic factors and credit needs as well as credit repayment ability of members of farmers' cooperative societies.

The specific objectives are to;

1. describe socio-economic characteristics of members of farmers' cooperative societies;
2. determine the credit needs of members of farmers' cooperative societies;
3. determine the relationship between the credit needs and socio-economic factors of members of farmers' cooperative societies;
4. determine level of repayment of credit among members of farmers' cooperative societies and
5. determine factors that affect repayment ability of members of farmers' cooperative societies.

1.3 JUSTIFICATION OF THE STUDY

Agricultural production was on the decline until recently when a steady increase in agricultural production has been recorded in terms of the contribution to the GDP (CBN, 2003 and 2004). In order to further boost agricultural production, modern techniques and expansion of farm operations have to be put in place; this entails financial resources, which lays credence to the essentiality of credit for agricultural production in general. It was in recognition of the necessity for credit to improve agricultural production that the Federal Government established the Nigerian Agricultural and

Cooperative Bank (now known as Nigerian Agricultural Cooperative and Rural Development Bank) in 1973. There were also programmes such as the Rural Banking Scheme, Agricultural Credit Guarantee Scheme, People's Bank and so forth but most of these programmes, if not all, have failed to meet the desired objectives of establishing them, due partly to incessant non-repayment of loans by beneficiaries. Hence, factors that affect credit needs of members of farmers' cooperative societies need to be studied to give an insight to how credit facilities obtained by members of farmers' cooperative societies are utilized.

This study will help in assisting farmers' cooperative societies with ways to curb non-repayment by beneficiaries. Credit delivery systems would also have criteria on how best to curb credit non-repayment of loans by members of farmers' cooperative societies. The findings of this study will assist policy makers in deciding on how credit delivery would be executed to boost agricultural production while curbing non-repayment. The result of this study will add to existing knowledge on credit needs and repayment ability of members of farmers' cooperative societies, particularly in the area of study.

1.4 HYPOTHESES

The following hypotheses would be tested

1. There is no significant relationship between the socio-economic factors and credit needs of members of farmers' cooperative societies.
2. Socio-economic factors do not significantly affect the repayment ability of

members of farmers' cooperative societies.

The above hypotheses would be tested as 2-tailed test, that is,

Ho : $b_1 = b_2 = b_3 =$ ---------- $b_{10} = 0$

H_A : $b_1 \neq b_2 \neq b_3 \neq$ ---------- $b_{10} \neq 0$

CHAPTER TWO

LITERATURE REVIEW

SIGNIFICANCE OF CREDIT IN AGRICULTURAL DEVELOPMENT

There is no doubt about the crucial role of credit in agricultural development. Credit has been found to be indispensable in the process of agricultural transformation. It is a key element in agricultural modernization. In a country caught up in the difficult situation of the vicious circle of poverty requires not only labour, land or management but an injection of capital to extricate it from that cobweb, (Ijere, 1986).

Not only can it remove a financial constraint but may provide the incentive to adopt new technologies that would other wise be slowly adopted. Credit facilities are also integral to the process of commercialization of the rural economy (World Bank, 1974). Mosher (1966), aptly labeled production credit an 'accelerator' rather than an 'essential' for agricultural development and emphasized that where proper conditions exist, well-managed production credit can give agricultural development a strong boost by accelerating the rate of adoption of new technologies. Ijere (1998), noted that credit can make the latent potential or underused capacities functional. In such situations credit acts as a catalyst that activates the engine of growth, enables it mobilize its inherent potentials and to advance in the planned or expected direction. It follows therefore that the greater the influx of capital the more the propensity of the economy to move in it's planned or expected direction. Conversely, if the economy receives less than its due share of credit input, its potential

would become dormant. Brenner (1971), also pointed out the important role credit plays in the development of agricultural production. He noted that its demand grows as development progresses.

According to Ogunfowora, *et al* (1972), the importance and need for rural credit is informed by among other reasons the lack of sufficient savings by subsistence farmers, seasonal nature of farm production and income generation which calls for short and medium term loans to finance production activities for better marketing of products and to expand the scale of farm operation. Miller (1977), identified scarcity of savings as one of the major constraints facing agricultural development. This he believed calls for the need to increase capital in agriculture through the use of credit. Igben (1973), noted that the purchase of physical and economic factors, which characterize agricultural production, necessitated the need for credit. Aku (1991), also pointed out that the small farmers are poor and must be given a fair chance to improve their lot. Their economic conditions can be improved only when their right to credit is ensured. It is believed that the government has a duty to these farmers to establish financial institutions that will guarantee this.

Okorie (1986) pointed out that under funding of agriculture has an imminent chain reaction such as stagnation in agricultural development, manifested in low productivity output levels, which translate to scarcity of food and raw material, possible closure of industries and retrenchment of workers, which could precipitate high levels of unemployment and possible socio-political unrest.

The provision of subsidized and easily accessible credit constituted a central theme of the agricultural development strategies in the 1970s and 1980s. It was argued that enhanced access to credit would accelerate technological change, stimulate national agricultural production through increased farm output and improve rural income distribution (Klein, *et al*., 1999). However, Nmadu (1998) reported that credit taken by small farmer in Doko and Jima districts of Niger State did not make any significant difference in their production and therefore, did not improve their income. Credit given to small scale farmers could make significant difference in their production and productivity if their socio-economic characteristics such as farm size and income are taken as determinants of their credit needs (Maiangwa, 1999).

There are many sources of financial credit facilities available to the farmer cooperative societies. These can be grouped into formal and informal sources of credit. The formal sources being financial institutions e.g. Agricultural/Cooperative banks, Commercial and Merchant banks. The informal sources are the local moneylenders, personal savings, family and friends (Agbo and Phillip 1991; Agu, 1998). The term credit was derived from the Latin word 'credo' meaning 'I believe' and it is defined as the ability to obtain title to and receive goods for use in the present while payment is deferred to a future date (Osuntogun and Oludimu, 1985). Credit represents that portion of the investment of a producer, which he cannot meet from his own resources to attain a target of production (Kashem, 1987). Agricultural credit encompasses all loans and advances granted to farmers (individuals or Cooperative societies) in activities related to agriculture. The need for credit

by farmers arises from the present day need for agricultural development, which involves adoption of new and better technologies by farmers to enhance productivity (Ozowa, 1995).

Jekayinfa (1981) saw the need for providing credit for farmers as being universal. He argued that credit could be used to foster and improve efficiency of agricultural development. This is evident in most countries of the world and in particular developing countries where most farmers operate at subsistence level. There is a growing need to inject capital into agriculture in order to increase production per farm worker and per hectare. It is worth noting that lack of financial sources is generally recognized as one of the major constraints not only in expanding production but also in modernizing agriculture. Recognizing the vital role of credit as a catalyst in stepping up agricultural production, Galbraith (1952) asserted that at certain stage in agricultural development, agricultural credit does become a strong force for further development. Ijere (1998) also noted that credit could be considered from its ability to energize or motivate other factors of production. Credit is important for agricultural development, credit is needed for agriculture to effectively perform its traditional role in the course of economic development.

Credit is also needed to overcome the problem of indivisibility of fixed capital, to expand the scale of production and reap the advantages of economics of scale, to adopt improved technology and thus shift the production function upward and to overcome the problem of lack of synchronization of income and expenditures. Credit, facilitates the training of

the right caliber of manpower, attract skilled manpower and provides them with a conducive environment for optimum performance (Onyenewaku, C.E. 2002). From the foregoing it is clear that credit is vital in agricultural development.

2.2 AGRICULTURAL CO-OPERATIVES IN NIGERIA

In solving the food problems of developing countries the formation of agricultural co-operatives would greatly facilitate it (FAO 1962). In recognition of the growth and development of co-operatives as an instrument for achieving agricultural production and rapid rural transformation, agricultural cooperative was specifically mentioned in the third national development plan (1975-1980). The government re-emphasized its interest in developing the cooperative movement in the fourth development plan (1981-1985). One of the policies on agriculture in the plan was using the cooperative movement to achieve domestic food production, industrial raw material and manufactured products as well as equitable distribution of scarce commodities. In the agricultural policy for Nigeria (1988) the primary objectives of the government in agricultural cooperative have been spelt out as:

1. To evolve a virile system which will facilitate their practice and use in agriculture as an effective vehicle for social and economic development of the grass root level throughout the federation.
2. To use agricultural cooperation as machinery for rural transformation and development, which would affect the various aspects of rural life.

The consolidation of the achievements of this policy was the primary objective of the three-year rolling plans (1990 – 1995). The objectives programmes of the rolling plan had been reviewed year after year and rolled over into new plans (CBN, 1995). In recent economic reforms, government's primary objective is to reinvigorate the economy and return it to the path of sustainable growth, development and poverty reduction. With the launching of national economic empowerment and development strategy (NEEDS) and state economic empowerment and development strategy (SEEDS) in 2004 which are people focused reforms, farmers are encouraged to form farmer groups (cooperatives) (Amadi and Ogwo, 2004; Obayelu and Okoruwa, 2005).

Agricultural cooperatives comprise 90% of Nigerian cooperative and they have a wide range of functions (Osuntogun, 1984). Cooperative societies operating in Nigeria include:

(a) Cooperative thrift and credit societies which operates as a base for the mobilization of local resources by farmers through organized savings from which members can borrow for both farm and non-farm related projects;

(b) Farmers' multipurpose cooperatives which engage primarily in agriculture and other non-farm enterprises;

(c) Farmers' cooperative which according to cooperative regulations engage only in farming and in no other business; and

(d) Fishermen cooperatives, which as the name implies engage in fishing Anyanwu, 1998).

From the foregoing, the government obviously recognizes the importance of the cooperative as a tool for rapid agricultural development in particular and rural transformation in general. Cooperative in developing countries has been mainly active in agricultural marketing and in advancing farm credit and sales of farm inputs (Thordason, 1990). Ochi (1991), reported that agricultural cooperative society membership tends to increase and improve agricultural production. Agricultural cooperative in Nigeria like in other less developed countries are faced with certain basic problems such as lack of patronage, lack of good leadership and management, lack of capital, low level of education of members, lack of storage facilities and marketing outlets and these affects their performance in increasing and improving agricultural production (Adegeye and Dittoh, 1982). Ijere (1981), argued that farming cooperatives in Nigeria are government organization and therefore lacked the traditional felt need objective of cooperative and as such there are no desired commitment on the part of members to achieve stated goals. Literature shows that cooperative societies have been used as vehicle to achieve rural and agricultural development in Nigeria thus the focus of this study on cooperative societies.

2.3 RURAL CREDIT THROUGH AGRICULATURAL COOPERATIVE

The purpose of a cooperative credit organization or a credit union is to make credit facilities available to members at reasonable cost (Udeozo, 1998). Anyanwu (1998), noted that cooperative societies act as direct and indirect sources of credit to farmers. They lend directly to members of the society and

sometimes non-members or accept loans form other lending institutions for onward transmission to members of the society (direct lending or on-lending). Credit availability being one of the prerequisites for agricultural development, increased agricultural productivity due to the rising cost of agricultural inputs and farmers limited funds make successful credit extension service essential to small scale farmers (Ogunbameru, 1996). Stephen (1979) and Akinyosoye (1985), observe that new input being introduced such as fertilizer, animal feeds, pesticides, sprays have to be purchased. Since small-scale farmers are generally poor they need a form of credit to purchase these 'essential commodities'. Osuntogun (1973) holds the view that unless production credit is made available on suitable terms the majority of small-scale farmers will be seriously handicapped in adopting new and profitable technologies.

In recognition of the need for credit by farmers, governments in developing countries focus increasing attention on loan provision to small farmers in order to increase their agricultural production. Many methods of providing them agricultural credit have been devised. One of such methods is the provision of loans directly to individual farmers. Ojo and Palmer (1981), observe that such a method has only been able to reach very few farmers. Moreover there is the problem of high cost of administering such loans to farmers individually because of:

1. Difficulty in ensuring productive use of such loans
2. Difficulty in repayment, and
3. Absence of collateral security from most farmers.

Another method of granting loans to farmers is through agricultural cooperative societies. These societies serve as effective agents for bringing small producers together not only for mobilizing capital to process and market their products but also to purchasing their supplies, obtaining technical assistance and other related facilities (Kwara State Government, 1970). This method minimizes the problems created by the complex land tenure systems operating in the country (Ojo and Palmer, 1981).

The cooperative societies serve as instruments for mobilizing savings to reduce cost of administering small loans to small-scale farmers. Granting loans through cooperatives also enhances better utilization of loans for productive purpose and better repayment capacity (Ijere, 1975 and Banwo 1981). Most credit unions and cooperatives limit their services to members, whose savings provide the financial basis for their lending operations. This has the advantage that they can better screen prospective borrowers and appraise, monitor and recover loans. Usually members are self-selected and peer pressure is exerted to attain full and timely loan repayment (Klein, *et al.*, 1999; Agu,1998). Under the Agricultural Credit Guarantee Scheme Fund (ACGSF), from 1978–2001 cooperative societies accounted for 214 loans valued at ₦32.8 million (4.5%), informal groups accounted for 153 loans valued at ₦27.8 million (3.8%) while corporate bodies accounted for only 4 loans valued at ₦1.95 million (0.3%) of the total loans guaranteed. This shows a preference for cooperative societies as a channel of loan disbursement (ACGSF, 2001).

2.4 CREDIT/LOAN REPAYMENT AMONG FARMERS

Several researchers have attributed the failure of many government credit programmes to high rates of default (Asian Productivity Organization, 1988). For instance, the default rates of agricultural loans in African countries in respect of cooperatives and other agricultural credit institutions were estimated at 50% and 80% respectively in 1973 (FAO, 1978). In Nigeria, 178 defaults amounting to ₦3.4 million were reported between 1978 and 1982, to the agricultural credit guarantee scheme fund (Central Bank of Nigeria,1982). From 1978 – 2004, ACGSF had guaranteed a cumulative total of 397,22 loans valued ₦7.603 billion, a total of 278.104 loans valued ₦4.54 billion had been repaid. Therefore, a total of 119, 318 defaults valued ₦3.063 billion, between 1978 and 2004, under the scheme (CBN, 2005). Several reasons have been advanced for the low repayment ability among farmers in less developed countries. Factors that have been mentioned range from deliberate refusal to pay by some farmers to non-repayment of loans arising from loss of income due to devastating effects of failed crops and ill health (Ater, *et a1*., 1991).

According to Asabia (1981), the most serious problem facing institutional lenders especially the banks is borrowers' deliberate refusal to pay back loans. He cited examples in which some farmers have been found to open account with other names with the proceeds of their income. As a result of this, institutional creditors find it increasingly difficult to operate effectively and efficiently in the face of mounting default rates among farmers some of whom

believe that funds obtained from government -sponsored or government - inspired credit source need not be repaid. Since no financial institution, no matter how financially endowed can successfully operate a revolving loan scheme without loan recipients fulfilling their financial obligations, such financial and credit institutions have remained ineffective and inefficient.

In Nigeria, lending institutions are concerned about risks associated with defaults. High levels of default in many cases above fifty percent have been recorded by lending institutions. This has led many commercial – oriented institutions to resist government directives to increase their lending to agriculture (Okorie, 1998). Akpa (1989) reported that substantial agricultural loans made available go into the hands of wrong individuals. These individuals are the so-called 'big men' who live in towns and cities and call themselves large-scale farmers through a capitalist approach farming. This trend has continued such that the large proportion of loans given by formal credit sources goes to large-scale farmers (Todaro 1981; Ihimodu, 1981 and Gsanger, 1987). One reason advanced for this trend is the repayment capacity. The small-scale farmer tends to exhibit high default rate. Adeyemo (1984) assessed the repayment capacity of farmers in multipurpose cooperative unions in Kwara State and found that the recovery rate of performance was very poor.

The lowest and highest repayment rates were 5% and 52% respectively. It was found that the factors associated with loan delinquency were natural

calamities, certain economic and sociological variables. Small farmers have been found to use part of the loan obtained for consumption instead of production due to the fact that farmers are often given less credit than the require and credit is usually disbursed late (Ajibaiye, 1992). Osuntogun (1980) indicated that the reasons why a small proportion of borrowed funds are spent on actual farming is the inadequate provision of essential welfare services like health, education and housing in the rural areas. He therefore concluded that most farmers borrow to provide these services for themselves thus only little proportion of the borrowed money is used for farming.

From the literature reviewed it is evident that credit is important for agricultural development (Mosher, 1966; World Bank, 1974; Okorie, 1986; Ijere, 1986 and Aku, 1991). Credit need can be defined as the difference between total requirement of credit and amount of credit actually received/cash at hand (Kashem, 1987). Reasons for the need for credit includes, adopting new innovations, farmers have little or no saving for the future, seasonal nature of agricultural production and income generation and to increase productivity on the part of the farmers (Ogunfowora *et al* 1972; Miller, 1977; Igben, 1973; Okorie, 1986; Aku, 1991). Although, in most cases credit obtained by small scale farmers are often used for other purposes other than farming such as festivals/ceremonies, building, and business and so forth. Reasons proffered range from inadequate provision of essential welfare services, insufficient credit to late disbursements of credit (Ajibaiye, 1992; Osuntogun, 1980) Several surveys also reveal a high rate of default among

farmers, reason proffered for these include natural calamities, ill health, certain economic and sociological variables, and sometimes deliberate refusal to pay back loans. (Ater *et al* 1991; Asian productivity organization, 1988; Central Bank of Nigeria, 1982; Asabia, 1981; and so forth).

A review of studies (Oludimu and Fabiyi, 1984; Maiangwa, 1999; Adeogun, 2002) on the determinants of credit needs at farm level shows that the credit needs is a function of the following variables; age, level of education, income, community status, interest rate, return on investment, risk, off-farm activities, weather, management and accessibility of credit institutions. These variables are governed by socio-economic and environmental factors (such as nature of production, technological stagnation, land tenure problems, lack of market outlets, social organization and attitudes and values).

The trend of study shows that the need for credit is great and among several methods of disbursing credit and supervising credit repayment, granting loans through the credit unions or cooperative societies has enhanced better utilization of loans for productive purpose and better repayment ability. Previous studies on loan default (Adeyemo, 1984; Okorie, 1986; Ater *et al*., 1991 and Ajibaiye, 1992) focused on causes and how to curb credit default from the perspective of the lenders (Banks, Government and other lending agencies) but few from the farmer's perspective. This has formed the bases for this study to try and determine the causes and how to curb credit default from the farmer's perspective. Although empirical evidence as to the factors that

determine credit repayment ability of farmers and cooperative societies are rare especially in the study area, the primary focus of this study is to identify factors, which can enhance credit repayment by members of farmers' cooperative societies and determine to what extent their credit needs are influenced by their socio-economic factors.

2.5 Review of Analytical Techniques

Data analysis carried out in most of the studies reviewed used analytical tools ranging from descriptive statistical tools to multiple regression and sometimes correlation analysis.

2.5.1 Descriptive Statistics

Descriptive statistics is concerned with collection, summaries of numerical data and presentation of data in a convenient usable and understandable form. Descriptive measures that is, base characteristic values, which describe adequately the basic features of the population or expected value. The most common parameters are measures of central tendency (these are measures of location e.g. mean, median mode, and so forth) and measures of dispersion (e.g. range, coefficient of variation and standard deviation). The mean is the central or average value of the variable whose population is studied. Coefficient of variation shows variation in percentage and it is defined as standard deviation divided by the mean, multiplied by a hundred.

Standard deviation is the square root of the variance and gives the average

distance of the various values of the sample from the arithmetic mean. It is denoted by Greek letter σ (Koutsoyiannis, 1979; Obiwuru, 2000). The various descriptive statistics used for this study include; frequency distributions, percentage, mean, standard deviation, coefficient of variation, range. Descriptive statistical tools were used to determine frequencies of occurrence of variables, percentage and distribution of variables in respect to the objective of study.

2.5.2 Budgeting Techniques

Budgeting techniques are the various methods of considering the resources to be used, the choice of enterprises to be pursued and a calculation of expected receipts, expenditures and net farm income (Olukosi and Erhabor, 2005). The budgeting techniques used for this study include; credit needs score, return on investment and gross margin analysis.

2.5.2.1 Credit Need Score

Credit need was measured as the difference between the expected total cost of production and available cash for the operations. The credit need score was measured as cost of production less the amount of cash available at hand divided by cost of production and expressed as a percentage. Kashem (1987) and Adeogun (2002) used credit need score in their study to determine if a farmer needed credit or not. In this study credit need score was also determine.

2.5.2.3 Gross margin

Gross margin is the difference between gross income (GI) and total variable cost (TVC). The gross margin analysis involves evaluating the efficiency of an individual enterprise or farm plan so that comparison can be made between enterprises or different farm plans. It is a very useful planning tool in situation where fixed capital is a negligible portion of the farming enterprise as is the case with subsistence agriculture.

Gross income is also called total return or total value product (TVP), which is defined as the total output multiplied by the price per unit of produce. The total variable cost (TVC) is cost incurred on variable inputs, which can be attributed to specific enterprises (Olukosi and Erhabor, 2005). Gross margin was used in this study to measure the cash available at hand.

2.5.2.4 Return on investment

This is the value of return per every naira invested; it is used to determine the profitability of a business. It is net farm income (NFI) divided by total cost of production (TCP) TCP is total variable cost (TVC) plus total fixed cost is negligible in the case of small-scale farming (Olukosi and Erhabor, 2005); therefore return on investment is NFI divided by TVC. Olukosi and Erhabor (2005) also noted that for small-scale farmers, gross margin (GM) is a good approximation of NFI. For the purpose of this study, return on investment will be GM divided by TVC. Return on investment is a better tool because it shows the exact amount of profit/loss made on every naira invested.

2.5.3 Regression analysis

Regression analysis describes the effect of one or more variables (designated as independent variables) on a single variable (designated as the dependent variables) by expressing the latter as the function of the former. It reflects the interaction among variables as they would naturally occur in the real world. Regression is used to qualify an economic parameter or test a hypothesis concerning a parameter value or set of values with the estimated relationship, often used to forecast the value of the independent variable. Regression model could be linear or non-linear (Lucey, 2000; Koutsoyiannis, 1981).

Regression or correlation were used to determine relationship between variables (Ater, *et al.*, 1991; Ajibaiye 1992 and Maiangwa, 1999). In this study linear regression was used to determine relationship between credit needs and socio-economic characteristics of respondents.

2.5.3.1 Linear regression analysis

Linear regression involving one dependent variable and many independent variable is called a multiple linear regression. Linear regression model is based on assumptions about the distribution off the random variable U, the relationship between U and the explanatory variables and the relationship between the explanatory variables themselves. The criteria for the choice of model are;

(a) the value of the coefficient of multiple determination (R^2)

(b) the appropriateness of the sign of the regression coefficient and

(c) statistical significance of each parameter.

2.5.3.2 Logistic regression analysis

Logistic regression analysis is a form of regression in which the dependent variable has more than one value; 0 or 1 and the independent variable has a continuous and/or categorical value. Logistic regression could be binomial (that is, when the dependent variable has two value e.g. dummy variable) or multinomial (that is, when the dependent variable has more than two value). From literature, logistic regression analysis has been used to predict the dependent variable, determine the percentage of variation in the dependent variable explained by the independent variable, to rank the relative importance of the independent variable to assess interaction effects and to understand the impact of covariate control variables (Rahman and Alamu, 2003 and Rice, 1994). Logistic regression was used in this study to determine the repayment ability of respondents. The choice of logistic regression is based on the fact that;

(1) Logit model ensures prediction of probability of choice within (0,1) range.

(2) The model is based on the cumulative logistic probability function

CHAPTER THREE

METHODOLOGY

3.1 General Description Of The Study Area

This study was conducted in Kogi State, Nigeria. Kogi state is situated in the southern guinea savanna zone. The state is located between latitude 6°N and 9°N, and longitude 5°E and 8°E of the prime meridian. The population of the state is multi-ethnic and on the basis of the census conducted in 1991, it is put at about 2,147,756 people (National Population Commission, 1991). However, the projected population for 2005 is about 2,943,716 people based on the annual growth rate of 2.8% (CBN, 2004). The state is known to have a tropical savanna climate with distinct wet and dry seasons. The wet season usually begins in March/April and ends in October/November while the dry season begins November/December and ends February/March. The average annual rainfall is between 1100mm to 1500mm and average annual temperature of about 27°c, with an average maximum temperature of 32°c in April and an average minimum temperature of 21°c in December (Oguntoyinbo,*et al*,1982; Udo and Mamman, 1993). The map of the study area is shown in figure 1.

3.2 Sampling Technique

Field survey was carried out between June and October 2005, covering three Local Government Areas (L.G.As) of Kogi state, namely Dekina, Lokoja and Ijumu. Purposive sampling technique was used to select the three L.G.As

based on the number of registered Cooperative societies within the L.G.A and to cut across the basic ethnic groups/culture in the State. Dekina represents the Igala ethnic group, Ijumu the Okun ethnic group and Lokoja the Oworo, Nupe, Kakanda, Kupa/egan, Hausa-Banza Bokwai. Proportional sampling method was used to select the representative Co-operative Societies and random sampling technique was used to select the 120 respondents. The sampling frame for the study is as shown on Table 3.1 and 3.2.

Table 3.1: Sampling frame for the Cooperatives Societies used

L.G.A	Total no. of cooperative societies	No. selected
Lokoja	265	15
Dekina	93	10
Ijumu	50	7
Total	408	32

Table 3.2: Sampling frame for Cooperative members used

L.G.A	Total no. of Cooperative members	Cooperative members sampled	Cooperative official sampled
Lokoja	4145	50	5
Dekina	1510	35	5
Ijumu	750	20	5
Total	6405	105	15

3.3 Data Collection

Primary and secondary data were used for this study. The primary data were collected through personal interviews with the farmers, using interview schedule. The literate farmers completed the questionnaire themselves while those farmers who could not read were interviewed orally using the

questionnaire.

Data collected include:

(i) Demographic information such as age, sex, and educational status, house hold size, farm size, farming experience, membership of any cooperative society; and

(ii) Production information such as land area cultivated (ha), types of crop grown, amount of labour, quantity and cost of input, quantity of output, source of credit, terms of credit, income from farming and non-farm sources, and so forth.

The secondary data were collected from the cooperative societies The data collected include:

(i) Membership (number duration)
(ii) Source of credit
(iii) Criteria for granting loan/credit
(iv) Rate of repayment
(v) Penalty for default
(vi) Number of default

Secondary data were also collected from the Kogi State Agricultural Development Project (ADP), these were mainly on rate of repayment and default.

3.4 Analytical Techniques

The analytical tools to be employed for this study include:

(i) Descriptive statistics

(ii) Budgeting techniques

(iii) Regression analysis

3.4.1 Descriptive statistics

Descriptive statistic was used to achieve objective one and four.

3.4.2 Budgeting techniques

Farm budgeting tools was used to achieve objective two and part of objective five. Credit need for the members was measured as the difference between the total cost of production and available cash at hand following Kashem (1987) Adeogun (2002) techniques. A simple inventory model of estimating the credit need of each member of the farmer's cooperative society was specified as:

$$Y_{ith} = A - B \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

Where,

Y_{ith} = Estimated credit need for each member

A = cost of production for each member

B = Amount of cash available at hand either from personal savings (previous year's gross margin) or friends/relative.

The credit need of each member was determined using credit need score given as:

$$Z = \frac{A - B}{A} x100 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

Where,

Z = credit need score for each member

A = cost of production for each member

B = Amount of cash available at hand either from personal saving

(previous year's gross margin) or friend/relative

The gross margin from production was used as the cash available on hand.

The model used for estimating gross margin can be presented by the equation

$$GM = \sum_{i=1}^{n} p_{yi} yi - \sum_{j=1}^{m} p_{xi} xi \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

Where:

GM = Gross margin

Yi = Enterprise's product

Pyi = Unit price of the product (Where i = 1, 2, 3, … n Products)

Xi = Quantity of the variable input

Pxi = Price per unit of variable inputs (where 1 = 1,2,3, … m variable inputs)

Return on investment or return on capital (RC) is net farm income (NFI) divided by total cost of production (TCP).TCP is total variable cost (TVC) plus total fixed cost, but total fixed cost is negligible in the case of small-scale farming (Olukosi and Erhabor, 2005), therefore;

$$RC = \frac{NFI}{TVC} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (4)$$

Olukosi and Erhabor (2005), also noted that for small-scale farmers, gross margin (GM) is a good approximation of net farm income (NFI). For the purpose of this study;

$$RC = \frac{GM}{TVC} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (5)$$

Where ;

RC = Return on investment

GM = Gross margin

TVC = Total variable cost

3.4.3 Regression analysis

Linear regression was used to achieve objective three. Linear regression was selected based on the assumed relationship between the dependent and independent variables.

The model in its implicit form is as follows;

$$Y = F(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, U) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (6)$$

Where:

Y = Amount of credit needed by farmer

X_1 = Age (yrs)

X_2 = Level of education (yrs)

X_3 = House hold size (number of persons)

X_4 = Farming experience (yrs)

X_5 = Farm size (ha)

X_6 = Cost of land (0= inheritance or gift; 1= rent or purchase)

X_7 = membership of organizations (1 = member, 0= otherwise)

X_8 = Non farm activities participation (1 = participate, 0= otherwise)

X_9 = Cost of production (₦)

U = Error term, which represents the effect of other variables that are not included in the model

The functional form for the model is specified as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + ... + b_9X_9 + U \quad \text{----(7)}$$

3.4.3.1 Definition of Variables

(1) **Credit Needs (Y):** This is the amount of money needed by the farmer to meet up his production cost.

(2) **Age (X_1):** This is the numerical age of the farmer was measured in years (yrs).

(3) **Level of Education (X_2):** This is the number of years spent in education by the farmer.

(4) **Household Size (X_3):** This is the number of people that make up the farmers household.

(5) **Farming Experience (X_4):** This is the number of years spent in farming.

(6) **Farm Size (X_5):** This is the approximate size of the farmer's farm land.

(7) **Cost of land (X_6):** This the cost of land acquisition. It was measured as a dummy variable.

(8) **Membership of Organization (X_7):** This was measured as a dummy variable. It is the status of the farmer in relation to membership of a cooperative society.

(9) **Non-farm Activities Participation (X_8) :** This is the farmer's participation in other economic activities apart from farming it was measured as dummy variable.

(10) **Cost of Production (X_9):** This is the cost of producing the farmer's enterprise product. It was measured in naira.

Error Term (U)

This was included to accommodate the effect of other factors that affect credit needs that was not included in the model.

3.4.3.2 *A priori* Expectation

With reference to the specified regression equation for credit needs, the *a priori* expectations with respect to the signs of coefficients a, b_1, b_2, b_3, b_4, b_5, b_6, b_7, b_8, b_9 are as follows:

(i) The parameter a is the constant term and it was expected to be positive. This is so since farmers would need credit irrespective of factors that affect their credit needs.

(ii) The parameter b_1 was expected to be positive because the older the farmer the larger his house hold, the greater his awareness about availability of credit, the better placed he is to meet lending requirement and so the greater his tendency to need credit (Adekange, 1983; Adeogun, 2002)

(iii) The parameter b_2 was expected to be positive because the higher the level of education the higher the access to credit (Ijere, 1986; Holt and Ribe 1991).

(iv) The parameter b_3 was expected to be positive because the larger the family the more mouths to feed and the more people to provide basic amenities for so more credit need (Adekanye, 1983).

(v) The parameter b_4 was expected to be negative because the more the farmer's years of experience the more his managerial ability and under-standing of the socio-economic factors that affect farming so the farmer would be able to cut cost thereby need less credit (Abdulsalam, 1997)

(vi) The parameter b_5 was expected to be positive because as the farm size increase the greater the input requirement which necessitates the need for credit (Adeogun, 2002; Barau, 1987).

(vii) The parameter b_6 was expected to be positive because as cost of land increase, the over head cost of production increases which necessitates the need for credit.

(viii) The parameter b_7 was expected to be positive because membership of organisation enhances access to credit (Njoku, 1991)

(ix) The parameter b_8 was expected to be negative because as income from non- farm activity increase the more fund the farmer has for farm operations therefore less need for credit.

(x) The parameter b_9 was expected to be positive because as cost of production increase the more fund the farmer needs for farm operations therefore more need for credit.

(xi) Error term (U): This was to account or represent all other variation in the dependent variable, which could not have been explained by the nine independent variables. Some of which include, interest rate, return on investment, risk among others.

Logistic regression was used to achieve objective five. Logistic regression predicts a dependent variable on the basis of continuous and/or categorical independent variables (Garson, 2006; Rahman and Alamu, 2003; Rahman, 2001; Rice, 1994).

The model in its implicit form is as follows;

$$\left(Y_i = {}^{1}\!\!\diagup\!\!_{X_{ij}},\ j = 1-8\right) = F(Z_i) = {}^{1}\!\!\diagup\!\!_{1+e^{-z_i}} = {}^{e^{z_i}}\!\!\diagup\!\!_{e^{z_i}+1};\ i = 1-105 \quad \ldots\ldots\ldots\ldots (8)$$

where;

$$Z_i = \alpha + \beta_1 X_{i1} + \beta_2 X_{i2} + \beta_3 X_{i3} + \ldots\ldots\ldots + \beta_8 X_{i8}. \quad \ldots\ldots\ldots\ldots\ldots\ldots (9)$$

F(.) = Cumulative logistic distribution

Y_i = 1 if i^{th} farmer has ability to repay or 0 if i^{th} farmer has no ability to repay

X_{ij} ,j = 1- 8 are the eight socio-economic characteristics of the i^{th} farmer defined as;

X_1 = Age (year)

X_2 = Level of education (yrs)

X_3 = House hold size (number of persons)

X_4 = Farming experience (yrs)

X_5 = Farm size(ha)

X_6 = Membership of organization (1= member, 0 = otherwise)

X_7 = Non farm activities participation (1= engage, 0 = otherwise)

X_8 = Return on investment (₦)

$\beta_1 - \beta_8$ = Regression coefficient

α = Constant term.

3.4.4 Credit worthiness

A simple model by Buckley *et al* (1993), Singh and Nasir (2003) was modified to ascertain credit worthiness as given below:

$$Y_{ij} = \frac{X_{ij}}{X_{iA}} \quad \text{……..} \qquad (10)$$

Where;

i = Individual farmer

j = Farmer's location (town)

X_{ij} = i^{th} farmer of j^{th} location's farm income

X_{iA} = Value of farmer's proposed loan

Y_{ij} = i^{th} farmer of j^{th} location's credit worthiness

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Socio-Economic And Demographic Characteristics Of Respondents

In this section, certain socio-economic and demographic characteristics which affect or influence the credit needs and repayment ability of respondents are presented. Such characteristics include age, sex, level of education, farming experience, farm size and family size.

4.1.1 Age and sex of respondents

The age of respondent as were given at the time of data collection. Age to a certain extent affects credit needs and repayment ability because it assumed that age affects family size, awareness of credit facility and ability to be economically productive. FAO (1992) defined economically productive age to range from 15 - 64 years. The result of the study shows that all the respondents were within the economically productive age (Table4.1). About 88% of the respondents and 87% of the cooperative officials were in 26 – 55 years age bracket. The farmers' mean age was 40 years and the cooperative officials' mean age was 45years. This implies that most of the respondents were able-bodied, considered to be economically productive, active and virile for farming.

About 93% of the respondents were males while 7% were females. The number of female (8) involved in farming could be due to cultural and traditional belief that limit women access to land, since women do not inherit

land and most work on their husbands or family farms in the study area (Figure 2).

Table 4.1 Distribution of respondents according to age

	Farmers		Cooperative Officials	
Age Group (years)	Frequency	%	Frequency	%
< 25	6	5.7		
26 – 35	33	31.4	3	20
36 – 45	40	38.1	6	40
46 – 55	19	18.1	4	26.7
> 55	7	6.7	2	13.3
Total	105	100	15	100

Source: Field Survey, 2005

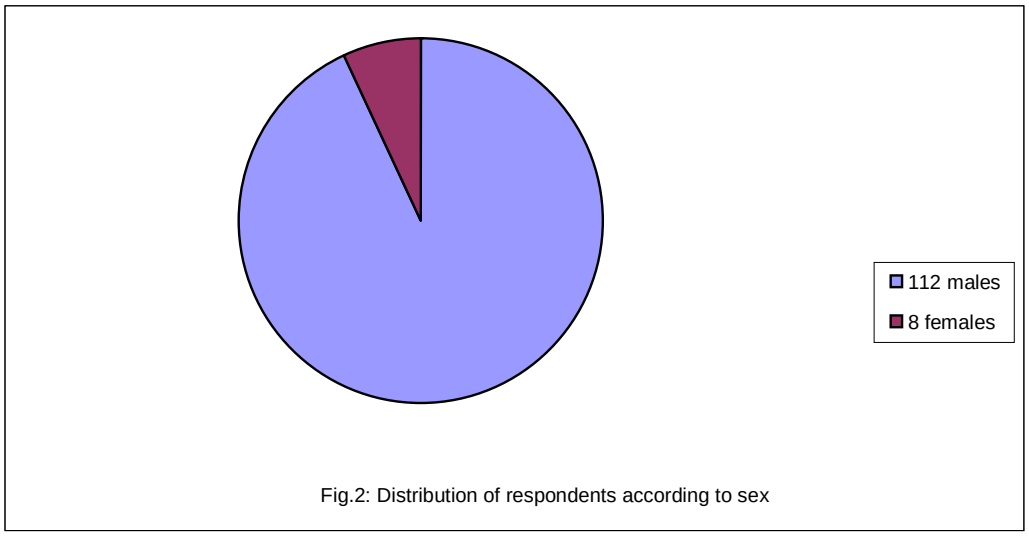


Fig.2: Distribution of respondents according to sex

(Source : Field survey, 2005)

4.1.2 Educational level of respondents

This refers to years and type of education, which the respondents have attained (see Table 4.2). The study revealed that most of the respondents had attained one form of education or the other. About 38% had post-secondary school education, 16% had secondary school education, while 13% had other form of education (such as adult classes, Quaranic school or were not literate). Education increases farmers ease of adoption or acceptability of modern inputs and techniques which may give rise to increase need for credit. It also increases the farmers' access to credit (Ijere, 1986; Adeogun, 2002)

Table 4.2:Distribution of respondents according to educational Level

Level of Education	Frequency	Percentage (%)
Primary	40	33.3
Secondary school	19	15.8
Post Secondary school	46	38.4
Others	15	12.5
Total	120	100

Source: Field survey 2005

4.1.3 Family size of respondents

A house hold (family) consist of a person or a group of persons living together usually under the same roof or in the same building or compound, who share the same source of food and recognize themselves as a social unit

with a head (National Population Commission, 2006). The family size of respondents is given in Table 4.3.

Most of the respondents had a family size of between 6 – 10 persons. The average family size of respondents was 9 persons per family and in every 3 persons 2 were schooling. This indicates a clear dependence on hired labour for farm operations by respondents. The average family size in this study differs from Adeogun (2002), who in his study conducted in Kano State had an average family size of 11 persons per family. Ogungbile and Olukosi (1991) reported that in Nigeria, the average family size is about 6 – 7 persons per family. This difference could be due to the culture, belief and educational level of people in the study area.

Table 4.3: Distribution of respondents according to Family size .

Family size	Frequency	Percentage (%)
1 – 5	22	18.3
6 – 10	51	42.5
11 – 15	20	16.7
16 – 20	17	14.2
> 20	10	8.5
Total	120	100

Source: Field Survey 2005

4.1.4 Farm sizes

Farm size is a function of population, family size, financial back ground (Ojuekaiye, 2001). Table 4.4 shows the farm size of respondents. Most of them had farm size of between 1 –3 hectares (60%) while about 2% had 10 hectares and above. Judging by F.A.O standard, most of the farmers in the study area were small-scale farms. Ogungbile and Olukosi (1991) also reported that in the traditional land tenure system, size of farm is generally small and fields highly fragmented partly as a result of inheritance law, shifting cultivation and bush fallow.

Table 4.4: Distribution of respondents according to farm size

Farm Size	Frequency	Percentage (%)
1 – 3	63	59.9
4 – 6	20	19.1
7 – 9	20	19.1
10 and above	2	1.9
Total	105	100

Source: Field Survey, 2005

4.1.5 Farming experience

Farming experience is the number of years the farmer has spent in farming. It can be linked to the farmer's age. As the age of a farmer increases, his years of experience also increase. Distribution of respondents according to farming experience is shown on Table 4.5.

Most of the farmers have had long years of experience, about 66% had above 10 years experience while only 8% had less than 4 years experience, therefore most of them were familiar with the rudiments of farming and acquiring credit from formal and informal financial institutions.

Table 4.5: Distribution of respondents according to farming experience

Farming experience (years)	Frequency	Percentage (%) of total
1 – 3	8	7.6
4 – 6	17	16.2
7 – 10	11	10.5
> - 10	69	65.7
Total	105	100

Source: Field Survey, 2005

4.1.6 Non – farm activities

Apart from farming which was the major occupation of the respondents, they also engage in other occupations such as trading, civil service, carpentry, and black smiting and so forth. About 31% of the respondents were full-time farmers who had no other source of income; the others were part-time farmers who engaged in other occupations (Table 4.6).

This can be linked to credit needs of the farmer, the more the farmer engages in non-farm activities (other occupations) the more the income available to the farmer therefore, the less his need for credit. On the other hand, the more the farmer engages in non-farm activities the more his need for credit to

finance his other occupation. Farmers have been known to divert credit meant for farming to purposes other than farming. (Ajibaiye, 1992).

Table 4.6: Distribution of respondents according to their occupation

Occupation	Frequency	Percentage (%)
Farming only	33	31.4
Farming and civil Service	29	27.6
Farming and trading	28	26.7
Farming and bricklaying	6	5.7
Farming and Others	9	8.6
Total	105	100

Source: Field Survey, 2005

4.2 Estimation Of Credit Needs Of Respondents

The estimated credit needs of farmers were computed using a simple inventory model, which was the total production cost less estimated cash available at hand (previous year's gross margin). This model was adopted from Kashem (1987). Going by Kashem, the farmers' credit needs category was determined using a credit need score. The credit need score was production cost less amount of cash available at hand divided by production cost multiplied by 100.

4.2.1 Estimated cost of production of farmers

The estimated production cost was the cost of labour, seed, fertilizer, agro-chemicals and other inputs used for production by the farmers.

The minimum and maximum cost of production in the study area was ₦7,520 and N135,100(₦/ha) respectively. This was because some farmers were into arable crop production while others were into cash crop production. Table 4.7 shows that farmers in the study area spent a lot on hired labour (57%) this could be due to non-farm activities and family members schooling. Fertilizer ranked second while seed cost the least (Table 4.7). As the cost of variable inputs increase more fund is needed to meet up the cost of production consequently, the need for credit is inevitable.

Table 4.7 Estimated cost of production of farmers

Farming Operation expenses	Minimum (₦)	Maximum (₦)	Mean (₦)	Mean %	Ranking
Labour	3,600	77,400	40,500	56.8	1st
Seed	120	4,000	2,060	2.9	4th
Fertilizer	1600	36,000	18,800	26.4	2nd
Agro-chemical	2,200	17,700	9950	13.9	3rd
Total	7,200	135,100	71,310	100	

Source: Field Survey, 2005.

4.2.2 Estimated minimum and maximum credit needs of farmers

The estimated maximum credit need of the farmers was ₦35,100 while the minimum credit need was ₦2520 (Table 4.8). The maximum cost of production and cash available was ₦135,100 and 100,000 respectively; the

minimum cost of production and cash available of respondents was ₦7,520 and ₦5,000 respectively.

The estimated cost of production and estimated cash available did not differ much among the farmers as expressed by the coefficient of variation of 18% and 22% respectively. The standard deviation when compared to the mean was also low at 5639.75 and 6303.02 respectively. However the credit needs when compared to the mean had a high standard deviation and coefficient of variation (11066.48 and 77% respectively). Using a credit need score which ranged from 0 (zero) to 100, with 0 or less than 0 indicating no need for credit and 100% or above indicating complete dependence on credit, the credit need of farmers was categorized into low, medium and high credit needs and no credit need (Table 4.9).

Table 4.8: Estimated minimum and maximum credit needs of farmers

Parameter	Estimated total production cost (₦)	Estimated cash available (₦)	Estimated credit need (₦)
Maximum	135,100	100,000	35,100
Minimum	7,520	5,000	2,520
Mean	31,768.33	29,095.70	14202.79
S.D	5639.75	6303.02	11066.48
CV (%)	17.8	21.7	77.9

About 16% of the sampled farmers had low credit need. The result of the linear regression for this category showed membership of Cooperative Society and cost of production to be significant at 10% level (Table 4.10).

Membership of Cooperative was negatively related to credit needs, which implies that as membership increased, credit needs reduced. This could be due to the fact that Cooperative Societies tend to make inputs available to their members at subsidized rates, which invariably reduces credit needs. Cost of production was found to be positively related to credit needs. This implies that as cost of production increases credit needs increases. Therefore the low credit needs of this category of farmers could be due to their involvement in cocoa or oil palm or cashew production which after establishment requires less cost of production or the use of alternative inputs such as manure, ash or animal droppings which are cheaper than fertilizers and agro-chemicals or the size of their farms and their enterprise combination. This result was similar to Adeogun's (2002) findings but differ from Kashem's (1987) findings.

Table 4.9: Classification of farmers according to their credit need

Credit Need Category	Credit Need Score	No. Of Farmers	% Of farmers in Category
No credit need	< 0	51	48.6
Low credit need	1 – 40	17	16.2
Medium credit need	40.1 - 80	8	7.6
High credit need	>80	29	27.6
Total		105	100

Table 4.10: Linear Regression Result of the Relationship Between Farmers Socio-economic Characteristics and Credit Need for the Low Credit Need Category

Explanatory variables	Coefficient b	Standard Error	t-stat
Membership of Cooperative	-6625.37	4667.60	-1.41944***
Cost of production	0.17	0.12	1.50591***

(***=significant at 10% level of significance)

R^2 = 0.60; $\bar{R}^2$ = 0.58; F-stat = 6.1974*

The medium credit needs category was about 8% of the sampled farmers. Results of the linear regression for this category showed that farming experience, farm size and cost of production are significant and were positively related to credit needs. This implies that as these variables increased credit needs increased. The medium credit need for this category of farmers could be due to their farm size (the average farm size for this category was 4hectares). Also the type of crop they produced, cereal and/or tuber crops. This result differed from Adeogun(2002) and Kashem (1987) who found more of the respondents in their study area to be in the medium credit need category (Table 4.11).

Table 4.11: Linear Regression Result of the Relationship Between Farmers Socio-economic Characteristics and Credit need for the Medium Credit Need Category

Explanatory variable	Coefficient b	Std Err	t-stat
Farming experience	12688.1	5067.75	2.50370**
Farm size	10245.5	2229.22	4.59602*
Cost of production	0.7	0.33	2.02030**
Constant	-85169.1	29720.27	-2.86569**

(*=significant at 1%;**=significant at 5%)

$R^2 = 0.98$; $\bar{R}^2 = 0.89$; F-stat = 11.120*

High credit need category was about 28% of the sampled farmers. The linear regression result for this category revealed family size, farming experience, cost of land and cost of production to be significant. Family size and farming experience were negatively related to credit needs, which implies that as farming experience and family size increased credit needs reduces. Cost of land and cost of production were positively related to credit needs, implying that as cost of land and cost of production increased credit needs increased. This was in line with *a priori* expectation except for family size, which was contrary. This could be due to the fact that as family size increases the farmer tends to use more of family labour, which invariably reduces the need for credit. The high credit need of this category of farmers could be due to establishing new cocoa or oil palm farms or cashew orchards, which require initial high investment. It also could be due to acquiring new farmlands to

produce more cassava, due to the emphasis on cassava production by the government (Presidential initiative for cassava under NEEDS).

Table 4.12: Linear Regression Result of Relationship Between Farmers' Socio-economic Characteristics and Credit need for the High Credit Need Category

Explanatory variables	Coefficient b	Std Err.	t-stat
Family size	-762.5	576.72	-1.32215***
Farming experience	-6944.3	4248.75	-1.63443***
Cost of land	15050.1	6450.82	2.33305**
Cost of production	1.5	0.16	9.32616*

(*= significant at 1%;**= significant at 5%;***= significant at 10%)

R^2 =0.88; $\bar{R}^2$ =0.84; F-stat=15.754*

This results were similar to the pooled linear regression which is on Table 4.19.

4.3 Level of Repayment of Loan In Study Area.

Farmers in the study area had benefited from loans from their cooperative societies and other sources (other sources include banks, money lenders, churches, friends and relatives, office, Government under the national Special Programme for Food Security, and so forth). About 88% of the farmers preferred loan conditions of their cooperative societies. Most of the loans were in cash with a few in kind. Table 4.13 shows the distribution of beneficiaries and type of loans received.

Table 4.13: Distribution of beneficiaries and type of loan

Source of loan	Category of farmers	No of farmers	No of loan in cash	No of loan in kind	No of loan in cash/kind
Cooperative society	Beneficiaries	64	49	7	8
	Non-beneficiaries	41	-	-	-
Other source	Beneficiaries	40	40	-	-
	Non-beneficiaries	65	-	-	-
	Total	210*	89	7	8

* Multiple response. Source: Field survey, 2005

The level of repayment among 15 cooperative societies shows that there were defaults. Out of 100 farmers granted loans by 5 cooperative societies in Lokoja Local Government Area (L.G.A), which amounted to ₦600,000, 65 farmers fully repaid ₦462,000. While out of the 50 farmers in Dekina L.G.A that obtained ₦400,000 only 25 of them have fully repaid. In Ijumu L.G.A there were 40 farmers that obtained ₦130,000 and 30 farmers have fully repaid.(Table 4.14 and Fig. 3)

Table 4.14 : Distribution of loan repayment and default in the study area.

LGA	No. of loan granted	No. of farmer that repaid	No. of default	Rate of repayment	Percentage of default
Lokoja	100	65	35	65	35
Dekina	50	25	25	50	50
Ijumu	40	30	10	75	25

Source: Field survey, 2005

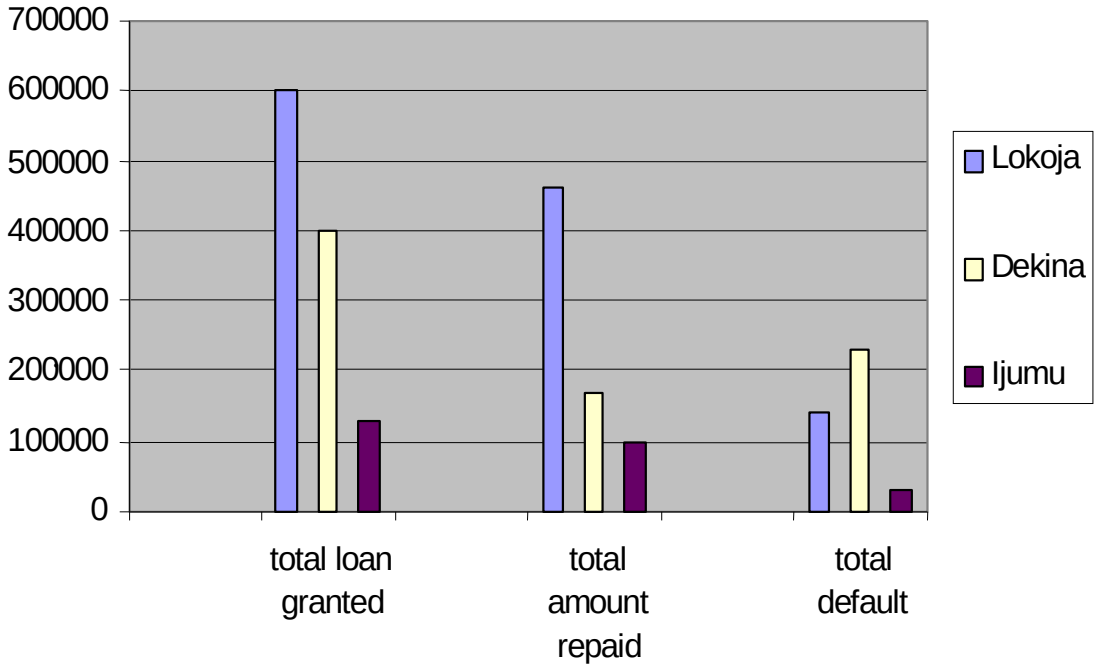


Fig. 3 : Level of repayment in the study area.

This shows that the level of repayment in Ijumu Local Government Area was high, followed by Lokoja L.G.A and Dekina L.G.A had the lowest level of repayment. This findings was similar to the Kogi State ADP SPFS (Special Programme for Food Security) report. (Table 4. 15).

Table 4.15: Kogi State Cost Recovery Status (2002 – 2005)

Module location	Amount of loan (₦)	Amount recovered (₦)	Percentage recovered
Aiyetoro-gbede	4,273,280	1,331,704	31.16
Osara	4,334,686	960,389	22.16
Agbaduma	3,530,278	696,793	19.45

Source : Kogi State ADP, 2005.

4.3.1 Reasons suggested by respondents for default

Several reasons were proffered for default e.g. crop failure, ill health of farmer or family member, poor sales and so forth. However ill-health (29%) was the most reason for default. Poor harvest or yield (17%) was also another reason among others and the least reason was the believe that loans were gifts from the government (National cake) as shown in Table 4.16.

4.3.2 Suggestions on how to curb default

Several suggestions were made by respondents on how best to curb default, e.g. repayment immediately after harvest, Co-operative officials setting up monitoring and repayment committee to ensure proper utilization of loan by recipient, charging defaulters extra, storing output for sometime before selling, monthly repayment (installmental payment), and so forth. About 23% of the respondents suggested setting up a monitoring and repayment committee, 12% suggested storing output for sometime before sales while 5% suggested that the belongings of the defaulters should be confiscated (Table 4.17).

Table 4.16 Reasons proffered by respondents for default

Reasons	No. Of farmers	Percentage of total
Crop failure	20	13.3
Ill health (self or family member)	43	28.7
Lack of enough rainfall	19	12.7
Poor harvest/yield	26	17.3
Poor sales	18	12.0
Believe loans are gifts	9	6.0
Conditions of Cooperative	15	10.0
Total	150*	100

* Multiple response.

Table 4.17 : Suggested Ways Of Curbing Default

Suggestions	No. of Farmers	Percentage of total
Repay immediately after harvest	22	11.4
Store output for sometime before sales	23	11.9
Strict law and regulation of the societies	5	2.6
Advice on loan management	11	5.7
Charge defaulters extra apart from interest	20	10.4
Set up monitoring and repayment committee	45	23.3
Keep proper account	2	1.0
Encourage large-scale farming	9	4.7
Monthly repayment	18	9.3
Take loans that they can easily pay back	11	5.7
Confiscate their belongings	10	5.2
Engage in other handiwork	12	6.2
Encourage cash crop farming	5	2.6
Total	193*	100

* Multiple responses

4.3.3 Credit worthiness

In line with the suggestion of the members of farmers' cooperative societies that cooperative societies in Kogi State should set up Monitoring and repayment committee, a credit worthiness model was developed (equation 10). Using equation (10), credit worthiness of some respondents were calculated based on their credit need categories.

A negative credit worthiness implies the farmer or borrower is not credit worthy and may not be able to repay the loan; a positive credit worthiness implies the farmer is credit worthy and able to repay.

Table 4.18 shows the credit worthiness of the different categories of credit needs and to what degree a farmer in question is credit worthy depending on the amount of loan to be granted. This suggests that a farmer or borrower's credit worthiness can be determined prior to loan disbursement, to enable the lender determine the farmer's or borrower's credit worthiness and amount of loan to be granted.

Table 4.18 Credit worthiness of some respondents.

Credit need category	Farmers income	Credit worthiness per loan amount			
		10,000	100,000	400,000	600,000
No credit needs	1,012,500	101.3	10.13	2.53	1.69
	81100	8.11	0.81	0.21	0.14
Low credit needs	46700	4.67	0.47	0.12	0.08
	14,000	1.40	0.14	0.04	0.02
Medium credit needs	18,200	1.82	0.18	0.05	0.03
	9,600	0.96	0.10	0.02	0.02
High credit needs	- 37800	- 3.79	- 0.38	- 0.10	- 0.06
	2850	2.85	0.03	0.007	0.005

4.4 The Relationship Between Farmers Socio-Economic Characteristics And Credit Needs

Empirical results of the relationship between farmers' socio-economic characteristics and credit needs were obtained by means of linear regression analysis. Regression analysis reflects the interaction among variables as they would naturally occur in the real world (Koutsoyiannis, 1981). Maiangwa (1999) noted that even under the best modeling conditions, only part of the variation is explained by the regression, with the unexplained portion occurring because the regression does not perfectly predict the dependent variable.

The coefficient of multiple determination (R^2) value was 0.6366. This implies that about 64% of the variability in the farmers estimated credit needs was accounted for by the specified explanatory variables. The F-value (7.007) was significant at 1% level of significance; this implies that the model was well specified (Table 4.20).

4.4.1. Age of respondents (X_1)

The age of farmers was found to be negatively related to credit needs contrary to the *a priori* expectation (Adekanye, 1983; Maiangwa, 1999). This implies that the older the farmer the less his credit needs. However, it was statistically significant at 5% level of significance. This could be due to the use of family labour. The older the farmer the large his family size which means more source of family labour available to him. Family labour tends to reduce the cost of production and ultimately reduces the credit needs.

4.4.2 Farming Experience (X_4)

The farmers' farming experience was found to be negatively related to credit need and statistically significant at 5% level. This is in line with the *a priori* expectation (Abdulsalam, 1997). It implies that the more the years of experience, the less the farmer's credit need *ceteris paribus*. This could be due to the effect of experience in farming on the farmers' managerial ability and decisions on many farm operations. Experience also influence his perception and understanding of the socio-economic factors affecting farming, therefore, the more the experience, the more the farmers ability to manage general and specific factors which affect his farm business which may enable him to cut cost thereby reducing his need for credit.

4.4.3 Farm Size (X_5)

Farm size was found to be positively related to credit needs and statistically significant at 5% level. This implies that as farm size increases credit need increases *ceteris paribus*. It was in line with *a priori* expectation as also found

by Adeogun (2002) and Barau (1987). As the farm size increases the more the input requirement, which necessitates the need for credit.

4.4.4 Non-Farm Activities (X_8)

Non-farm activities were found to be negatively related to credit need in line with the *a priori* expectation and was statistically significant at 5% level. This implies that as non-farm activities increases credit needs reduces, which could be due to more funds being available to the farmer for farm operations from his non-farm activities therefore less need for credit.

4.4.5 Cost of production (X_9)

The cost of production was found to be positively related to credit need. This was in line with *a priori* expectation. It implies that as cost of production increases credit need increases *ceteris paribus.* It was statistically significant at 5% level. This could be due to the fact that as the cost of production increases more fund is needed hence the need for credit.

Table 4.19: Pooled Linear Regression result for the relationship between farmers socio-economic characteristics and their credit needs

Explanatory variables	B	Std Err	Std Coefficient	t-stat	Sig
Constant	11351.96	21765.18		0.52156	0.604849
Age	-3132.98	4529.62	-0.255582	2.18353**	0.031489
Farming experience	-1657.17	4885.97	-0.225032	-20.1194**	0.047088
Farm size	2047.83	3790.96	-0.234582	-2.33266**	0.021800
Non-farm Income	-5281.56	8216.08	-0.372150	3.97637*	0.000137
Cost of production	1.08	0.19	0.126631	5.07985*	0.000280

R= 0.7978 R^2= 0.6366 $\bar{R}^2$ = 0.5457 F = 7.007*
DF = 104
(* = significant at 1% , ** significant at 5% level of significance respectively)

4.5 Factors that Determine Repayment Ability of Farmers

Empirical results of factors that determine repayment ability of the farmer was obtained by means of logistic regression analysis. Logistic regression predicts a dependent variable on the basis of continuous and/or categorical independent variables (Garson, 2006, Rice, 1994). The dependent variable has the value of 1 when the farmer has the ability to repay loans and the value of 0 when the farmer has no ability to repay loans. The model chi-square (38.89) was significant at 1% level of probability depicting an overall good model fit.

The odds ratio which is the exponential function of b (Logistic coefficient also called logit b) is shown in Table 4.21 as EXP(b). The odds ratio of the

independent variable is the ratio of relative importance of the independent variable in terms of effect on the dependent variable. An odds ratio above 1.0 refers to the probability that the dependent variable y = 1 in the binary logistic regression. The result of the logistic regression is shown in Table 4.20.

4.5.1 Family Size (X_3)

The logit $b_3 = 0.019$ with the corresponding odds ratio of 1.02 implies that a 1unit increase in family size the probability that the dependent variable y = 1 increases by a factor of 1 when other variables are controlled. The implication of this is that family size determines repayment ability but the effect of family size on repayment ability is not much because the odds ratio (1.02) is close to 1.0

4.5.2. Farming Experience (X_4)

The logit $b_4 =$ 0.760 with the corresponding odds ratio of 2.14 implies that a 1unit increase in farming experience the probability that dependent variable y =1 increases by a factor of 2 when other variables are controlled. The implication of this is that farming experience determines repayment ability to a large extent because of the value of the odds ratio (2.14) which is greater than 1.0

4.5.3 Farm Size (X_5)

The logit $b_5 = 0.046$with the corresponding odds ratio of 1.05 implies that a 1 unit increase in farm size the probability that the dependent variable of y = 1 increases by a factor of 1 when other variables are controlled. The implication

of this is that farm size determines repayment ability but the effect of farm size is not much because of the odds ratio (1.05) which is close to 1.0

4.5.4 Membership of Organisation (X_6)

The logit $b_7 = 1.985$ with the corresponding odds ratio of 7.28 implies that a one unit increase in membership the probability that the dependent variable y = 1 increases by factor of 7 when other variables are controlled. The implication of this is that membership of organisation affects repayment ability to a very large extent because of the value of the odds ratio (7.28) which is greater than 1.0

4.5.5 Non – Farm Activities (X_7)

The logit $b_7 = 1.275$ with the corresponding odds ratio of 3.58 implies that a one unit increase in non-farm activities, the probability that the dependent variable y =1 increases by a factor of 3 when other variables are controlled. The implication of this is that non-farm activities determines repayment ability to a large extent because of the value of the odds ratio (3.58) which is greater than 1.0

4.5.6 Return on investment (X_8)

The logit $b_8 = 0.013$ with a corresponding odds ratio of 1.01 implies that a 1 unit increase in return on investment the probability that the dependent variable y = 1 increases by a factor of 1 when other variable are controlled. The implication of this is that return on investment determines repayment ability

but the effect of return on investment on repayment ability is not much because the odds ratio (1.01) is close to 1.

Table 4.20 : Logistic Regression Result For Factors That Affect Repayment Ability

Explanatory variables	Coefficient b	Standard Error	Exp(b)
Constant	-3.260	1.390	0.038
Family size	0.019	0.044	1.019*
Farming experience	0.760	0.314	2.137*
Farm size	0.046	0.279	1.047*
Membership	1.985	0.630	7.280*
Non-farm income	1.275	0.553	3.577*
Return on investment	0.013	0.047	1.014*
Chi-square = 38.89*		prediction percentage = 79%	
DF(Degree of freedom) = 8			
(* Significant at P = 0.05)			

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The objectives of this study were to describe the socio-economic characteristics of members of farmers' cooperative societies; determine the credit needs of members of farmers' cooperative societies; determine the relationship between the credit needs and socio-economic factors of members of farmers' cooperative societies; determine the level of repayment of credit among members of farmers' cooperative societies and determine factors that affect repayment ability among members of farmers' cooperative societies. Various analytical tools were used for this study this include descriptive statistical tools, budgeting technique and regression analysis.

The study revealed that all respondents were within the ages defined by FAO (1992) as economically productive (15 – 64 years). The average ages of farmers and officials were forty (40) years and forty-five (45) years respectively. There were more male (93.3%) than female (6.7%) members of farmers' cooperative societies. Most of the farmers had attained one form of education or the other. The family size of most farmers were small, a majority (43%) had 6 to10 persons in their household while a few (8%) had over 20persons. The average family size was 9 persons per family.

Farm size ranged from 1 hectare to above 10 hectares however most (42%) of the respondent had between 1 to 3 hectares. Years of experience ranged from 1to above 10 years, with a majority (66%) having over 10 years experience.

About 31% of the respondents were purely farmers; the other 69% engaged in one form of non-farm activity or the other. The study revealed that farmers estimated credit needs ranged from ₦2,520 to ₦35,100. The relationship between farmers socio-economic characteristics and their credit need showed age (X_1), farming experience (X_4), farm size (X_5),non-farm activities (X_8)and cost of production (X_9) to be significantly related to credit needs in the study area. The hypothesis was therefore rejected.

As for the factors that determine repayment ability of members of farmers' cooperative societies, the result of the logistic regression showed family size (X_3), farming experience (X_4), farm size (X_5), membership of organisation (X_6), non-farm activities (X_7) and return on investment (X_8) do significantly affect their repayment ability of members of farmers' cooperative societies. The hypothesis was therefore rejected.

5.2 CONCLUSION

From the findings of this study the following conclusions can be made:

(1) Credit is needed by members of farmers' cooperative societies in the study area especially by members that produce arable crops and/or have small hectares, to acquire inputs to boost production, to acquire land to increase their scale of production with the government now laying more emphasis on boosting agriculture.

(2) The identification of socio-economic factors that affect credit needs goes a long way to emphasis area in which interventions are necessary and can be implemented. It also emphasis the form such interventions should take.

(3) The identification of factors that affect repayment ability will help emphasis factors that should be considered before loan disbursement as this will go a long way to curb or reduce the level of loan default.

(4) The credit worthiness model will help identify financial capability of a borrowers before any loans are disbursed to help curb non-repayment.

5.3 RECOMMENDATIONS

On the basis of the findings of the study the following recommendations are made:

(1) There is need for more credit to be made available to farmers to procure inputs, increase their farm size and to encourage more participation in cash crop farming through well established, registered farmer groups for easy monitoring, evaluation and recovery of such credit.

(2) There is need to analyse the repayment ability of prospective borrowers before any form of credit is disbursed, such that where probability of recovering the loan/credit is low, such applications should be rejected. Borrowers should be made to be committed by making sure borrowers have a certain percentage of the credit they need before loan approval to them.

(3) Insurance policies should be extended to cover both farm and non-farm enterprises to encourage more banks to make credit available to farmers.

The Agricultural Credit Guarantee Scheme Fund (ACGSF) should speed up settlement of claims to banks involved in the scheme to encourage greater participation in the scheme.

(4) Farmers need to be educated on the use of credit and the need to repay loans promptly. They should be educated on the fact that repayment is vital to project performance and lender's survival. Prompt repayment should be rewarded and farmers should be encouraged to keep savings accounts with banks of their choice.

(5) A similar study should be conducted in more Local Government Areas of Kogi State to come up with standard factors that determine repayment ability of farmers in the state. Also similar study should be conducted in the different agricultural zones of the country to have standard factors that determine repayment ability for the country.

5.4 LIMITATIONS OF STUDY

The major limitations encountered in this study are those inherent is social and economic research, particularly in data collection.

1. The problem of memory recall: Most of the farmers interviewed did not keep records of their farm activities in any form. Therefore they relied on their mood and memory recall to respond to questions and this is with its attendant memory lapses.
2. The fear of government auditing: Most of cooperative official and official of agricultural related agencies in the state were afraid of

government auditing their record. This limited the researcher's access to secondary data.

3. The use of one-year data: Agricultural production is highly dependent on nature therefore variations occur in output, income and price from year to year, this affects credit needs and repayment ability.

The results of this study would need to be complemented with studies from other areas. The system of costing both family and hired labour uniformly at market wage rate was a limitation. The system does not take cognizance of the quality differences between the two type of labour.

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Figure 1: Map of study area.

APPENDIX I: THE DETERMINATION OF CREDIT NEEDS AND FACTORS AFFECTING REPAYMENT ABILITY OF FARMERS CO-OPERATIVE SOCIETIES IN KOGI STATE.

Dear respondent,

This is study being carry out to find out the credit needs and repayment ability of members of farmers' cooperative societies. Please do respond to these questions sincerely. All information provided will be treated confidentially and used solely for the study. Do not write your name the question

Instruction: please tick where appropriate and fill where appropriate, thank you

CO OPERATIVE MEMBER'S QUESTIONNAIRE

SECTION A. DEMOGRAPHIC INFORMATION

1 Respondent's gender Male [ ] Female [ ]

2 How old are you?

(a) Less than 25 year [ ]

(b) 26-35 years [ ]

©36-45 years [ ]

(d) 46-55 years [ ]

(e) Above 55 years [ ]

3. Marital status: Single [ ]

4. What is your level of education?

(a) Primary school [ ]

(b) Secondary school [ ]

(c) Post-secondary school [ ]

(d) Others: Specify----------

5. Family size:

	Total	No. Working on the farm	No. In school
Wives			
Children: male			
Female			
Dependant: male			
Female			

6. What is your main occupation? ----------

7. What position do you hold in the community? ----------

8. How does your position affect your obtaining credit?----------

9. How long have been farming?

(a) 1 – 3 years [ ]

(b) 4 – 6 years [ ]

(c) 7 – 10 years [ ]

(d) Above 10 years [ ]

10. How did you acquire your farmland?

(a) Inheritance [ ]

(b) Allocated by village head [ ]

(c) Rent [ ]

(d) Gift [ ]

(e) Purchase [ ]

(f) Others, specify----------

---

11. If your land is rented, when do you pay for it?

(a) Once a year [ ]

(b) Every two years [ ]

(c) Every five years [ ]

(d) Every ten years [ ]

(e) Others, specify----------

---

12. How do you pay for your land? Is it in cash or in kind? ----------

If in cash, how much do you normally pay per acre/hectare?----------

If kind, with what do you pay? Specify----------

SECTION B. PRODUCTION INFORMATION

13. Are your lands allocated in one place? Yes [ ] No [ ]

What is the reason(s) for the above? ----------

---

14. What is the number of your field----------

15. What is the approximate size of your farm(s) put together?

(a) Less than one hectare [ ]

(b) 2 – 3 hectares [ ]

(c) 4 – 5 hectares [ ]

(d) 5 – 10 hectares [ ]

(e) Others, specify----------

---

16. What proportion of your land do you grow crop on?

(a) ≤ 25%

(b) ≤50%

(c) ≤75%

(d) ≤95%

(e) 100%

17. What is the reason for (16) above?

(a) Insufficient capital to grow crop on all my land [ ]

(b) Allowing it to fallow [ ]

(c) Have built houses on it [ ]

(d) Rented part of my land out [ ]

(e) Others, specify----------

---

18. How far is farm from your house?

(a) 1 – 5 km [ ]

(b) 6 – 10 km [ ]

(c) 11 – 15 km [ ]

(d) > 15 km [ ]

19. How do you get to your farm?

(a) Walk down [ ]

(b) Bicycle [ ]

(c) Motor-cycle [ ]

(d) Public transport [ ]

(e) Others, specify----------

20. What type of farming are you engaged in?

(a) Crop production [ ]

(b) Livestock production [ ]

(c) Both livestock and crop production [ ]

21. If you produce crops, which crops do your produce and what proportion of you field do you use?

Field No.	Crop type	proportion of field used

22.if you produce livestock

Type of animal	No. You keep

23. What is the source of labour used for your production?

(a) Family labour

(b) Hired labour

(c) Both family and hired labour

(d) Others, specify----------

24. How much do you hired labour per day?

Male Adult----------

Female Adult----------

Large Child----------

25. How do you pay for others source(s) of labour you use?
    (a) Feed them while they are on my field
    (b) Work for them on their fields
    (c) Give them seeds for planting
    (d) Give them fertilizer/crop protection chemicals.
    (e) Others, specify----------
    ----

26. Other farm inputs use apart from labour.

Type	Quantity	Per Unit Cost
Seed		
Fertilizer		
Agro chemical		
Others, specify----------		

----------		

27. Types of crop for	Field No.	Quantity Produce last year (bags)	Expected quantity this year

Type of Animal	No. Produced this year	No. Produced this year

SECTION C. NON-FARM ACTIVITY INFORMATION

28. Do you engage in non – farm activities? Yes [ ] No [ ]

If no, what is the reason? ----------

If yes, which of the following do you engage in?

(a) Tailoring [ ]

(b) Carpentry [ ]

(c) Brick laying [ ]

(d) Trading [ ]

(e) Barbing [ ]

(f) Civil servant [ ]

(g) Others, specify----------

29. Where do you save your income?

(a) Personally [ ]

(b) Thrift society [ ]

(c) Cooperative society bank. [ ]

(d) Others, specify----------

30. What proportion of your income do you normally save?

(a) None [ ]

(b) Less than 25% [ ]

(c) 26 – 50% [ ]

(d) Up to 75% [ ]

(e) Others specify: ----------

31. What is the source of fund used in your farm operations?

Source	Proportion of
Fund	
(a) Personal income	
(b) Finance from relatives and friends	
(c) Cooperative societies	
(d) Thrift societies	
(e) Money lenders	
(f) Others, specify: ----------	

32. Do you belong to any farmer's cooperative society Yes [ ] No [ ]

If no, what is the reason?

(a) Old age [ ]

(b) No assets [ ]

(c) Cannot meet up with the financial demand [ ]

(d) Low level of education [ ]

(e) Others, specify: ----------

33. If you belong to a cooperative society, which cooperative society? ----------

---

34. How long have you been a member of this cooperative society? ----------

---

35. Have you benefited from any form of loan from your cooperative society?

Yes [ ] No [ ]

36. If no, what was the reason?

Reason(s)	Strongly	Agree	Disagree	Strongly Disagree
(a) Partiality on the Part of the officials				
(b) Insufficient financial contribution I have made				
©The amount I needed				
(d) Unaccepted reason for requesting				
(e) Other reason: Specify: ----------				

37. If you benefited from a loan from your cooperative society, was it in cash or in kind? ----------

38. If kind, what was it?

(a) Fertilizer

(b) Seed

(c) Chemical for crop protection

(d) Others, specify: ----------

39. If in cash, what proportion of the amount you requested for did you get?

(a) 75 – 100%

(b) 50 – 74%

(c) 25 – 49%

(d) 10 – 24%

(e) below 10%

40. What was the reason for the proportion given above? ----------

---

41. What was your reason for asking for the loan?

(a) To buy farm inputs [ ]

(b) To transport farm products to the market [ ]

(c) To pay children's school fees [ ]

(d) To pay for hospital bills [ ]

(e) Others, specify----------

42. When were you supposed to repay the loan?

a. Immediately after harvest [ ]

b. 3 months after harvest [ ]

c. 6 months after harvest [ ]

d. 12 months after harvest [ ]

e. Others specify----------

43. How were you to repay the loan, in cash or in kind? ----------

44. Have you ever been unable to repay the loan as at when due?

Yes [ ] No [ ]

If No, what helped you to repay as at when due? ----------

If Yes, what the cause(s) of your inability to repay the loan as at when due? ---

---

45. Have you benefited from any of loan from other source(s) apart from your cooperative society? Yes [ ] No [ ]

If no, what was the reason? ----------

If yes, specify the source(s)----------

---

46. Were you able to repay this loan as at when due? Yes [ ] No [ ]

If no, what was the reason(s)? ----------

If Yes, what helped you to repay the loan as at when due? ----------

---

47. The conditions for receiving and repaying loan of this other source(s) compared to your cooperative society, which do you, prefer? ----------
---

48. What in your opinion would help you and other members of your cooperative society repay loans they receive as at when due? ----------
---

Family Labour: Type of crop mixture----------

Field No, ----------Code No.----------

Operation	No. of workers	Actual hours Spent	No. of days	No. of workers	Actual hours Spent	No. of days	No. of workers	Actual hours Spent	No. of days
Land preparation									
Planting									
First weeding									
Second Weeding									
Fertilizer application									
Agro - chemical application									

Note: Large child: Children between ages 8 – 15 yrs. Farmers with more than one field should use extra sheet provided.

Hired Labour: Type of crop mixture----------

Field No, ----------Code No.----------

Operation	No. of workers	Actual hours Spent	No. of days	No. of workers	Actual hours Spent	No. of days	No. of workers	Actual hours Spent	No. of days
Land preparation									
Planting									
First weeding									
Second Weeding									
Fertilizer application									
Agro - chemical application									

Note: Large child: Children between ages 8 – 15 yrs. Farmers with more than one field should use extra sheet provided.

APPENDIX II: QUESTIONNAIRE FOR OFFICIALS

Town / village---------- Code No----------

Respondent's gender Male[ ] Female [ ]

1. Official's Rank----------

2 How old are you?

(a) Less than 25 year [ ]

(b) 26-35 years [ ]

©36-45 years [ ]

(d) 46-55 years [ ]

(e) Above 55 years [ ]

3. Marital status: Single [ ]

4. What is your level of education?

(e) Primary school [ ]

(f) Secondary school [ ]

(g) Post-secondary school [ ]

(h) Others: Specify----------

5. Family size:

	Total	No. Working on the farm	No. In school
Wives			
Children: male			
Female			
Dependant: male			
Female			

6. Name of cooperative society: ----------
---

7. When was this cooperative society formed? ----------
---

8. How many members does your cooperative society have presently? ----------
---

9.what type of agricultural activity (ies) do members of your cooperative society engage in?----------
---

10. Does your cooperative society grant loans? ----------

11. What are the conditions for granting loan?

Conditions	Strongly Agree	Agree	Disagree	Strongly Disagree
(a) Membership				
(b) Financial contribution				
(c) Assets / collateral				
(d) Duration of membership				
(e) Others, specify---------				

12. What is the total number of people that applied for loan since the inception of your cooperative? ----------

13. What is the total number of loans granted since inception of your cooperative society? ----------

14. What is the range of loan granted to an individual per time?

(a) 1,000 – 3,000 [ ]

(b) 4,000 – 6,000 [ ]

(c) 7,000 – 10,000 [ ]

(d) 11,000 – 15,000 [ ]

(e) Others, specify----------

15. What is the source of fund used in granting loan?

(a) Contribution of members [ ]

(b) Banks [ ]

(c) Money lenders [ ]

(d) Thrift society [ ]

(e) Others, specify----------

16. Does your cooperative have cases of default? Yes [ ] No. [ ]

17. What is the total number of repayment as at when due? ----------

18. What is the total number of default since the inception of your cooperative society? ----------

19. What is the total amount repaid? ----------

20. What is the total amount repaid? ----------

21. What is the total amount of default?

22. What is the penalty for default? ----------

23. What measures has the cooperative taking to curb non – repayment or late repayment of loans granted? ----------

24. In your opinion, what do you think causes beneficiaries of loan to default? ---------

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