Dissertation

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Response of farmer loan demand to interest rates and non price determinants: a case study of Delta State, Nigeria

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TITLE PAGE

RESPONSE OF FARMER LOAN DEMAND TO INTEREST RATES AND NON PRICE DETERMINANTS: A CASE STUDY OF DELTA STATE, NIGERIA

A PROJECT REPORT
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CERTIFICATION

Akpomedaye, Helen Omotorhie, a postgraduate student in the Department of Agricultural Economics and with the Registration Number PG/MSc/92/13689, has satisfactorily completed her research work in partial fulfilment of the requirements for the award of the Degree of Master of Science in Agricultural Economics. The work embodied in this thesis is original and has not been presented for publication elsewhere in any way or form.

DR E.C. EBOH
(SUPERVISOR) 2/7/97

DR E.C. NWAGBO
(HEAD OF DEPARTMENT)

DEDICATION

To my father, Mr M.O. Akpomedaye and mother, Mrs A. Akpomedaye, for their encouragement and support in all my endeavours.

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ABSTRACT

The study comparatively analysed and explained the determinants of small farmers' demand for formal and informal credit in Delta State.

The three agricultural zones of Delta State were surveyed. Sampling was carried out in the selection of two local government areas in each zone. The respondents (120) consisted of 72 farmers, 24 formal lending agencies and 24 informal lending agencies drawn from the three agricultural zones through random sampling.

The data were analysed using tables, simple averages, percentage and multiple regression. T-test statistic was used to test the hypothesis. The result showed that 17% of the farmers obtained their loan from formal lending agencies while 61% of them obtained their loan from the informal lending agencies. The remaining 22% obtained their loan from formal and informal loan combined.

The study further showed that the amount of loan demanded and obtained from formal lending agencies ranged from ₦500 to ₦8001, while the amount of loan demanded and obtained from the informal lending agencies ranged from ₦500 to ₦8000.

Various factors were identified to influence small farmers' choice of a lending source. These factors include: the interest rate, amount of loan given, cost of loan, grace period, duration of loan, collateral requirement and distance travelled to obtain loan.

Regression analysis was used to ascertain the determinant of small farmers demand for formal and informal loans. The analysis showed no significant difference between formal loan and informal loan. For the two regression equations, the coefficients of multiple correlation (R^2) were 60% and 48% for formal loan and informal loan respectively. These percentage showed that the proportion of observed variability (in the volume of loan demanded) explained by the combined effect of the independent variables is greater for formal loan than informal loan. It was found that formal loan was strongly influenced by farm size, operating expenses and degree of usage of modern technology while the informal loan was strongly influenced by farm size, operating expenses, degree of usage of modern technology and membership of savings group.

The study recommended that the amount of loan granted to small farmers should be increased and simplification of the procedure adopted in the extension of loan to small farmers (that is some lending conditions should be relaxed).

It was also recommended that the interest rate should be set at a minimum level that will encourage farmers' demand for loans. To make more farmers' patronage of formal and informal loans, the major factors (proximity of the lending source, good disbursement method, interest rate, loan term/duration, amount of loan granted, lending policies, services offered and good repayment arrangement considered before choosing a loan source) should be made attractive.

It was further recommended that informal sources of loan should be developed to act as channels for the flow of funds from Banks to rural areas as well as a security for such loans.

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CHAPTER ONE

INTRODUCTION

1.1 Background Information

The history of economic development reveals that greater productivity throughout a nation's economy is attributable to progress in the agricultural sector (Meier, 1965; Scandoval, 1965). According to Balogun (1986) and Onyenwaku (1986), the relative contribution of this sector to Nigeria's Gross Domestic Product has been on the decline. Fomoriyo and Nwagbo (1981) noted that the agricultural sector still remains significant because in absolute terms, its contribution has been rising though at a slower pace than those of the non-agricultural sectors.

The slow pace of agricultural development in Nigeria is attributable to varied factors, but the poor financial status of the small farmers who constitute the bulk of the farming population in Nigeria has been outstanding.

Credit plays crucial roles in oiling the wheel of progress in agricultural production. According to Kumar, et al (1978) to obtain a substantial increase in agricultural production, provision of credit at reasonable interest rate to augment the financial base of the farmers is necessary. Williams (1986) who holds a similar view noted that financing agriculture through appropriate loan terms will

help bring more virgin land into cultivation, and largely within the framework of the traditional systems. In addition, credit is necessary for the purchase of farm inputs such as tractors, machinery, fertilizers, agrochemicals, planting materials, hired additional labour and to introduce appropriate supplementary enterprises among others (Ogunfowora and Olayide, 1975; Nwoke, 1981; Monu, 1982; Adekanye, 1983; Ihimodu, 1983).

Farmers' credit are derived from two main sources: Institutional (formal) and non-institutional (informal) sources (Oludimu, 1983). Perhaps one of the most concise distinctions between these broad classes of sources of credit was given by Adekanye (1983) and Miller (1977) who consider the formal sources as those operating procedures and loan terms which tend to be standardized and subject to Central Bank control. This presupposes that the informal lenders are not subject to Central Bank control, nor have standardized operating procedures and loan terms.

Informal loans are made directly to borrowers by the lenders and are prevalent in areas where individuals are quite familiar with and confident in one another. Their activities are confined to well known localities and therefore, do not extend into wide geographical areas. The lenders know the borrowers and can tell fairly well their integrity

(Abe, 1981; Ijere, 1986; Udry, 1990). In the case of formal loans, usually, collateral in form of tangible assets are required from borrowers to secure the loans. For the informal lenders however, a number of things may be acceptable as security for loans, but most essential is the personality of the borrower (Hoff and Stiglitz, 1990).

Ogunfowora, et al (1972) observed that the most common source of loan to small farmers is the informal source. They also noted that the supply of farm loan from the formal source is restricted to the extent that it is not readily accessible in location, unfamiliar with individual farmers' enterprises and income generating potentials, unduly fearful risks and uncertainty in farming business and unwilling to arrange long term loans suited for the needs of the farmers.

Many governments, supported by multilateral aid agencies, have devoted considerable resources to supply cheap loans to farmers in a myriad of institutional settings with the view to tackling the financial problems facing these farmers (Balogun, 1986; Hoff and Stiglitz, 1990). The results of many of these interventions have been disappointing and one explanation for this must be based on an adequate understanding of the workings of the rural credit markets. The government sponsored loan

programmes in most cases, fail to take into consideration the peculiar circumstances of the small-scale farming enterprises by insisting on such loan conditions that the farmers cannot guarantee. Most of the formal loan institutions are highly resistant to lending to farmers because of the perceived risky nature of the enterprises (Okorie, 1986; Ogunfowora, et al. 1972; Osuntogun, 1983).

As an alternative to the government sponsored/formal loan system, and through age-long evolutionary process, non-government sponsored/informal loan systems have been and continue to be the resort of a majority of the small scale farmers. According to Hoff and Stiglitz (1990) although average loan transaction is ₦266 for formal and only ₦51 for informal loan systems, the formal loan sector of the financial system in Nigeria accounts for only eight percent of the total loan in value. This is the trend despite the criticisms that informal loan systems are inadequate in advancing the course of a progressive agricultural system (Belshaw, 1959; Gangopadhyay and Sengupta, 1987; Udry, 1990).

1.2 Problem Statement

Production loan for small farmers is one of the key factors needed for increased agricultural productivity (Olayide, 1980; Ijere, 1981; Aku, 1986). The issue of the need for production credit among small-scale farmers as

one of the key factors needed for increased agricultural production has received the attention of many writers (Ijere, 1981; Aku, 1986). Lack of loan reduces farmers' abilities to adopt new and better techniques of production.

Onaghise (1990) observed that cases abound where harvesting of crops could not be done due to the inadequate financial base of the farmers. Despite the critical importance of other factors of production, the inadequacy of credit is the single most important constraint to modernizing agricultural production in Nigeria (Chidebelu, 1983).

In response to the credit need of farmers, there exist a number of agricultural credit channels. These are broadly classified into formal and informal credit systems. The small farmers have had costly statis credit from informal sources and this leaves them with little or no income at the end. All efforts to extend formal credit to this category of farmers has failed. This lag in the formal and informal sources of loan forced the small farmers into the decision of obtaining loan from either sources.

Thus, many factors determine small farmers' choice as to what particular source of loan to borrow money from. These determinants and the magnitude of their influence is what this study seeks to find out particularly as they concern the small farmers in Delta State.

Government's involvement in the supply of loan to farmers is usually felt through the formal loan systems. Despite the huge government backing of the formal loan systems, records show that the informal loan systems represent more readily sources of loans to small farmers (Ihimodu, 1986; Ijere, 1986; Hoff and Stiglitz, 1990).

The high level of patronage of the informal relative to the formal credit systems seems to counter the criticisms being made against the informal system. Informal credit agencies are criticised on grounds of high interest charges and inadequate loanable funds relative to the demands of farmers among others (Abe, 1981; Adams and Grahams, 1981; Ijere, 1986; Gangopadhyay and Sengupta, 1987).

The question then is why do majority of the small-scale farmers patronize the informal credit agencies if indeed the systems are fraught with untenable conditionalities and characterised by acceptable features? Are the small farmers irrational in their choice of lending sources? According to Olayemi (1980), small farmers are rational from whatever analytical approaches adopted, struggling to optimize their objective functions subject to resources constraint.

This notwithstanding, small farmers consider a number of factors in deciding what type of loan source to obtain money from. These include such determinants as the farmers'

characteristics, loan sources as well as farmers' production/income variables.

Arguement abound as to which factors are important influences on small farmers demand for formal and informal loan. It is important to know the effect of these determinants, as well as other factors considered to have affected small farmer demand for formal and informal loans.

The research problem can therefore be cast in the following questions, viz:

1) What factors influence small farmers demand for formal and informal loans?
2) What are the implications of such influences for small farmer loan policy in the country?
3) What are the criteria used by formal and informal lenders in giving loans to small farmers?

This study is undertaken to examine the views and responses of the small-scale farmers to informal and formal conditions of loans. This is hoped, would suggest reasons why the small farmers patronize one loan source than the other and elucidate the determinants which influence their choice of lending sources.

1.3 Objectives of the Study

The broad objective of this study is to analyse and explain the determinants of small farmers' demand for formal and informal credit in Delta State.

The specific objectives are as follows:

1) to determine the amount of formal and informal loan obtained by small farming households;
2) to determine the extent to which demand for loans differ between the formal and informal loans;
3) to identify and examine the lending criteria adopted by formal and informal suppliers of credit;
4) to ascertain and examine the determinants of demands by small farmers for formal and informal loans;
5) to compare the relative impact of loans obtained from both formal and informal sources on small farmers' production level; and
6) to make policy recommendations based on the above findings.

1.4 Study Hypotheses

1) The amount of loans obtained from formal loans do not differ from that of informal loans among small scale farmers.
2) The lending terms of formal loan differ significantly from that of informal loan.

1.5 Justification for the Study

An examination of the conditions and lending criteria for the acquisition and use of credit by small farmers from loan sources is necessary because it will help bring into focus the difficulties encountered by farmers and credit agencies in acquiring and extending loan.

An examination of the factors influencing the small-scale farmers' demand for formal and informal loans will be beneficial, particularly to policy makers, farmers and agricultural credit institutions.

For policy makers, this study will provide guides for redirecting and increasing small farmers' lending from formal and informal loan sectors. To small farmers, it will help them to analyse the lending criteria and conditions of both types of loans so as to redirect their choice of loan sources.

For financial institutions it will provide valuable information on how their lending patterns affect small farmers choice of loan source and thereby assist in responding to government's agricultural loan policy instruments.

1.6 Plan of the Work

The plan of this work is set out in seven chapters. The first chapter consist of a brief introduction, statement of problem, objectives, hypotheses tested and justification for the study.

Chapter two is the review of related relevant literature. The methodology of the study is covered in chapter three. Chapter four comprises of the association between farmers' socio-economic attributes and demand for loan (formal and informal). Chapter five covers the small farmers loan demand and utilization pattern of formal and informal loan sources. Chapter six covers the determinants of farmers' demand for formal and informal loans comparative analysis.

Finally, chapter seven is the summary, recommendations and conclusion.

1.7 Limitations of the Study

Finance was the greatest constraint of the study. The effect of inadequate finance on any research work cannot be overstressed. Considering the fact that the researcher is a privately sponsored student with limited financial resources at her disposal, and taking cognisance of the fact that on every questionnaire and research work, etc, the factor finance comes in, this project was not easy at all.

In addition, the farmers do not keep records and therefore, only estimates were used in areas that concern numerical values. Most of the time, reliance was on the ability of the farmers to recall what they had done though, some of their claims were cross-checked by visiting the sites. Standardizations were not possible because as pointed out by Young (1968), production cost vary tremendously between different farms even within the same neighbourhood.

Also, there were the problems of suspicion. The farmers thought that the researcher was collecting information from them in order to assess them for tax or to recommend to the government the area they should come and take land and as such some of the relevant information were hidden.

Furthermore, some bank officials feel very reluctant to exchange ideas with the researcher except with express permission from their headquarters.

CHAPTER TWO

LITERATURE REVIEW

2.1 The Role of Credit in Agricultural Development

As it is true of any business, credit and investment are important to the growth of agriculture. It is lack of credit facilities which has kept many farmers from adopting innovative practices, since most of them lack tangible collateral which could be accepted against loans (Williams, 1978).

Adegeye and Dittoh (1982), defined agricultural credit as a way of obtaining control over the use of money, goods and services in the present in exchange for a promise to repay at a future date. Agricultural credit has its macro and micro aspects. Loans are obtained by governments internally or externally to finance agricultural projects. Farmers also obtain loans for the purpose of using them on their farms. Pisk (1974), described credit as a vehicle for agricultural development and suggested that credit was necessary if the farmers were to derive the benefits of improved technology. He reasoned that lack of small farmers access to credit constituted a critical constraint to the adoption of improved inputs and technologies which could lead to increased incomes and enhanced social welfare.

An efficient credit system is a precondition for the effective fulfilment of agricultural roles of:

1) generating internal capacity through saving;
2) providing sufficient food of high quality for feeding the growing population;
3) providing surplus food and fibre for export in any giving country; and
4) providing raw materials and other fibres for home industries (Olayide, 1981).

This is clearly stated by Oyatoye (1983), who asserts "farm credit appears to be the means of improving farm capital investment and without it there can be no progress in the country's agricultural development".

Credit can serve as a catalyst to increase agricultural production (Ihimodu, 1986). He further remarked that credit has the ability of stimulating farm growth through its influence on other factors of production. With it the services of agricultural staff and extension workers can be bought and the marketing of agricultural produce facilitated. Credit use in the farm has diverse application (Ibe, 1981). It could be used for production or for meeting current or land capital expenses of the farmers. These among others include maintenance, repairs, running and hiring cost of machinery and equipment, payment of wages, taxes, rents, land charges, investment on land and its

improvement and other current overheads (Oluwasanmi and Alao, 1965). In lean periods, consumption credit is considered necessary, by its contribution to farmers labour input in the farm.

Olayide and Heady (1982), Adegeye and Dittoh (1982), and Murray and Nelson (1961) have reported that credit could reduce inefficiency in resource utilization in production processes. The use of credit increases the managerial skill of farmers, since the use of loan involves increased use of resource inputs or new technologies (F.A.O, 1985).

Credit may not achieve the objective of transforming traditional agriculture in the absence of complementary input services (Okorie, 1986; Adegeye and Dittoh, 1985). Pachico and Borbon (1987) have argued that the pursuit of farmers' improvement in production must be accompanied by an integrated flow of services that will facilitate technology development and transfer. Johnson (1982) and Howsel (1974) saw credit as an accelerator but not a necessity. They argued that the existence of farm inputs and good prices would be better inducement to production than institutional credit supply.

So far various views on the importance of credit in agricultural development have been looked into as reported by various researches. It is obvious that adequate and timely credit is a leverage for agricultural development.

Therefore, credit can be said to be one of the pre-requisites for modernizing and expanding agricultural. But it should also be noted that this can only be possible if the acquired credit is judiciously utilized in the pursuit of agricultural development or improvement.

2.2 Determinants of Demand For Credit

In the study of the factors affecting the demand for loan, Nwagbo and Mohammed (1986) broadly classified the factors into economic, sociological and technical, environmental factors, administrative factors, mode of operation.

Under economic variables, are included: interest rate, wealth, management, return on investment, income of the farmers, year of farming, use or non-use of production contract, type of farm, value of annual sales, marketing facilities and off-farm work and income. Among the sociological variables are tenancy, religious and social attitudes and values, familiarity with the credit agencies, age of farmer, and community status.

Falusi (1973) has remarked that farmers demand for credit is governed by socio-economic and environmental factors. These, he defined as the subsistence nature of production, land tenure problems, technological stagnation, lack of, or restructured market outlets and social

organisation and attitudes and values which are social or economic. However, family expenditure, current expenditure and capital expenditure contribute in determining the credit need of the farmer (Ghatak, 1977). Long (1968) observed that farmers might borrow depending on their management ability, rates of interest, transaction costs and tenancy. In addition, the age of the farmer, his cultivated hectarage and his annual income determine his credit requirement (Adekanye, 1983).

Hoff and Stiglitz (1990) outlined the major determinants of small farmers demand for credit as follows: farm size of the farmer, interest rate on loan, level of formal education, loan duration, nearness to source of loan and collateral base of the farmers. While, Nisbet (1967) outlined the following factors to influence small farmers' demand for credit. They are: number of people in the household, technology and labour availability.

The drastic drop in government subsidies for farm inputs, increase in price of these inputs, fall in farm output prices in the world market and the relatively low producer price paid to farmers have together adversely affected the financial health of Nigeria's agricultural sector causing a lot of stress for the small farmer. Modern farm inputs needed to boost production and productivity are

expensive and have to be purchased. Because the farmer is poor, money for such uses has to be borrowed.

The amount of farm credit borrowed by a farmer may be influenced by several factors as past literature in this area has identified. Bassel (1975), Reid (1982) and Adekanye (1983) carrying out independent studies found that the volume of credit or the degree of indebtedness, as Reid put it, depended upon the age, sex, crop hectarage, farm size, farmer's income, production pattern and form of land tenure. The major reasons for increased borrowing according to Reid (1982) were: the adoption of needed technology, purchase of land, inflation and its effects on working capital, taxation and increasing family living expenses. On his part, Long (1968) considered the demand for credit as a question of allocating capital in an action space which has only yield and risk for its dimensions. According to him, previous use of highly productive capital assets depended upon costs of debt, starting the farming season with enough working capital, transactions cost, tenancy and poverty which have different implications for the amount of credit borrowed.

Another study by Sithole and Apedaile (1987) saw the problem from a different perspective. They inquired into the issues which might cause a farmer to reduce his hectarage. They saw insecure land tenure systems, shortage of farm labour,

low crop price and the absence of a potential commercial market as important factors. The reduction in hectarage would simply lead to a reduction in farm input requirements and therefore a fall in the volume of credit demanded and employed by the farmer.

2.3 Sources of Loan to Small Farmers

Generally speaking, small farmers have two categories of sources of loans. These are the formal and informal sources. Other authors used various names too. For example, FAO (1965) and Oyatoye (1983) used the term institutional and non-institutional. Allen (1987) called it conventional and non-conventional sources, while Ijere (1986) referred to it as non-indigenous and indigenous. This classification was independently noted by Ijere (1972); Miller (1977); Abe (1981) and Ibru (1981). The formal sources include government credit institutions, farmers' cooperatives and commercial/merchant banks. Informal sources include: friends and relatives, traders, produce buyers, money lenders, isusu system and age grade. Personal savings by the low resources farmers (small farmers) is often very low as most of the farmers' income is spent on consumption. However, Adekanye (1983) does not consider it as an important source of fund for farm investment.

The formal sources of credit have well defined guidelines with regard to the interest rates to charge on various types of loans. The informal credit do not, however, have any such guidelines and interest rates charged are normally based on the personalities involved and on the sport assessment of risks (Adegeye, et al, 1983).

One of the most concise distinctions between the formal and informal sources of loan was given by Adekanye (1983). Like Miller (1977), she considers the formal sources as those operating procedures and loan terms which tend to be standardized and subject to Central Bank control. This then presupposes that the informal lenders are not subject to Central Bank Control, nor have standardized operating procedures and loan terms.

The informal sources of loan are informal in nature and there are no laws laid down to guide their formation and operation. As a result, when one, two or more persons are capable of coming together for the common purpose of mutually aiding each other in financial terms or for the purpose of extending credit to outsiders, through some periodic contributions, an informal financial organisation emerges (Udogu, 1988). Informal loans are made directly to borrowers by the lenders and are prevalent in areas where individuals are quite familiar with and confident in one another. Their activities are confined to well known

localities and therefore, do not extend into wide geographic areas. The lenders know the borrowers and can tell fairly well their integrity (Abe, 1981; Ijere, 1986; Udry, 1990).

According to some authors (Belshaw, 1959; Onah, 1980; Okafor, 1983; Udogu, 1988) observed some of the reasons for the continued existence of the informal financial organisations and agencies.

1) Their existence and operations are compartible with the preference and needs of borrowers and lender;
2) They provide credit liberally without insisting on securities other than social sanctions of the group which often deters default;
3) Their loans are timely and devoid of administrative delays and procedures;
4) There is flexibility built into the use and repayment of loans;
5) In the case of merchant/traders, farmers are assumed of markets for their output;
6) They obviate the problems of uneconomic size, scattered farm holdings and insecurity of tenure; and
7) There is expenditious enforcement of loan terms so as to ensure quick repayment, but with provisions to accommodate farmers who unavoidably could not meet up their loan contractual obligations.

The formal sources of credit on the other hand are characterised by standardized operating procedures and loan terms prescribed by the Central Bank.
One desirable feature of loans from these sources is the relatively low rate of interest associated with these loans.

Miller (1977), noted that the institutional sources of credit supply credit to large farmers and this shows that most small farmers are yet to benefit adequately from institutional credit. These sources of credit are reluctant in giving the small farmers loan who form the majority of the farmers. Their impact on agricultural financing is regretably not felt by the bulk of farmers randomly selected. Chidebelu (1983) asserted that the formal institutions often required small farmers to keep account in the banks, provide acceptable security, have viable projects, have good credit ratings and the ability to repay, before credit could be extended to them and most often those farmers do not meet these lending requirements for promoting agriculture and rural development.

Also the inability of small farmers to meet banks stringent measure with respect to provision of collateral and fulfilment of other pre-conditions laid down by the Banks deprive them of borrowing money from banks.

The informal sources constitutes an important source of credit for agricultural production because of easy accessibility and minimal formalities in obtaining the loan (Aneke, 1981). He also noted that formal credit is not easily accessible to small farmers because of their excessive collateral requirement which definitely the farmers cannot provide.

Studies indicate that commercial banks care for only a small percentage of farmers currently using credit. Ahaiwe (1985) observed that banks care for only 11 percent of farmers who borrow for investment purposes while the rest resorted to friends, relatives, private money lenders and cooperative societies. In a similar study, Aneke (1981) observed that commercial banks care for only eight percent of farmers who obtained credit in 1979/1980 season in Nkanu Local Government Area of Anambra State.

The informal sources of credit is advantageous in a number of ways example, a farmer can easily get money at short notice. The money lenders do not go into the long procedure of form fillings. Most times it is a mere agreement on a piece of paper. By so doing, funds are disbursed when needed. Collateral security most times are not needed. Aneke (1981) discovered that about 90 percent of farmers in Udi and Nkanu Local Government Areas use the informal sources of credit because of the outlined advantages.

Inspite of the popularity of the informal sources of credit in Nigeria Olayide et al (1979) asserted that they were largely inefficient. Moneylenders' interest rate charge is alarmingly high. Obeta (1982) stated that moneylenders in Nsukka Local Government Area charged interest ranging from 25% to 120 depending on the character of individual involved. Furthermore, collateral such as tree crops, farmland or any other valuable assets in form of property are demanded by private lenders and the small amount available to be loaned out limits the effectiveness of loans from these sources.

Ijere (1986) pointed out that even though loans from friends and relatives often do not attract interest charges or is minimal, there is obviously one serious disadvantage of this source. He observed that in event of any family disagreement, borrowers may face impromptu repayment or seizure of their land or capital property.

Owan (1982) remarked that there is need for more institutional credit in agricultural sector and inspite of the high interest rates the non-institutional lenders charge, they are still competing favourably with the institutional lenders for patronage.

2.4 Basis for Comparison of Loans

There is the need to compare and contrast the benefits (as it affect the small-scale farm) from the two sources of credit based on the following parameters. In other word formal and informal credit can be differentiated on the basis of interest rate, collateral requirement.

Interest rate is a charge for a financial loan and it is usually expressed as a percentage of the original amount loaned. Interest rates are not fixed but vary from lender to lender. For formal credit institutions, the rate of interest is determined by the Central Bank of Nigeria which takes into consideration the prevailing economic situation with particular reference to inflation (Ijere, 1986).

As contained in the statement on the 1985 budget, the approved rates of interest range from 8-9%. These low interest rates however do not inspire small-scale farmers into patronizing formal credit institutions. One therefore begins to wonder if there are no stringent measures attached to these low rates of interest that scare the farmers. Owan (1982), found out in a recent survey conducted that despite the low rate of interest of the ministry (3½%) only 23.2% of the farmers obtained its loans. On the contrary, despite the high interest rates of the informal sector (75%), as many as 66.0% of the loan beneficiaries made use of this source.

The study by Owan (1982), also found out that despite the low rate of interest charge by the formal loan (3½%) only 30% of the small-scale farmers demanded for loan from this sector while 80% of the small farmers demanded for informal loan despite its high interest rate.

According to Obeta (1982), money lenders in Nsukka Local government area in Anambra State charged very high interest rates ranging from 25% to 120% depending on the reliability of the individual.

Piyatissa (1982) concluded that such an attitude stems from the exploitative nature of the traditional non-institutional sources of credit, especially the money lender, the itinerant trader and the affluent landowner.

Loan provided by these non-institutional sources is high-risk credit but the condition invariably insures himself against all eventualities by charging a high-risk interest rate. It is presumed that repayment was generally in kind and the farmer is under an obligation to sell his produce to the money lender during harvest, at a price which is invariably below the prevailing market price. Piyatissa (1982) says that, given such a background, it is inevitable and natural that the government should intervene in the sphere of agricultural credit to free the smallholder farmers from the clutches of the money lenders who according to Abe (1981), charged exhorbitant interest rates.

There are contrasting views on the interest rates which credit institutions should charge farmers. Adam (1973) pointed out that at low interest rates, credit demanded often exceeds the supply of loanable funds with the result that lending agencies select only those borrowers who have excellent credit ratings. In this environment, small farmers are often deprived access to regular channel of credit.

Famoriyo and Nwagbo (1981) argued that low interest rate will bring about a situation where demand for credit will exceed supply - thus resulting to rationing of credit which will imply that the small farmer clientele will be starved of credit. Again, it will inevitably place an extra burden on the administrative staff of credit institutions and because of pressure from would be borrowers, a situation exists where the chances of bribery are great. Famoriyo and Nwagbo (1981) maintained that although interest cost of credit influences its demand, available evidence from other sources does not uphold this view. They pointed out that high borrowing costs discourage many rural poor from using formal loans. They showed that small borrowers incure higher borrowing costs on formal loans than do large borrowers. But lending institutions charge high interest rates to cover the costs of lending.

2.4.1 Interest elasticity of loan

Low income countries have myriad structures of interest rates which vary significantly from one country to another and depend on varying terms and conditions of lending (Oweis, 1972). Institutional agricultural credit in most less developed countries is however generally extended at interest rates lower than those charged by traditional money lenders and traders. It often does not cover costs of credit distribution and erodes the resources of financial institution.

Umalele (1972) has shown that the result of such low interest rates on the demand for credit is difficult to assess because of the interaction with numerous other factors that affect credit demand.

Pani's estimate for India showed that reduction in the average rate of interest by one percent, other factors remaining constant, is associated with an increase in credit borrowed by 45 percent. On the contrary, Ray (1971) concluded that a good part of the demand for credit by small farmers in India is interest - inelastic, meaning that small farmers do not appreciably increase demand for credit when interest rate is reduced and vice versa. This could be attributed to their consideration for internal rate of return on investment.

In Chile, Nisbet (1967) also found that the borrowers' demand for credit was interest-inelastic. Similarly recent research by the University of Vicosa and the Ohio State University found that the interest elasticity of the demand for agricultural credit to be very low (White, et al, 1971).

Thus, interest rates charged by non-institutional sources are usually much higher, highly variable, and often difficult to compare with those for institutional credit since the farmers are given on different terms. However, there is evidence to suggest that when innovations are proved to be particularly profitable, non-institutional credit even at high interest rates is used for productive purposes (Artheval, et al, 1971). This may be true of small farmers who have limited access to institutional credit. It would appear, therefore, that it is not so much the cost of credit per se as to its relation to the profitability of investment which influences demand for credit. Small and large farmers may also experience different profitability because of differential access to extension and to medium and long term credit which influences the degree of uncertainty in adopting new innovations. It is possible, therefore, that under high-risk conditions, demand for credit by small farmers is somewhat more responsive than by large farmers.

One of the difficulties lenders encounter is the inability of borrowers to pay up in time. Sometimes, it is possible for the borrower to promise to give something

to the lender if he cannot pay the money. Anything which is promised is called security (Upton and Anthonia, 1965).

In otherwords, collateral is the security which a borrower surrenders as a pledge to guarantee the repayment of his loan.

Formal as well as informal loan institutions demand for collateral but the type of security demanded differs from institution to institution. For formal loan institution, the type of security required include landed property, cash security, guarantees supported by collateral, etc. In most cases, security is one of the pre-conditions which a borrower must satisfy before loan is advanced to him. Unfortunately, however, most small farmers often have nothing suitable and substantial to offer as security for the loans and so are denied of their right to borrow.

High collateral is one of the means used by financial institutions to insure the loans granted to their farmer customers. The problem with collaterals as regards obtaining credit from the formal institutions is that the collaterals are usually assets of very high value and often times, the local farmers do not possess most of these valuables. This creates a bottleneck for these smallholder farmers in obtaining credit from these banks.

Collateral vary according to the value of the loan. For a loan of between ₦1,000 to ₦10,000 a third party guarantor is accepted. In this case, the person must be of

good reputation, who also must have an account with the bank. But for the loan above ₦10,000, the farmer will have to mortgage a building or any other landed property such as estate or any property equal to the value of the loan granted. But most farmers who live in the rural areas cannot meet these conditions and therefore feel very reluctant to apply for loans.

2.5 Cost of Operating Loan

Writing on the effects of the requirement on security by the fund for Agricultural and Industrial Development in Eastern Nigeria, Ijere (1975) indicated that for the farmers in the rural areas, the fund for Agricultural and Industrial development's conditions presented great difficulties. This was because hardly any of the farmers owned land that had any title to it; nor could they produce men of wealth to stand as securities for them. Many farmers found it difficult to give sound security and to enter into an agreement with their guarantors who demanded about half of the loans thus obtained or compensation for risk.

He further observed that there was too much insistence on the tangible, measurable factor, capital, and demanded for addition of other loan criteria such as character, and economic conditions.

One would expect that the cost of obtaining finance from the formal capital market would, ceteris paribus,

be cheaper than the cost of doing so from informal capital market sources, and that as a result, people would prefer the former to the latter. Ojo (1976) has observed that this is only true in some cases where those in need of finance are large-scale enterprises with long profitable records and also for a group of well to do people.

For the majority of the small farmers, he observed that the cost of obtaining finance from the formal capital market (if finance is made available at all) is either almost the same or higher than the cost of doing so from informal credit sources. He also pointed out that this could be one of the reasons why small farmers preferred informal credit sources to formal credit sources.

Adekanye (1983) noted that the explicit or nominal rates of interest charged on bank loans to the small farmers class are higher than those charged on loans to the medium and large scale farmers. It could then be deduced from this study that the cost of finance from most sources in the informal capital market is cheaper than even the nominal cost of finance from the formal sources.

It has been suggested that security for loans should take the form of assets which every rural farmer can provide if the aim is to raise rural incomes for the majority of people and since sufficient supply of finance is one of the main determinants of increased productivity.

2.6 Problems Faced by Farmers in Obtaining Loan

The informal sources which include money lenders, shopkeepers charge, very high interest rates, loan out small amounts and give short grace periods. These conditions limit the effectiveness of loans from these sources. Inspite of the popularity of the informal sources of credit in Nigeria, Olayide et al (1979), contended that they were largely inefficient.

Some smallholder farmers still resort to unorganised (informal) credit institution because of the very inconvenient and repulsive process of obtaining credit from the organised (formal) credit institutions. As observed by Adegeye and Dittoh (1982) late disbursement of loans and other stringent conditions imposed by the formal institutions, also discouraged farmers from seeking loans from these sources. This gives way to non-farmers who when they get the loan often divert and misuse it, resulting to a high rate of default.

2.6.1 Amount of loan given

The amount of loan granted by informal source (money lender, friends and relatives) is usually by far smaller than the volume of loan issued by the formal sources. In a study carried out by Ibeh (1988) ten money lenders granted the sum of ₦5,000 which averaged ₦500 per money lender and

each money lender had not less than five customers per year. He also indicated that out of fifty farmers, twenty received loan from friends and relatives and N150 being the average amount received by a farmer.

This therefore authenticates the belief that the volume of loan granted to smaller holder farmers from these sources is insufficient to adopt innovations and purchase the much needed new improved technological equipment for modern farming.

2.6.2 Short grace period

The grace period normally allowed for the loan from informal sources is very short. This usually does not give allowance for gestation period of crops or enough time for the farmer to make better markets. The grace period of one year or sometimes less than one year is not enough if the farmer is to make better markets for his produce. There is need for him to monitor the market and sell when the price is highest to make enough money to repay the loan.

2.6.3 Distance travelled to obtain loan

Most Nigerian farmers live in villages where agricultural activities are carried out. These areas are usually some distance from the lending institutions which are often located in the urban areas and local government headquarters.

Chidebelu (1983) noted that 78% of these farmers lived more than five kilometres (5km) from the nearest bank. Hence the problem of obtaining credit from these lending institutions by a large number of farmers. The nearer the credit institutions to the farmers' holdings, the less expenses the farmers are likely to incur in transportation. Also, where the farmers farm enterprise is close to the credit institution, the risk of carrying loan money to and from the institution is reduced.

A study carried out by Epundu (1987) observes that the distance between the credit institution and the majority of SACs (53%) is below fifty kilometres (50km), while most NACB (smallholder scheme) farmer beneficiaries (75%), travelled between fifty and ninety-nine kilometres (50km and 99km) to get to the credit institution. The implication of this finding, according to her, is that the distances covered by farmers on the average when multiplied by the frequency of visits made by these farmers to credit institutions and the cost per visit indicate rather heavy expenses incurred by these farmers in transportation alone.

2.6.4 Cost of loan

The real cost of loan is very high. The interest rate and the cost of satisfying the necessary formalities to obtain the loan are very high. A farmer (smallholder) who obtains a loan of ₦1,000 at 17% interest rate (₦170) and makes other expenses like the cost of buying the

application form, passport photographs for himself and his guarantors, tax clearance certificates, transportation fares and sometimes accommodation bills would have a very small amount left for his farm operations. Therefore, the cost of loan is a computation of what the smallholder farmers spend during the process of seeking and obtaining a loan. It includes the total sum of money spent during loan procurement and the interest paid at the maturity of the loan (Epundu, 1987).

2.6.5 Late disbursement of loans

Lateness in the arrival of loans was one of the problems which the farmers complained bitterly about formal loans.

As Ameachi (1986) observed in his study, 80% of the farmers who got loans, never got them within the planting period. He also indicated that before the arrival of the loan, 60% of the smallholder farmers had borrowed money from other sources to finance their farming activities. The loan was then used in off-setting such debts. The late arrival of loans has made more farmers who would have applied for agricultural loans to consider them useless since they will not arrive early enough to be used in the planting period when they are most needed.

Ajakaiye (1990) stated that the above problems of formal loans affect farmers in their demand for agricultural loans.

2.7 Nature of Loan Sources

Informal loan transactions appear to be extreme in their informality. They generally occur in private with no adequate written records and they are almost always made and repaid in cash (Ijere, 1986; Udogu, 1987; Udry, 1990).

Many authors, among which are Ijere (1986) and Bell (1990), have emphasized that informal lenders have intimate knowledge of their borrowers' character and circumstances. The knowledge centres mainly on the lenders' eyes in the circumstances of their debtors or those who may one day be their clients. Infact, what formal/organized cooperatives merely postulate, these lenders actually possess, namely, a local knowledge of the character and repaying capacity of those they have to deal with. They take the problems of adverse selection and moral hazards very seriously. In many cases, they solve these problems of confining their lending activities to a group of well known clients such as they might have built up by operating in a village over a period of years. This means that they deal with long standing clients and take on new ones only reluctantly and that is after extensive inquiries.

In the case of formal loan, application procedures vary among lenders but some form of commercial bank procedures predominates (Nisbet, 1967). He stated that borrower goes to an office and answers questions submitted by secretaries;

then he is filtered through various white collar employees (probably filling out an application form along the way) and finally he takes to a loan officer or possibly the manager.

2.8 Terms of Lending

The informal lenders charged more than five times the lending rate existing in the institutional loan. Nisbet (1967) noted that most loans in the informal market carry no conventional backing since the idea of providing collateral is foreign to participants. Usually the guarantee for loans is the verbal promise of the borrower; a peron's word takes the place of a mortgage or co-signer. Rural people trade frequently on their name which encourages a reputation for honesty, reliability, and seriousness toward financial obligations.

In the institutional market most loans require that the borrower sign a promissory note that often demands a co-signer; some loans (mainly medium and long term) require a mortgage (Nisbet, 1967). He also noted that loans from the institutional market are backed by values which usually exceed the amount loaned.

2.9 Conditions of Credit

The conditions under which loans are given to small farmers are as diversified as there are different lenders. Even for a given lender, the condition imposed upon different borrowers may vary with the economic circumstances prevailing

at the time, the purpose for which the loan is sought, the expected duration of the loan, the personality and credit worthiness of the borrower among other considerations.

Payment of interest is in most cases required of the borrower for the use of loans. The component of interest usually include the opportunity cost of lenders' funds, the administrative charges, premium for risk and any monopoly profit (Abe, 1981). The administrative charges include costs of stationeries, clerical works, supervision and collection costs. These form the implicit costs of loan transactions. There is frequently a trade-off between explicit interest charges and implicit borrowing costs, such that small borrowing cost per unit amount of fund borrowed than larger borrowers, even in a low subsidized interest setting. This being the case because administrative charges are made per loan size.

Also, differential finance charges may be due to the different ways that interest may be computed (Johnson, 1982). For formal loans usually, collateral in form of tangible assets are required from the borrower to secure the loans. However, for informal lenders, a number of things may be acceptable as security for loans but, most essentially the personality of the borrowers is of utmost importance. Udry (1990) has noted however, that even though physical asset

requirements maybe absent in informal credit, the linkage of produce sells to the use of credit is a disguised form of collateral. Collateral plays a useful role in credit administration. In the words of Udry, collateral pledged in exchange for the receipt of a loan reduces the cost of the lender of a default on a loan. It reduces the moral pledged in exchange for the receipt of a loan reduces the cost of the lender of a default on a loan. It reduces the moral hazards associated with lending by providing an added incentives for the borrower to repay. It can also alleviate the problems of adverse selection by screening out those borrowers most likely to default.

The terms (or duration) of loans granted to small farmers are usually of the short and medium terms. Long term loans are rarely extended to them for fear of capital loss to the lender (Johnson, 1982; Ijere, 1986). Formal lenders usually require of the borrowers to provide feasibility reports and maps of the proposed projects indicating the expected rates of return, sources and uses of funds statements etc (Abe, 1981). This requirement, together with those of physical assets as collateral and certificate of occupancy has been waived for the farmers under the NACB scheme (Nwagbo, 1983). Abe (1981) stated further that the availability of good management to ensure judicious use of the loans are required of the borrowers by formal lenders.

In the case of merchants and cooperative societies engaged in the sale of agricultural produce, the borrower may be required to pledge his expected output to the lender, usually at a lower price than the market price (Gangopadhyay and Sengupta, 1987; Ogunfowora et al, 1972). Moreover, in the case of cooperative societies, the borrower must be an active member-patron.

Different grace period (Moratorium) are allowed borrowers before payment of the first instalment of loans are made. For banks operating under ACGSF and other lenders, the grace periods are regulated to fall at the end of the gestation periods of the projects concerned.

Among other conditions imposed on the borrowers are: the evidence of the credit worthiness, repayment capacity as well as the risk bearing ability of the borrower farmer (Ijere, 1986). For banks, the borrower must be operating and maintaining at least a current account in the bank. There is also the requirement for a guarantor who will be held liable in the event of default. Some creditors would also finance some projects and enterprises and not the others. This makes it impossible for farmers engaged in particular project in which the lenders are not interested to obtain loans.

2.10 The Impact of Loan on Farmers

All the money borrowed out to small farmers by the formal and informal loan agencies need to produce some results from which standpoint we can say which one of the credit sources is more effective to the small farmers.

David and Meyer (1980) noted that surprisingly little research has evaluated the impact of the vast sums spent on agricultural loan programmes. They carried out an evaluation of credit impact, by using variables like input use and production as a determinant and further reported the use of farm size, operating expenses, investment per hectare, production per hectare and net farm income. Comparisons were made between borrowers and non-borrowers based on the above variables while another study was made to compare borrowers conditions before and after they received their loans.

Falusi (1973) wrote on measuring the impact of loans on farmers. He noted that credit programme revolve around the financial aspect of their operations and evaluation tends to be more of the number of loans received, level of repayment and book-keeping to the exclusion of the actual charges which occur in the farm level.

Mohan and Singh (1977) applied production function method to study the productivity of institutional and non-institutional loans. Total annual net income was used as a dependent variable while the uses to which loan was put such as land rent, working expenses, machinery charges were used as the explanatory variable. The regression coefficient of the explanatory variable were used to measure the impact of loan on the farm productivity.

CHAPTER THREE

METHODOLOGY

3.1 The Study Area

The study was carried out in Delta State. The study area was purposively chosen for this study because the researcher is very familiar with the urban and rural areas of the state. The state has a population of 2,570,181 persons (Federal Republic of Nigeria, 1992).

The state is bounded on the North by Edo State, on the North-West side by Ondo State, on the South-West by the Bight of Benin, on the South and South-east by Rivers State, on the East by Imo State and the North-east by Anambra State.

It lies between latitude $5^{o}8'N$ and $7^{o}36'N$ and between longitude $4^{o}58'E$ and $6^{o}45'E$. The state is made up of 19 local government areas which are divided into three (3) agricultural zones namely, Delta North, Delta South and Delta Central.

The Delta North zone with Agbor as its headquarters servicing farmers in the seven (7) local government areas of Aniocha North and South, Ika North-east and South, Ndokwa East and West and Oshimili.

The Delta Central zone comprising Ethiope East and West, Isoko North and South, Okpe, Sapele and Ughelli North and South local government areas and has its headquarters at Effurun.

The Delta South zone which headquarters is Warri, covers the riverine local government areas of Bomadi, Burutu and Warri North and South.

The rainfall regime of the state ranges from 2000mm to over 3000mm annually and spread over 10 months of the year (March to December). The vegetation is characterized by guinea savanna in the North, thick rain forest in the Central and Mangrove and Fresh Water Swamp forest in the Southern parts.

An estimated 70 percent of the population are predominantly farmers who depend mostly on agriculture with an average household size of seven (7). The major crops grown in this area by farmers include: cassava, maize, yam, rice, melon, oil palm, rubber, cocoa, mango, among others. People living in the riverine areas, in addition to crop farming, practice fish farming enterprises. Livestock production on commercial levels is not significant among majority of the people. However, some farmers rear sheep, goats and poultry in a small scale enterprise.

The state occupies a land area of 17,010 square kilometres.

3.2 Sampling Procedure

In order to have a good spread of the respondents for this study, six (6) local government areas were randomly selected, two local government areas from each agricultural zone. Two (2) communities were selected at random from each

of the selected local government areas. In all, 12 communities were used for this study.

Small farmers whose size of farm holdings ranged from 0.10ha to 5.99ha formed the sampling frame. To arrive at this sampling frame, the farmers in each of the selected communities were stratified into small-scale and medium/large scale farmers with farmholdings less than six hectares and equal to six hectares respectively. From each community selected, a list of small-scale farmers was made available through the help of the Agricultural Extension Agents covering each of the communities. From the list, a random sample of six (6) farmers was taken and used for the study. This gave a total sample size of 72 farmers.

Six major formal lending institutions were chosen. These include: Union Bank, Merchant Bank, First Bank, United Bank for Africa, Nigerian Agricultural and Cooperative Bank (NACB), and New Nigerian Bank.

The major informal lending agencies were grouped into six classes namely, Esusu/thrift societies, social club, Friends/relatives, town unions (comprising age grade association, town development agencies etc), traders/ merchants and money lenders.

The classification was based on the similarities arising within groups in structure, administration, objectives and mode of operation.

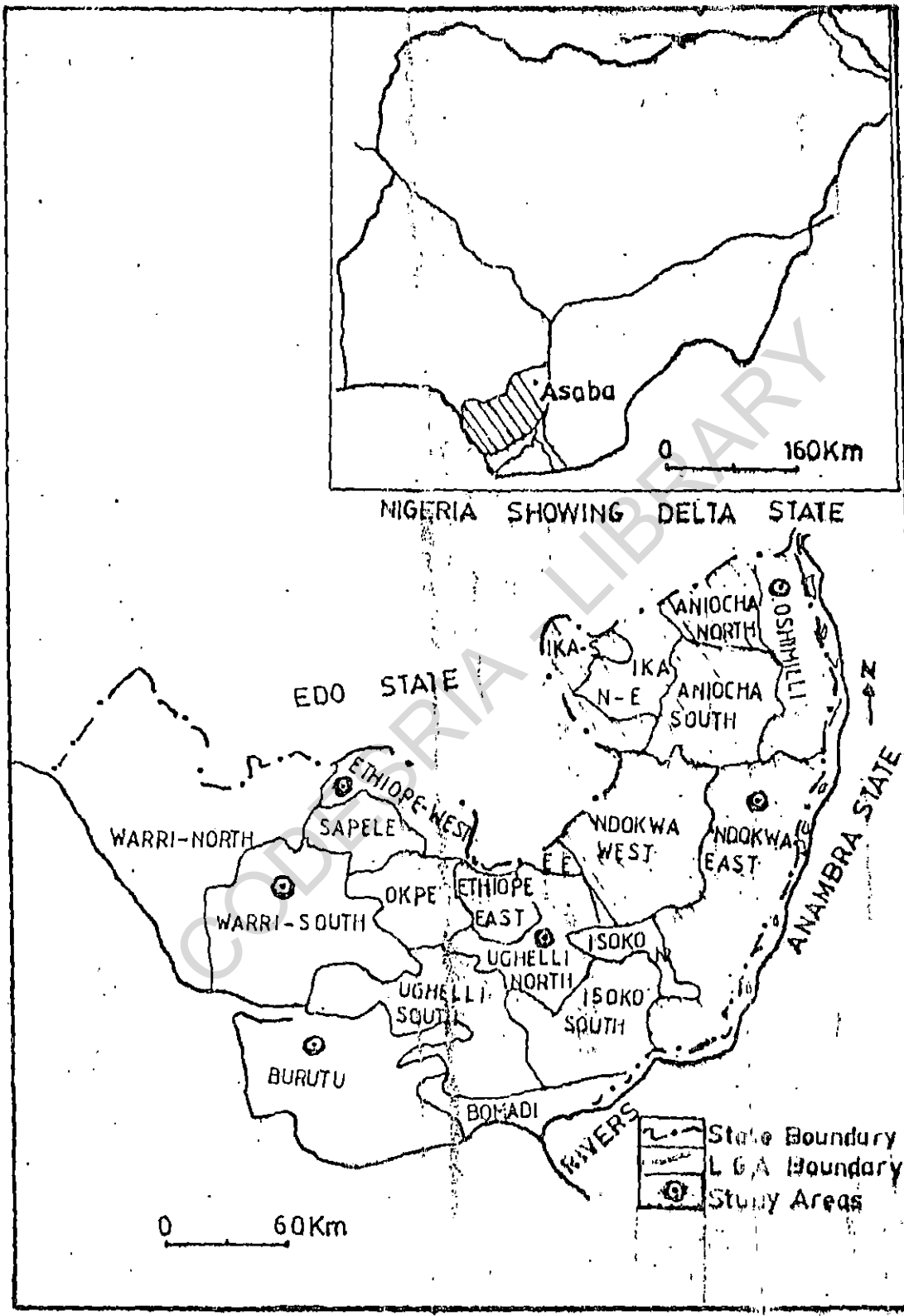

Fig : DELTA STATE SHOWING LOCATION OF STUDY AREA (Source: Ministry of Lands & Survey, Asaba)

A random sample of two (2) loan agencies was made from each major grouping), that is, two (2) loan agencies from formal loan institution and two (2) agencies from informal loan sources from each of the two (2) communities chosen in each local government area. Lists of these groups were compiled in the selected communities.

In all, twenty-four of each of the major groupings were sampled giving a total of 48 agencies that were studied.

3.3 Data Collection Method

For the purpose of this study, both the primary and secondary sources of data were employed. The information used were obtained with the aid of three sets of structural questionnaires which are administered directly to the respondents. The questionnaires were self-administered to the respondents by the researcher.

The first set of questionnaire was used to secure relevant information from the farmers including such things as farmers' characteristics, their agricultural production/income variables, farmers credit sources.

The second and third sets of questionnaires were administered to the selected formal and informal loan agencies respectively. They were used to secure such information on their lending criteria, their loan terms and repayment conditions, amount (both minimum and maximum) granted at a time and the amount recovered, and the problems associated with credit administration to farmers.

Secondary sources of data used for the study included Central Bank of Nigeria Annual Report and Statement and Financial records of the formal and informal loan agencies selected.

3.4 Data Analysis

The data obtained from the field survey were basically analysed by means of descriptive statistics such as percentages, means, tabulation and frequency distribution.

Tabulation and percentages were used especially in cases where there was a need for comparison of variables between the two sources of credit. This was the case in objectives 1, 2, 3 and 5. Means were also computed for objectives 1,2,3 and 5.

Regression analysis was used for objective (4) to determine the influence of some variables on the borrowing decisions of the small farmers. Two sets of data were generated and two regressions were run for the formal loan (Data set I) and informal loan (Data Set II).

The test of the factors influencing small farmers' demand for formal and informal loan was conducted.

The purpose was to examine the influence of the explanatory variables on farmers' demand for formal and informal loans. The use of the statistical test was to evaluate the reliability of the parameter estimates. The statistical tools used in the tests were the F-test and the t-tests. The F-test was used to carry out the overall

simultaneous test of significance for the regression, while the t-test was used to ascertain whether the individual parameter estimates are statistically significant or not.

Six independent variables (It, In, Fs, Op, T, Mb) were regressed with the amount of loan demanded by the farmers (Y) as the dependent variable using Linear, Semi-logarithmic, double-logarithmic and exponential functional forms. This was estimated for formal and informal loan sources.

The variables used were: Y = loan demand, It = Interest rate, In = Income of the farmers, Fs = Farm size, Op = operating expenses, T = degree of usage of modern technology, and Mb = membership of savings group.

In running the regression analysis several functional forms, for example, linear function, semi-log, double-log and exponential functions were tried as to select the one that has the best fit. In this regard, the double logarithmic function was used because it has the best fit. That is the double-log regression estimates were selected because: (a) they showed many statistically significant variables beyond the five percent confidence level; and (b) they also had the highest values for the coefficient of determination (R^2).

In all four regressions were run for the two sources of loans.

The model is specified as follows:

$$\ln y = \ln a + b_1 \ln I_t + b_2 \ln I_n + b_3 \ln Fs + b_4 \ln Op + b_5 \ln T + b_6 \ln Mb + e.$$

where;

Y = loan demanded (amount of money demanded in Naira)
It = Interest rate (% per annum)
In = Income of the farmers in Naira.
Fs = Farm size (total size of farmholdings belonging to the farmer in hectarage).
Op = Operating expenses (amount of cash purchases of inputs) in Naira.
T = Degrees of usage of modern technology measuring in index of modern technology adopted by farmer.
Mb = Membership of savings group (1 if member, 0 if non-member).
a = Intercept
e = Stochastic error term with ordinary least squares properties.
$b_1..b_6$ = are the regression coefficients.

Regression analysis was conducted to estimate Cobb-Douglas models within the framework of two distinct data sets. To determine the impact of the independent variables on the volume of loan demanded, t-values were computed from their corresponding regression coefficients and standard errors.

Two kinds of statistical techniques were employed in testing the null hypotheses versus the appropriate alternatives.

1) Student's t-test was employed to test hypothesis one.

The model is given as:

$$tcal = \frac{\bar{X}_1 - \bar{X}_2}{\sigma_{X_1 - X_2}}$$

$$S\bar{x}_1 - \bar{x}_2 = \sqrt{S^2 pooled \left(\frac{1}{n_i} - \frac{1}{n_2}\right)}$$

$$\text{given } S^2 pooled = \frac{(n_1 - 1)\ S_1^2 + (n_2 - 1)\ S_2^2}{n_1 + n_2 - 2}$$

where:

tcal = calculated t-value

$\bar{X}_1$ = Mean for group one (formal loan)

$\bar{X}_2$ = Mean for group two (informal loan)

$S\bar{X}_1 - \bar{X}_2$ = Standard error of the differences between sample means.

n_1 = Sample size of group one

n_2 = Sample size of group two

S_1 = Sample standard deviation of group one

S_2 = Sample standard deviation of group two.

S_p^2 = Pooled estimate of the variance

Decision Rule: If the calculated t-value is greater than the tabulated t-value with the appropriate levels of confidence and degrees of freedom, the null hypothesis will be rejected. Otherwise, it will be accepted and the alternative rejected. That is, if the difference $(\bar{X}_1 - \bar{X}_2)$ is significant if t-calculated is greater than t-tabulated.

Hypothesis two was tested by comparing the lending terms and conditions of formal and informal loans. The respondents' views concerning the lending terms and conditions were compared for both formal and informal loans.

The testing was based on the following loan terms and conditions: Interest rate, amount of loan given, cost of loan, Grace period, Duration of loan, collateral requirement and

CHAPTER FOUR

SOCIOECONOMIC CHARACTERISTICS OF FARMERS

Some socioeconomic characteristics of the farmers were looked into to conduct a comparative analysis of the small farmer demand for credit from formal and informal sources of loan. Those characteristics investigated in this study include age, level of education, size of farm plots.

The findings are presented below:

4.1 Farmers' Age and Loan Sources

The age of the farmers has a significant impact on the volume of loan demanded by the farmers. It is believed that a young farmer will participate fully in all farm operations including supervision of hired labour. This will induce the farmer to borrow more money to finance his or her farm. After a certain age, the volume of loan demanded by the farmer decreased. This could be explained by the fact that farmers do not only borrow for farm use. As they get old their other financial commitments decline. Children's fees and other marital expenses increase.

Table 4.1: Percentage distribution of respondents (loan recipients) and age

Age (in years)	Formal Loan		Informal Loan		Formal/Informal Loan	
	Fre.	%	Fre.	%	Fre.	%
Below 30	2	22.2	8	24.2	1	8.3
30 - 50	4	44.5	19	57.6	9	75.0
Over 50	3	33.3	6	18.2	2	16.7
Total	9	100	33	100	12	100

Source: Field data, 1995.

The age of formal and informal loan recipients is shown in Table 4.1. It is clear that about 22.2% of the formal loan recipients were aged below 30 years, 44.5% were age bracket of 30 - 50 years while 33.3% were aged above 50 years.

In the case of informal loan, 24.2% of the loan recipients were aged below 30 years, 57.6% of them fall within the middle age group of 30 - 50 years while 18.2% were aged above 50 years.

From the table, it could be observed that the informal loan recipients were much younger (less than 30 years) than the formal loan recipients while the formal loan recipients were much older (above 50 years) than the informal loan recipients. Also more informal loan recipients fell within the middle age group (that is 30 - 50 years) than the formal loan recipients. From the table informal loan source has a percentage of 57.6% as compared to 44.5% for the formal loan source.

However, 81% of informal loan recipients were 50 years or less compared to 66% for the formal loan recipients.

4.2 Farmers' Level of Education and Loan Sources

The level of education to a reasonable extent, affects the amount of loan demanded by farmers. It has been shown that the level of education to a reasonable extent, affects the rate of adoption of innovation (Olayide, 1982). This may likely influence the extent to which large scale farming techniques sought large amount of loan.

A reasonable level of literacy may be required for effective performance of many of the operations involved in large scale processing technique, especially where the government does not set up such for the farmers.

It is believed that a farmer who is educated can easily obtain information from relevant publications and bulletins on new farming methods. He can easily adopt the changes, and has increased awareness of sources of farm inputs like improved seedlings, animal breeds and fertilizers. This will induce the farmer to borrow. This would directly or indirectly boost his productivity and increase his income.

Table 4.2: Percentage distribution of respondents (loan recipients) by level of education and formal and informal loan sources

Level of Education	Formal Loan		Informal Loan		Formal/Informal Loan	
	Fre.	%	Fre.	%	Fre.	%
No formal Education	-	-	18	54.5	9	75
Primary Education	1	11.1	9	27.2	1	8.3
Secondary Education	6	66.7	4	12.2	2	16.7
Tertiary Education	2	22.2	2	6.1	-	-
Total	9	100	33	100	12	100

Source: Field data, 1995.

Among the small farmers who benefitted from formal and informal loans, it would be seen in Table 4.2 that 11.1% and 27.2% respectively had primary education while relatively very few of the informal loan recipients about 12.1% and majority of the formal loan recipients had secondary education. However, more of the formal loan recipients about 66.7% had secondary education or above as compared to about 12.1% of informal loan recipients in that same category. The majority of the informal loan recipients about 54.5% had no formal education as compared to none for the formal loan recipients.

The data presented in Table 4.2 shows that almost all the informal loan recipients in the study area have attained various levels of education. Out of 33 informal loan recipients, 54.5% did not go to school at all, 27.2% received primary education, 12.1% had secondary education, while 6.1% had

attained tertiary education. Out of nine formal loan recipients, 11.1% had primary education, a high percentage (66.7%) completed secondary school, while 22.2% had tertiary education. About 75% of the respondents who obtained loan from both formal and informal together had no formal education, 8.3% of them had primary education, 16.7% had secondary education while none of them had tertiary education.

The study shows that a higher percentage of the informal loan recipients had no formal education while a higher percentage of the formal loan recipients about 66.7% had secondary education as compared to 12.1% of the informal loan recipients.

The level of education of farmers had a direct relationship with their demand for loan in the study area. So, it could be said that the formal loan recipients were relatively more educated than their informal counterparts. One could say that the formal loan source catered more for the more educated while informal loan source catered more for the less educated people.

4.3 Farmers' Experience and Loan Sources

Experience in farming is often required before a loan is granted by lending agencies (formal and informal). The premise is that an experienced farmer is a better risk than an inexperienced farmer. However, it should be pointed out that this premise could be wrong in many respects since

experience in farming does not necessarily mean better use of credit.

Table 4.3: Percentage distribution of respondents by farming experience and loan sources

Farming Experience (Years)	Formal Loan		Informal Loan		Formal/Informal Loan	
	Fre.	%	Fre.	%	Fre.	%
Less than 10	4	44.4	18	54.5	8	66.7
11 - 20	2	22.2	11	33.3	3	25.0
21 - 30	2	22.2	3	9.1	1	8.3
Above 30	1	11.1	1	3.0	-	-
Total	9	100	33	100	12	100

Source: Field data, 1995.

Table 4.3 above shows that 66.6% of formal loan recipients had 20 years or less farming experience as compared to 87.8% for the informal loan recipients. Also, 44.4% of formal loan recipients had more than 20 years of farming experience as compared to 42.4% of informal loan recipients. Therefore, it could be said that recipients of the formal loan source were relatively newer in farming than those of the informal loan source.

It could be deduced from the analysis of the farming experience of formal and informal loan recipients as shown in Table 4.3 that a higher percentage of informal loan recipients about 54.5% had less than 10 years farming experience than the formal loan beneficiaries which is 44.4%. This tends to suggest that informal sources cater more for

new farm entrants than formal loan source. Also, 22.2% of the formal loan recipients had more than 20 years of farming experience as compared to 33.3% for informal loan recipients. This reinforces the notion that the clients for the formal loan source were relatively newer in farming than the informal loan recipients. Also 11.1% of the formal loan recipients had above 30 years farming experience as compared to 3.0% for informal loan recipients.

Out of 12 formal/informal loan recipient farmers, 66.7% had less than 10 years farming experience, 25.0% of them had above 30 years farming experience while 8.3% had up to 30 years farming experience.

4.4 Farmers Farm Size and Loan Sources

There is a general belief that a farmer's farm size (in hectares or number of livestock) would influence his level of borrowing. The greater the size, the higher the inputs requirement and the more credit that will be demanded. However, large farm size combined with effective management capacity is expected to increase farm output and invariably lead to increased loan repayment rate.

An analysis of farm size is necessary because with efficient management, enough labour and capital, the farmer can combine enterprises as the farm size increases. This should increase the farmers' yield and profit and should, also, enable the farmer to offset loans used in production, thereby reducing the rate of loan default.

Table 4.4: Percentage distribution of respondents (loan recipient) by farm size and loan sources

Farm size	Formal Loan		Informal Loan		Formal/Informal Loan	
	Fre.	%	Fre.	%	Fre.	%
0.1 - 1.0	1	11.1	8	24.2	3	25
1.1 - 2.0	4	44.4	20	60.6	5	41.7
2.1 - 3.0	2	22.2	3	9.1	3	25
3.1 - 4.0	1	11.1	2	6.1	1	8.3
4.1 - 5.0	1	11.1	0	0	0	0
Total	9	100	33	100	12	100

Source: Field data, 1995.

The study revealed that about 78% of the formal loan recipients had their individual farm while only 22% of them did not have individual (personal) farm but rather they hired and paid yearly. About 88% of the informal loan recipients indicated that they had their personal farms while 12% did not have any personal farms. All farmers who borrowed money formally and informally together had their individual farms.

The respondents had farm sizes which ranged from 0.1 hectare to 5 hectares. From Table 4.4, it could be seen that the majority of the informal (84.8%) and the formal (66.6%) farmers are expected had between 0.1 hectare to 2 hectares. But contrary to expectation, 15.2% of informal loan recipients and 33.3% of formal loan recipients had between 2.1 hectares to 4 hectares of land and more. This implies that the farm size of the small scale farmers in the study area was very small. This has a disadvantage in loan dispensation because the critical cost will be the same for smallholdings that

are likely to demand less loan and big holdings that are likely to demand more loan.

It was observed that about 25% of the farmers who obtained loans from both formal and informal loan sources simultaneously had between 0.1 to 1.0 hectares of farms, 66.7% of them had between two to three hectares of farms, while 8.3% had four hectares or less hectares of farms.

4.5 Farmers' Income and Loan Sources

Farm income in this study is taken as the amount of money accruing to the farmer from farm activities over a period of one year. The examination of farm income is very crucial as it is expected to have direct influence on loan demanded by the farmer (all things being equal).

Farm income influences loans demand in two ways. In the first place, a farmer with small present annual income would need more loans to finance his/her farm ceteris paribus. Secondly, a brighter prospect for future income may induce a farmer to seek for more loans knowing he may eventually be able to pay.

The ability of a farmer to repay his/her loans depends principally on his/her income. Where a farmer's income is high enough, the chances are that he/she would be able to repay.

Table 4.5: Percentage distribution of respondents (loan receipients) by annual farm income and formal and informal loan sources

Range of Income (₦)	Formal Loan		Informal Loan		Formal/Informal Loan	
	Fre.	%	Fre.	%	Fre.	%
1001 - 3000	2	22.2	14	42.4	4	33.3
3001 - 5000	3	33.3	7	21.2	3	25.0
5001 - 7000	-	-	6	18.2	2	16.7
7001 - 9000	3	33.3	3	9.1	1	8.3
9001 - 11000	-	-	-	-	2	16.7
11001- 13000	1	11.1	2	6.1	-	-
13001-15000	-	-	1	3.0	-	-
15001-and above	-	-	-	-	-	-
Total	9	100	33	100	12	100

Source: Field data, 1995.

Table 4.5 shows that majority of the formal loan recipients about 55.5% earn farm income between ₦1001 and ₦5000 as compared to 63.3% for informal loan recipients while 44.4% of the formal loan recipients had farm income of between ₦7001 and ₦1300 as compared to 33.4% for the informal loan recipients. Table 4.5 above reveals that formal loan recipients earn more farm income than the informal loan recipients. This suggests that informal loan recipients have the capacity to demand for more loan than their formal counterparts if they have to meet up with their farm expenses.

In the case of formal and informal loan recipients, 58.3% of the respondents earn farm income between ₦1001 and ₦5000 while 41.7% of the respondents earn ₦5001 and ₦11000 per annum.

4.6 Farmers' Occupation and Sources of Loan

Non-farm income here includes those generated from sources other than agricultural activities. These included incomes generated from earning from public services employment, trading, crafts, profits/dividend earned from investment.

The study in Table 4.6 showed that 22.2% of the formal loan recipients were full time farmers as compared to majority of the informal loan recipients about 60.6% who are in the case category. About 55.6% of formal loan recipients and 9.1% of informal loan recipients combined farming with trading. About 12.1% of informal loan recipients combined farming with craft while none of the formal loan recipients engaged in craft. Also 11.1% of formal loan recipients and 15.2% of informal loan recipients combined farming with teaching while about 11.1% for formal and 3.0% of informal loan recipients combined farming with other occupations like civil service.

In the case of formal and informal loan recipients together, about 4.7% of the respondents were full-time farmers, 50% combined farming with trading, 8.3% combines farming with craft. None of the respondents engaged in teaching and other occupations.

It therefore means that credit institutions probably had the chances of recovering, if need be, the credit given to the small scale farmers from other sources other than farming. On the other hand, there were chances that the

credit given to the small scale farmer could be diverted to other uses. This has the serious implication of reducing farm produce.

Table 4.6: Percentage distribution of respondents (loan recipients) by occupation and loan sources

Occupation	Formal Loan		Informal Loan		Formal/Informal Loan	
	Fre.	%	Fre.	%	Fre.	%
None	2	22.2	20	60.6	5	41.7
Trading	5	55.6	3	9.1	6	50.0
Craft	-	-	4	12.1	1	8.3
Teaching	1	11.1	5	15.2	-	-
Others	1	11.1	1	3.0	-	-
Total	9	100	33	100	12	100

Source: Field data, 1995

CHAPTER FIVE

LOAN DEMAND BY FARMERS

Seventy-five percent (75%) of the farmers had obtained loans for their farm operations at least once while a small proportion of the respondents about 25% (18) of them had not obtained any loan for their farm operations.

5.1 Farmers' sources of Loan

Farmers obtained loans from three sources. These are (1) formal sources (2) informal sources and (3) formal-informal together.

Table 5.1: Distribution of respondents according to their sources of finance

Source of Finance	ZONES							
	Delta Central		Delta North		Delta South		Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%
Formal sources	5	33.0	4	21.0	-	-	9	17
Informal sources	9	60.0	9	47.0	15	75	33	61
Formal and Informal sources	1	7.0	6	32.0	5	25	12	22
Total	15	100	19	100	20	100	54	100

Sources: Field data, 1995

Table 5.1 is a summary of the distribution of the respondents who made use of loan facilities (formal and informal) for their farming activities (operations). According to the data, 75% of the respondents used loans for their farm operations while 25% did not at all.

Their major sources of farm loan were informal (61%), followed by formal and informal combined (22%) and formal (17%) as can be seen in Table 5.1.

5.2 Patterns and Amounts of Loan Demand

The relative amounts of loans requested by borrowers from formal and informal loan sources are presented in Table 5.2. For borrowers from formal loan source, about 4.8% of them demanded for loans of sizes between ₦500 and ₦1000 while about 42.9% sought for loans of sizes between ₦1001 and ₦6000. About 28.6% of the respondents requested for loans sizes of between ₦6001 and ₦8000. Only 23.8% requested for loans of sizes above ₦8001.

In the case of informal loan sources, about 22.2% of the respondents demanded for loan sizes of ₦500 and ₦1000, while about 64.5% requested loans of sizes between ₦1001 and ₦6000. About 8.9% of the informal borrowers sought for loan sizes of between ₦6001 and ₦8000. Only 4.4% of the farmers demanded loans of sizes above ₦8001.

From Table 5.2 it can be seen that many of the respondents requested for small amounts of loans from the informal loan sources than the formal loan sources. In comparison, 4.8% of the respondents requested for loan sizes between ₦500 and ₦1000 from formal credit sources as compared to 22.2% of informal loan sources. Also 42.9% of the respondents demanded loan sizes between ₦1001 and ₦6000 from formal loan sources as compared to five percent of the informal loan sources. Also about 23% demanded for loans

of sizes between ₦6001 and ₦8000 from the formal loan sources as compared to only 8.9% of the informal loan sources. While 23.8% of the respondents demanded loans of sizes above ₦8001 from the formal loan sources as against only 4.4% who requested for the same loan sizes from the informal loan sources.

Table 5.2: Distribution of borrowers according to the amounts of loan demanded by sources of loan

Loan Size (₦)	Sources of Loan					
	Formal		Informal		Total	
	Fre.	%	Fre.	%	Fre.	%
500 - 1000	1	4.8	10	22.2	11	16.7
1001 - 2000	1	4.8	9	20	10	15.2
2001 - 3000	2	9.5	7	15.6	9	13.6
3001 - 4000	3	14.3	6	13.3	9	13.6
4001 - 5000	2	9.5	4	8.9	6	9.1
5001 - 6000	1	4.8	3	6.7	4	6.1
6001 - 7000	3	14.3	1	2.2	4	6.1
7001 - 800	3	14.3	5	11.1	6	9.1
Above 8001	5	25.8	2	4.4	7	10.4
Total	21	100	45	100	66	100

Source: Field data, 1995.

The mean loan size was ₦1886.00 for formal loan sources while informal loan source had a mean loan size of ₦2387.00.

In order to compare farmers who requested for loans from formal, informal and formal and informal combined a separate table is presented below.

Table 5.3: Distribution of borrowers according to the amounts of loan demanded from formal, informal and formal and informal loan sources

Loan Size (₦)	Sources of loan							
	Formal		Informal		Formal & Informal		Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%
500 - 1000	1	11.1	8	24.2	-	-	9	16.7
1001 - 2000	1	11.1	6	18.2	2	16.7	9	16.7
2001 - 3000	-	-	5	15.2	4	33.3	9	16.7
3001 - 4000	2	22.2	4	12.1	3	25	9	16.7
4001 - 5000	-	-	4	12.1	-	-	4	7.4
5001 - 6000	1	11.1	3	9.1	-	-	4	7.4
6001 - 7000	-	-	-	-	2	16.7	2	3.6
7001 - 8000	1	11.1	3	9.1	1	8.33	5	9.2
Above 8001	3	33.3	-	-	-	-	3	5.6
Total	9	100	33	100	12	100	54	100

Source: Field data, 1995.

The analysis showed that 22.2% of the respondents demanded for loan sizes of ₦500 and ₦1000 from the formal loan sources. About 33.3% of them requested for loan of sizes between ₦3001 and ₦6000 while ₦44.4% of the respondents demanded for loan of sizes between ₦7001 and ₦8001 or above.

Majority of the informal borrowers about 57.6% demanded for loan of sizes between ₦500 and ₦3000. About 33.3% of those borrowers who patronized informal loan sources requested for loan of sizes between ₦3001 and ₦6000. While only 9.1% of them sought for amounts between ₦7001 and ₦8000. None of of the borrowers requested for loan of sizes ₦8001 and above.

About 50% of those who patronized both formal and informal loan sources together requested for loans of sizes between ₦500 and ₦3000. About 25% of the respondents requested for loans of sizes between ₦3001 and ₦4000, also 25% of the respondents who used both formal and informal sources of credit demanded for loan of sizes between ₦6001 and ₦8000. No borrowers of the formal and informal loan together requested for loan sizes of ₦8001 and above.

It was observed from the study that majority of the borrowers (about 57.6%) who requested for loan from the informal sources requested for loans of sizes between ₦500 and ₦3000 as compared with 22.2% for the borrowers of the formal loan sources. Only 9.1% of the respondents who obtained loans from informal sources demanded for loan of sizes between ₦7001 and ₦8000 as compared with 44.4% for formal loan sources.

Majority of the informal borrowers demanded small amounts of loan while a minority of them demanded large amounts of loan. In the case of formal loan source, a small proportion of the borrowers demanded small amounts of loan while a large proportion of them demanded large amounts of loan.

Table 5.4: Distribution of borrowers and average amount borrowed according to source

Source of Loan	Number of borrower	Total amounts demanded (₦)	Average amounts demanded per borrower (₦)
Formal	9	191,000	2,122
Informal	33	84,700	2,567
Formal and Informal	12	81,300	6,775
Total	54	357,000	30,564

Source: Field data, 1995

Average Amounts of Loan Demanded

Farmers who borrowed from the formal sources of loan requested for the highest amounts of ₦21,222.00. This is followed by formal and informal together (₦6,775) while the least amounts are for those who borrowed from the informal (₦2,567). The overall average across borrowers was ₦30564.00.

5.3 Amounts of Loan Obtained by the Farmers

The amount of loan obtained by borrowers from the different credit sources are presented in Table 5.5.

Pooling across sources, about 17% of the respondents obtained loans of sizes ₦500 and ₦1000. A greater proportion of the respondents, about 68% however, got loans of sizes between ₦1001 and ₦6000 on a cumulative basis while about 13% and 2% obtained loan amounts between ₦6001 and ₦7000 and between ₦7001 and ₦8000 respectively.

No borrow from formal loan sources and formal and informal loan together obtained loans amounting to ₦2000 or above. Infact no borrower from informal loan sources got anything more than ₦6000. However, about 48.5% of the informal borrowers obtained loans amounting to ₦2000. About 22.2% of the formal borrowers obtained loans amounting to ₦5000 while 77.8% of the formal borrowers obtained loans amounting to ₦7000. No borrowers obtained amounts of ₦7001 and above.

About 45.5% of the informal loan borrowers obtained loans amounting to ₦5000 while only 6% of them obtained loans amounting to ₦6000. Infact, no borrower from formal and informal loan together obtained loans less than ₦1000. However, about 50% of those who borrowed from formal and informal loan together obtained amounts between ₦1001 and ₦3000 while 50% of them obtained amounts between ₦4001 and ₦8000.

Table 5.5: Distribution of borrowers according to the amounts of loan obtained and sources of loan

Loan size range (₦)	Sources of Loans							
	Formal		Informal		Formal and Informal		Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%
500 - 1000	-	-	9	27.3	-	-	9	17.0
1001 - 2000	-	-	7	21.2	4	33.3	11	20.0
2001 - 3000	1	11.1	6	18.2	2	16.7	9	17.0
3001 - 4000	-	-	5	15.2	-	-	5	9.0
4001 - 5000	1	11.1	4	12.1	3	25	8	15.0
5001 - 6000	2	22.2	2	6.0	-	-	4	7.0
6001 - 7000	5	55.6	-	-	2	16.7	7	13.0
7001 - 8000	-	-	-	-	1	8.33	1	2.0
Total	9	100	33	100	12	100	54	100

Source: Field data, 1995

5.3.1 Proportionate amounts of loan obtained per source

Of the total amounts of loan obtained by borrowers as presented in Table 5.6, about 49.7%, 26.6% and 23.7% were supplied by informal sources, formal loan sources and formal and informal loan sources together respectively. It was observed that the informal loan sources gave the highest percentage, followed by formal loan and the least is the formal and informal loan sources together.

As regards the average amounts obtained per borrower, those who patronized formal loan sources, formal and informal loan together and informal loan sources got ₦3778.00, ₦2525.00 and ₦1924.00 respectively.

The overall average across all borrowers was ₦8227.00 per borrower.

Table 5.6: Proportionate amounts of loans obtained per source

Sources of loans	Number of borrower	Amounts borrowed (₦)	Percentage of total amount	Average amount per borrower (₦)
Formal	9	34000	26.6	3778
Informal	33	63500	49.7	1924
Formal and Informal	12	30300	23.7	2525
Total	54	127800	100	8227

Source: Field data, 1995.

Regarding the adequacy of the amounts of loan obtained, about 56% of the formal borrowers indicated that the amounts they obtained were adequate while 44% of the respondents indicated not being able to obtain amounts adequate for their needs. For the informal borrowers, a small percentage of the borrowers about 30% indicated the adequacy of the amounts they borrowed while majority of them indicated the inadequacy of the amount they borrowed.

This goes to support the general belief that informal lenders have insufficient loanable funds to meet the demands of borrowers. As shown in Table 5.7 below, 50% of the formal and informal loan recipients indicated the adequacy of the amounts they obtained while 50% of them indicated the inadequacy of the amounts they obtained for their needs.

Table 5.7: Distribution of borrowers according to their views regarding the adequacy of amounts of loan obtained from different sources

Farmers view	Formal		Informal		Formal and Informal		Total	
	Fre	%	Fre	%	Fre	%	Fre	%
Adequate	5	56	10	30	6	50	21	39
Inadequate	4	44	23	70	6	50	33	61
Total	9	100	33	100	12	100	54	100

Source: Field data, 1995

5.4 Frequency of Loan Demand

The more the number of times a farmer applies for loan from credit agencies, the greater the cost of obtaining the loan especially if it involves a farmer visiting the credit agencies. It is necessary that farmers should make a series of applications if their loans are not granted, but when the frequency of such applications is increased, the cost of obtaining the loan increases.

Table 5.8 shows that 22.0% of the formal loan recipients applied for loan thrice before it was granted to them. Also, 22% of the formal respondents applied for loans four times while majority of the respondents about 56% applied for loans above four times before loan was granted to them. The study also showed that no loan was granted by the formal loan sources at once or twice after applying.

Out of 33 informal loan recipients, 20 of the respondents applied for loan once and their loans were granted to them. About 10 of them applied for loans twice, while a very small percentage of the respondents (9%) applied for loans thrice before being granted loans. None of the informal loan recipients applied for loan more than thrice.

In the case of formal and informal loan together about 33% of the respondents applied for loans once, 25% applied for loan twice, about 17% of them applied for loans four times before the loan approval was given.

Most informal loan recipients applied for loans once before loan approval as opposed to none among formal loan recipients. While a sizeable percentage, (56%) of the formal loan recipients applied for loans more than four times before their loan approval took place as opposed to none in informal loan recipient.

Table 5.8: Number of times formal and informal loan receipients applied for loan before their loans were granted

Number of times applied for loan in weeks	Sources of Loan							
	Formal		Informal		Formal and Informal		Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%
Once	-	-	20	61.0	4	33.0	24	44.4
Twice	-	-	10	30.0	3	25.0	13	24.1
Thrice	2	22.0	3	9.0	-	-	5	9.3
Fourth	2	22.0	-	-	2	17	4	7.4
Above fourth	5	56.0	-	-	3	25.0	8	14.8
Total	9	100	33	100	12	100	54	100

Source: Field data, 1995.

5.5 Farmer Preference of Sources of Loan

There are some farmers who have preference for either formal or informal sources of loan. A good number of farmers preferred the formal loan sources to informal. On the contrary, some farmers preferred the informal loan sources to formal loan sources.

The study showed that 10 (19%) of the respondents preferred formal sources of loan to informal sources of loan while 44 (81%) of the respondents preferred the informal sources of loan to formal sources of loan.

5.5.1 Farmers' reasons for preferred Sources of loan

Farmers who had obtained loans were asked to specify the reasons why they preferred their choice of loan as indicated in Table 5.9. Some of the reasons given were that loan source charge low interest rate, easy accessibility, no collateral requirement, availability and flexibility of repayment plan.

Table 5.9 below shows the percentage distribution of reasons given.

With respect to interest rate, about 56% of the formal loan recipients gave prime interest to formal loan sources because of low interest rate charge, 5% of the respondents preferred the formal loan sources because of easy accessibility, 17% of them preferred formal loan because of availability while 22% of the respondents preferred this choice because of flexible repayment plan.

In the case of those respondents who preferred the informal source, about 2% of them indicated that they preferred the informal sources of credit such as Esusu, friends and relatives, social clubs and town's union because they charged low interest rate, 30% of the respondents indicated this choice because of accessibility, 34% preferred their choice because there is no collateral requirement. About 14% preferred the informal loan source because loans are usually available (availability) while 20% of them preferred this choice because of flexibility of the repayment plan including long loan duration.

Some of the respondents preferred both formal and informal sources of loan. About 8% of the respondents indicated low interest rate as their major reasons, about 28% preferred these sources of loan because they do not have to travel far to obtain a loan (easy accessibility), 30% preferred this choice because there was no collateral requirement, about 14% of the respondents preferred their choice because loans were easily available while 20% of the respondents preferred both types of loans because of the flexibility of repayment plan including long loan duration.

From the analysis above, the most important reasons given by the formal loan recipients is low interest rate (56%) as against 2% for informal loan recipients while the

most important reason given by the informal loan recipients is that there is no collateral requirement. About 34% of the respondents gave this reason as against no response from the formal loan source. The least reason given by the formal loan recipients is accessibility (about 5%) as compared to 30% for the informal loan source.

Table 5.9: Percentage distribution of farmer by reason for preferring different sources of loan

Reasons for preferred sources of loan	Sources of Loan							
	Formal		Informal		Formal and Informal		Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%
Low interest rate	10	56.0	3	2	13	8	26	8
Easy Accessibility	1	5.0	40	30	41	28	82	28
No collateral requirement	-	-	44	34	44	30	88	30
Availability	3	16.7	18	14	21	14	42	14
Flexible repayment plan	4	22.0	26	20	30	20	60	20

Source: Field data, 1995.

CHAPTER SIX

DETERMINANTS OF FARMER DEMAND FOR FORMAL AND INFORMAL LOANS

6.1 Factors Affecting Loan Demand

A number of factors influenced farmers' choice of lending sources, Table 6.1 shows how farmers responded to the various factors influencing their choice of a lending source.

The existence of many financial institutions in the study area offers prospective borrowers alternative sources from which they can rationally borrow. The need for selection is considered imperative because each lending source differs in its lending conditionalities and services it renders to clients. Area of disparity between the sources include interest rate charged, loan term/duration, repayment arrangement, the amount of loan granted, method of loan delivery, types of services offered, lending policies and persuasion.

The factors influencing the farmers choice of formal and informal loans according to farmers' response include: low interest rate, loan term/duration, good repayment arrangement, the amount of loan granted at a time, good disbursement method, good services offered, good lending policies, proximity of the lending source and persuasion.

Table 6.1: Distribution of borrowers according to the factors influencing the choice of a lending source

Factors	Loan Sources					
	Formal		Informal		Total	
	Fre	%	Fre	%	Fre	%
Low interest rate	20	29.9	3	1.6	23	9.2
Loan term/duration	3	4.5	31	16.9	34	13.5
Good repayment arrangement	5	7.5	30	16.4	35	13.9
The amount of loan granted at a time	11	16.4	10	5.0	21	8.4
Good disbursement method	5	7.5	33	18.0	38	15.1
Good services offered	3	4.5	24	13.1	27	10.8
Good lending policies	18	26.9	7	3.8	25	9.9
Proximity of the lending source	2	2	42	22.9	44	17.5
Persuasion	-	-	2	11.1	2	1.0
No reasons	-	-	1	1.0	1	0.8

Source: Field data, 1995.

In choosing their loan source, about 18% of the small farmers gave prime attention to the proximity of the lending source. This factor gave the highest rank. This is followed by the disbursement method (15%), loan term/duration and repayment arrangement ranked third with 14%.

The fourth factor is the services offered (11%). This is followed by lending policies which gave 10% of the recipients. The interest rate charged ranked sixth which gave 9% of the loan recipients. This is followed by the amount of loan granted at a time (8%). The persuasion was the least factor which formed one percent of the respondents.

Proximity of the lending sources ranked highest because most of the small-scale/rural farmers are not willing to travel long distances to obtain loans.

The farmer gave prime attention to the interest rate charged because it was based on their understanding that interest rate on loan represented the price of its acquisition.

Similarly, 14% of the respondents considered good repayment arrangement as a choice criterion. Farmers detest a situation which will lead to their being exposed as debtors or loan defaulters, sued to court, their property confiscated or being banned from obtaining further loans due to inflexible loan repayment plan. They therefore prefer lending sources which they are convinced, will keep their transactions with them confidential. They also prefer loan terms long enough to enable them pay back from the proceeds of their farms. The absence of meaningful moratorium period forces into borrowing from sources (mostly informal) costlier than those of formal lending sources.

In considering formal and informal on the basis of these factors, it was observed from Table 6.1 that 23% of informal loan recipients opted for this source because of the proximity of lending source. Similarly, 2.8% of formal loan recipients chose their sources while considering the same factor. Proximity of the lending source ranked first in informal loan while this factor ranked eight among the factors farmers consider in their choice of a lending source.

About 7.5% of formal loan recipients took cognisance of good disbursement method while 18% of informal loan recipients recognized this factor. This factor ranked fifth among the formal loan recipients while this same factor ranked second for informal loan source.

Loan term/duration contributed to 4.5% of formal loan beneficiaries, choice of their sources and for 17% of informal loan borrowers. This factor ranked sixth for the formal loan while the same factor ranked third in the case of informal loan sources.

Most formal borrowers, about 7.5% responded more favourably to good repayment arrangement and 16% of informal loan's customers did consider the same factor. The factor ranked fourth for both formal and informal loan sources. Good services offered was given precedence by 4.5% of formal loan beneficiaries and 13% of the informal lenders considered the same factor.

Good lending policies was accountable for 26.9% of formal loan's choice by their borrowers. The same factor was considered by 4% of informal loan beneficiaries.

The data on Table 6.1 showed that about 29.9% of formal loan recipients considered the level of interest rate most before selecting their choice. Similarly, about two percent of loan beneficiaries from informal loan sources used the same factor as a choice criterion.

As illustrated in Table 6.1, about 16.4% of formal loan beneficiaries were most responsive to the amount of loan granted. Similarly, about 5% of informal borrowers did consider the same factor. This factor ranked third among the factors considered for formal loan and ranked sixth in the case of informal loan sources.

About one percent of informal loan beneficiaries were persuaded to obtain loan while none of the formal loan recipients indicated this factor in the choice of a lending source. Persuation is the least considered factors in the choice of a lending sources among the factors which influenced farmers in the choice of a lending source.

It could be said that, by considering the above factors, farmers are business inclined in their loan acquisition. However, the respondents' response to these factors varied according to lending sources. This was due to the difference in their lending conditionalities as well as services offered by these sources to their clients.

6.2 Loan Terms and Conditions of Formal and Informal Loan Sources

There are certain loan terms and conditions adopted by formal and informal credit institutions in granting loans to farmers.

Table 6.2 shows the operational suitability of loans obtained by small farmers in terms of the loan terms and conditions adopted by financial institutions. These terms and

conditions are interest rate, amount of loan given, cost of loan, grace period, duration of loan, collateral requirement, distance travelled to obtain the loan, and filling-in of forms.

The percentage distribution of these terms and conditions are given in Table 6.2.

a) Interest rate: The various formal and informal lenders from which the borrowers obtained loans charged varying interest rates.

From Table 6.2, the overall interest rate is 24% for formal loan source as compared to 17% for the informal loan source. This suggests that the formal loan sources charged higher interest rate than the informal loan source except for the money lenders who charged very exorbitant interest rate.

b) Amount of Loan given: As stated in table 6.2, a total of ₦11,766 was the overall amount of money granted to the formal loan recipients while an overall total of ₦2,809 was the amount given to the informal loan recipients. This shows that the amount of loan granted to formal loan recipients was higher than the amount granted to informal loan recipients. This supports the assertion that informal lenders grant small amount of money to their borrowers which is inadequate to their loan demand.

c) Cost of Loan (Cost incurred by farmers In attempting to obtain loan

While negotiating for the loans, farmers spent money on transportation, feeding while in transit, passport photographs for themselves and their guarantors, tips, photocopying and other items. The more the amount of money spent on these items, the less the real amount borrowed.

In Table 6.2, is presented the amounts spent by the recipients of the formal and informal loan sources. The survey shows that the largest percentage of the formal loan recipients spent eight hundred and seventy-nine naira (879.00) in the course of obtaining the loans while the informal loan recipients incurred two hundred and seventeen naira (217.00) to secure their loans. As expected the heavier expenses were incurred by formal loan recipients partly because of the relatively longer distance they had to travel.

d) Grace Period: This is the years or months a financial institution gives a borrower before loan repayment is done. It is also called the moratorium. The grace period is 3 months with the formal loan source as compared to 2 months with the informal loan sources.

The overall grace period for the formal loan recipients was 3 years while that of the informal loan source was 2 years. This shows that the formal loan sources gave a longer grace period than the informal loan sources.

e) Duration of Loan: The operation of a loan source by small farmers depends on the period or time the farmers are expected to repay the borrowed money. The longer the duration of loan the better it is for the farmers to repay their money.

From Table 6.2, it is found that the overall duration of a loan is 7 years for the formal loan source as compared to 14 years for the informal loan source. The study revealed that informal loan sources allow a longer period for repayment than the formal loan sources.

Loan duration might influence repayment ability of the farmers by enabling them take advantage of price variations usually associated with time of harvest and loan periods, if enough time is given to plan sales of produce overtime.

f) Collateral Requirement: Financial institutions of any category are no humanitarian organisations and would not accept nor tolerate total loss of their money whenever they make loans. For this reason, they usually require their clients to provide one form of security or the other for loans granted them. The security accepted, which in most cases are intangible assets and tangible assets vary from one financial institution to another.

Table 6.2, provide information on the types of collaterals financial institutions (formal and informal) were allowing farmers to pledge before loans would be granted them. The farmers took into consideration the nature of these

collaterals before using a particular source of loan.

It is indicated that the formal lenders wanted their borrowers to pledge such assets as stock and share, personal guarantee/surety, livestock and crops, land and building while the informal lenders wanted their borrowers to pledge farm produce and at times they borrowed to farmers without security (that is no security).

From the analysis, it appears that farmers would prefer to operate with the informal loan source because of their mild collateral requirement which they can easily afford as compared to the formal loan source which required such assets as land or building which the farmers cannot easily afford.

g) Distance travelled to obtain Loan: The distance between a farmer's house and a loan source can influence his patronage and as such the volume of loan that can be obtained from the source. The distance in this study was taken as the arithmetic mean of all distances from the farmer's home to the institutions he obtained loan from whether formal and informal loan sources.

The distance between a farmer's home and a loan source can act as a hinderance to the use of such loan sources if the distance is too far.

The findings showed that formal loan recipients had an average distance of 9kms as compared to 3kms for the informal loan source. The relatively short distance for

informal loan recipients can be explained by the fact that most of them (89%) lived less than 2kms away from their informal lenders as against 50% for formal loan recipients and their various institutions. The nearer the loan institution to the farmers' home, the lower the expenses the farmers are likely to incur in transportation. Also, where the farmers' home is close to the loan institution, the risk of carrying loan money to and from the institution is reduced.

The implication of this finding is that the distance covered by farmers on the average when multiplied by the frequency of visits made by these farmers to the loan institutions, increase the cost of transportation.

On the distance from the nearest bank to the respondents, the study showed that the average distance from the bank to the respondents was 9 kilometres. The longest distance of 9 kilometres was recorded for the formal loan sources. It was because there were no banks in some of the rural areas especially the remote villages.

h) Filling-in of Forms: The application procedure for loans in the informal market is quite simple. The borrower talks personally to the lender about his financial needs. There are no forms to fill out, no interviews to complete, no references to submit, and no land titles to present. Since the lenders and the borrowers know each other, the borrower asks for loan directly without preliminaries

and the lender usually accepts or rejects the request immediately. The field survey revealed that 70% of informal borrowers received the loan the same day it was solicited and 30% from two to five days afterwards.

In the case of institutional loans, application procedures varied among lenders but some form of commercial bank procedure was adopted. Borrowers went to the office and answered questions, submitted by secretaries, then he is filtered passed through a number of officials before finally reaching a loans officer or bank manager.

Nearly 99% of the formal loan recipients indicated that they filled an application form and that the procedure was tedious, complex and complicated. They revealed that the formal lending sources asked them to present a series of forms such as statement of financial condition, tax records, land titles, references, and co-signers.

Nearly all informal loan recipients indicated that they did not fill any form before a loan was granted them. It was in form of verbal discussion or application to their lenders and approval was made immediately.

Table 6.2: Distribution of respondents according to their view about operational suitability, loan terms and conditions of loan sources

Loan sources	Operational suitability indicator					
	Interest rate (%)	Amount of loan given (₦)	Cost of loan (₦)	Grace period month	Duration of loan month	Distance travelled (km)
Formal	24	11766	879	3	7	9
Informal	17	2809	217	2	14	3
Total	41	14575	1096	5	21	12

Source: Field data, 1995.

6.3 Operational Factors in Formal and Informal Loans

Methods of operation of both formal and informal loans were investigated and analysed in order to determine, among other things, their conditions and terms for granting loans. Knowledge of these issues is important in assessing the overall performance of loan institutions.

6.3.1 Criteria for granting loans

The informal lenders gave loan to anybody that was ready to do small scale farming (farmers with holdings between one to five hectares and livestock unit of not more than 1000 farm animals) and was not above 65 years. The formal, on the other hand, gave loans to genuine farmers and groups of farmers e.g. cooperatives.

For the formal loans, an applicant must have enough suitable land for the project and in case of poultry, facilities to take additional stock. The project for which

the loan is sought must be commercially viable and should be able to generate enough funds to repay the loan. In addition, formal loans require the applicant to produce three years' tax receipt.

In both formal and informal loan sources, farmers apply for loan in person. For the formal loan, the farmers must be identified by the field staff in-charge of his/her zone. For formal loan, application and sometimes filling the application forms, the farmer is interviewed by credit officers to got information on such things as the size of his farm, and the type of farming (crop production, animal husbandry, etc).

The farmer, after this interview, is issued with loan forms, including the guarantors' forms. For the formal, completed forms may be returned to the zonal offices. The forms are then thoroughly screened and successful applicants issued with loans.

Informal loan operation is not complicated like the formal loan operations described above. Informal loans are made directly to the farmers by the lenders in areas where individual farmers are quite familiar with and confident in one another. The lenders know the borrowers and can tell fairly well their integrity. The informal loan does not require cumbersome application like filling-in of forms but rather it is simple and involves the lenders and the borrowers.

6.4 Securities Acceptable to Financial Institutions

The following types of securities are acceptable to financial institution:- stock and shares, personal guarantee/surety, livestock and crops, and land and building.

The data in Table 6.3 revealed that 17% of formal lenders accepted stock and share as securities from farmers before loan was granted. Thirty-seven percent of the respondents accepted personal guarantee/surety as securities for loan, three percent accepted livestock and crops, 43% accepted land and building as securities while 19% of the informal lenders accepted personal guarantee/surety as securities for loan, 26% accepted livestock and crops, 11% accepted land and building while 44% of the informal respondents indicated that they could give loan without any security. None of the informal lenders required stock and share as security while none of the formal lenders allowed farmers to obtain loan without securities.

From the table, 44% of the survey informal lenders granted loans to borrowers on trust. This may be as a result of knowing the borrowers very well by the lenders before loan is procured. About 19% of the respondents accepted personal guarantee/surety, 26% accepted livestock and crops as securities. The crops used as securities are mostly tree crops like oil palm, coconut, kolanut. Also 11% of the respondents accepted land and building as securities.

The magnitude of securities by the informal lending agencies is proportional to the amount of money granted as loan. In other words, the greater the risk involved in their business the more securities to off-set the loan in case of default.

Table 6.3: Distribution of respondents by collateral required by formal and informal lenders

Collateral requirement	Sources of Loan				Total	
	Formal		Informal			
	Fre	%	Fre	%	Fre	%
Stock and share	5	17	-	-	5	9
Personal guarantee surety	11	37	5	19	16	28
Livestock and crops	1	3	7	26	8	14
Land and building	13	43	3	11	16	28
No security	-	-	12	44	12	21
Total	30	100	27	100	57	100

Source: Field data, 1995

6.5 Loan Terms

Depending on the nature of the project, the loan granted to small farmers may be long term, medium term and short term loan.

The duration of loan also determines the interest to be paid on the borrowed money, the interest may be lower or higher. A farmer considers the type of loan to take which will enable him or her to repay at the expected time without borrowing to repay the borrowed amount. So a farmer needs to

borrow and plan the period of repayment to meet up with the agreement.

In this study, short-term, medium-term and long-term loans are defined as those loans covering less than one year, one to three years and above three years, respectively. On the terms of loan given, the study showed that 89% of the formal lenders gave short-term loans while 11% gave medium-term loans. About 36% of the informal lenders gave short-term loans, 55% of them gave medium term loans while 9% gave long-term loans. None of the formal respondents gave long-term loans.

On the small farmers side, about 57% of formal loan recipients were granted short-term loans as compared to 11% for informal loan recipients, about 29% of formal loan recipients received medium-term loan as against 56% for informal loan recipients. While only 14% of the formal loan recipients were granted long-term loans as compared to 33% for informal loan recipients.

The study shows that more farmers were granted short-term loan by formal lenders than informal lenders while more farmers were granted medium and long-terms loan by informal lenders than the formal lenders.

The implication is that the greatest percentage of the farmers who were granted short-term loans could afford the lenders the opportunity of increasing the volume of their

business since the loans granted to individuals were made use of and returned in a short time. For the medium and long term loans, a lower percentage of the farmers was due to the fact that the loan granted was tied down with the customers. This had an effect of minimising the volume of transaction and hence the level of profit.

Table 6.4: Distribution of respondents according to terms of loan

Kind of loan	Source of Loan											
	Financial Institution Side						Farmers' side					
	Formal		Informal		Total		Formal		Informal		Total	
	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%	Fre	%
Short-term loan	16	89	8	36	24	60	12	57	5	11	17	26
Medium-term loan	2	11	12	55	14	35	6	29	25	56	31	47
Long-term loan	-	-	2	9	2	5	3	14	15	33	18	27
Total	18	100	22	100	40	100	21	100	45	100	66	100

Source: Field data, 1995.

On the duration of loan granted to small farmers by formal and informal loan sources, the study showed that 67% of the formal lenders gave a loan period of 1-6 months, 33% of them gave a loan period of 7-12 months. None of the formal loan sources gave a loan period above 12 months.

In the case of informal lenders, 45% of them granted a loan period of 7-12 months while 55% gave a loan period of 13-24 months. None of the informal lenders gave a loan

period of 1-6 months and loan period above 24 months.

Table 6.5 below showed that 81% of formal loan recipients interviewed were allowed to use loans for period between 1 and 6 months. About 19% of the borrowers used formal loans for a period between 7 and 12 months. No farmer was allowed to use formal loan for a period exceeding one year.

In the case of informal loan, about 9% of the respondents were allowed to use loans for periods between 1 and 6 months. A majority of the farmers about 60% were allowed to use informal loan for periods between one and two years, while the rest of the borrowers (7%) were given periods exceeding two years. Informal lenders allow farmers the use of their loans for longer periods than the formal lenders. In this particular case, about 31% of informal loan recipients were allowed periods longer than one year as against none for formal loan sources.

Table 6.5: Loan duration of formal and informal loan sources

Duration of loan (months)	Sources of loan					
	Formal		Informal		Total	
	Fre	%	Fre	%	Fre	%
1 - 6	17	81	4	9	21	32
7 - 12	4	19	27	60	31	47
13 - 24	-	-	11	24	11	17
More than 24	-	-	3	7	3	4
Total	21	100	45	100	66	100

Source: Field data, 1995.

6.6 Interest Rates

The interest rates represent the interest charged for the use of loans by lenders. The interest is amount of money charged on loan borrowed during a farming period. It is expected that smaller amounts of loans will be obtained by farmers if the interest rate is high and low interest rate would attract borrowers to obtain low amount of money.

A majority of people who expected loans from formal sources to bear low interest rate may contradict the fact that farmers borrow at very high interest rate from money lenders and trader merchants. Even with the formal mode of interest rate charge, rural farmers tend to borrow from informal lenders which bear high interest rate.

The various credit institutions from which the borrowers obtained loans charged varying interest rates. Presented in Table 6.6 are the ranges of interest rates at which farmers borrowed according to formal and informal sources.

About 29% of the respondents preferred 0-5%, while nearly 9%, 36% and 11% wanted the lending institutions to charge them 6-11%, 12-17%, 18-23% respectively while only 15% did not mind interest charge above 23%. About 48% of formal loan recipients paid interest rates between 0 and 5% as compared to 20% for informal loan sources. Also 14% of the formal loan recipients preferred to pay the interest rate ranging from 6-11% as compared to only 7% for informal loan recipients. The highest percentage of the formal loan recipients wanted to borrow at interest rates between 6-5%

while none of the farmers wanted to borrow at interest rate above 23%. The highest percentage of the informal loan recipients about 40% preferred interest rates between 12-17% while a proportionate percentage of the informal loan receipients wanted to borrow even at interest rates above 23%. The observation that a majority of the respondents (about 48%) expected loans from formal sources to bear interest charge between 0-5% may contradict the fact that farmers borrow at very high interest rate from money lenders and trader merchants.

The low interest charged by the formal credit institutions could create a situation where the demand for farm loans will exceed the supply, thus resulting to loan rationing. This inevitably places the small farmers at a disadvantage and are ultimately forced to borrow from the money lenders and trader/merchants at very high interest rates.

In addition, commercial banks have not been known to be large suppliers of funds to the rural areas. Their efficiency in financing agricultural projects is marred by their concentration in the urban areas and their stringent collateral requirements. Even with their moderate interest charge, these defects spell huge costs for the rural farmers and tend to direct them to the informal loan sources bearing high interest rate.

This arguement is supported by the fact that only 17% of the respondents had applied for commercial loans.

Table 6.6: Distribution of the respondents according to preference of interest rates

Ranges of interest rates (%)	Sources of loan					
	Formal		Informal		Total	
	Fre	%	Fre	%	Fre	%
0 - 5	10	48	9	20	19	29
6 - 11	3	14	3	7	6	9
12 - 17	6	28	18	40	24	36
18 - 23	2	10	5	11	7	11
Above 23	-	-	10	22	10	15
Total	21	100	45	100	66	100

Source: Field data, 1995.

Table 6.7: Distribution of respondents according to their view about interest rates paid

Response about interest rates	Sources of loan				Total	
	Formal		Informal			
	Fre	%	Fre	%	Fre	%
Too high	-	-	10	22	10	18
High	5	24	23	51	28	31
Moderate	10	48	9	20	19	35
Low	6	28	3	7	9	16
Total	21	100	45	100	66	100

Source: Field data, 1995.

The data in Table 6.7 show the views of the respondents about the interest rates charged them by lenders. About 73% of informal loan recipients complained of high interest rates, while only 20% considered the interest they paid as being moderate. However, about 7% of the borrowers from informal loan sources considered the interest rates they were charged

as being very low. This is the interest charged by friends/ relatives while the high interest rates are those charged by money lenders.

In the case of formal loan recipients, none of the farmers complained of very high interest rates. About 24% of the respondents complained of high interest rates while about 48% considered the interest they paid as being moderate. About 28% of the formal loan recipients considered the interest rates as being low.

From the analysis it is found that 24% of the formal loan recipients complained of high interest rates as compared to a high percentage of 51% for the informal loan recipients while 28% of the formal loan recipients indicated that the interest rate is low as compared to 7% from the informal loan recipient.

Some of the respondents explained that they had to borrow from informal sources such as money lenders because of the relatively large amounts of loan given on request and the fact that they are always ready to give. The interest charged by friends/relatives were considered moderate and low. This is understandable considering the intimate relationship existing between the lender and the borrower.

The interest rate charged by the formal lending agencies ranged between 11% and 28% while that of informal loan agencies ranged between 3% and 60%. The total interest rate charged by the 24 formal agencies interviewed was 21%

while that of informal loan agencies was 29%.

6.7 Processes/Condition for Granting Loans by Formal and Informal Lenders

On the conditions for granting loans, the following conditions might hold for the formal lending agencies: the applicant must have an account with the bank, the applicant must contribute a percentage of the total loan needed, the applicant must have adequate collateral, must not have questionable credibility, applicant must not be seen as an absentee farmer.

The following conditions held for the informal lending agencies in granting loan to farmers: the applicant must be a member of the organisation, the applicant must contribute the percentage needed, the applicant must have adequate collateral, the applicant must be familiar with the lenders, the applicant must be in well known localities, the personality of the applicant must be known by the lenders.

Table 6.8: Conditions for granting loans by formal lenders

Conditions	Formal Loan	
	Fre	%
a) The farmers must have an account with the bank	10	26
b) The farmers must contribute a percentage of the total needed	5	13
c) The farmers must have adequate collateral	14	37
d) The farmers must not have adequate questionable credibility	8	21
e) Others	1	3
Total	38	100

Source: Field data, 1995

Table 6.9: Conditions for granting loans by informal lenders

Conditions	Informal Loan	
	Fre	%
a) The farmer must be a member of the organisation	11	12
b) The farmer must contribute the percentage needed	12	13
c) The farmer must have adequate collateral	5	5
d) The farmer must be familiar with the lender	17	18
e) The farmer must be in well known localities	15	16
f) The lender must know the farmers and can tell fairly well their integrity	16	17
g) The farmer personality must be known	18	19
Total	92	100

Source: Field data, 1995

The study shows that 26% of the respondents insisted that the applicant must have an account with the bank, 13% of the formal respondents insisted that the applicant must contribute 85% of the total credit required, 37% insisted that applicant must have adequate collateral, 21% indicated that the applicant must not have questionable credibility, while 3% required that applicant must not be absentee farmers.

In the case of informal loan sources, 12% of the respondents insisted that the applicant must be a member of the organisation, 13% insisted that the applicant must contribute the percentage of the total amount of loan needed, 5% insisted that the applicant must have adequate collateral, 18% indicated that the applicant must be familiar with the

organisation. Equally 16% of the respondents insisted that the applicant must be in well known localities, 17% requested that the lender must know the farmers and can tell fairly well their integrity while 19% of the respondents insisted that the applicant's personality must be known.

These conditions hardly favoured small scale farmers because even the land they farm was family land which none of them could easily obtain certificate of occupancy for needed before financial institutions can accept it as a collateral. In addition, if a farmer could obtain 85% of his loan requirement, he might not consider it necessary to obtain loan from the banks.

6.8 Results of Regression Analysis

The test of the factors influencing small farmers' demand for formal and informal loans was conducted. The results of the test are shown in the equation below.

6.8.1 Estimated models of loan demand

Regression analysis was conducted to estimate Cobb-Douglas functional form within the framework of two distinct data sets:

- data set I (data for formal loan only)
- data set II (data for informal loan only).

The estimated Double logarithmic function (Double log) model for the formal data is:-

Equation I: $\log Y = 7.313456 + 3.533425 \log I_t^*$
(2.38326)

$- 0.4909128 \log I_n^* + 0.839463 \log F_s^*$
(1.46516) (0.26393)

$+ 0.487655 \log O_p^* + 0.2670235 \log T^*$
(0.13326) (0.01877)

$- 0.1066676 \log M_b^*$
(0.52651)

R^2 = 60
* = logarithmic values
( ) = standard error of coefficient
F = 0.90366.

The regression line gave a coefficient of multiple determination (R^2) of 60% or goodness of fit to the true line. This implies that, the six explanatory variables explained 60% of the Y (formal loan) variation.
The model explained 60% of the variation in formal loan. Farm size, operating expenses, and technology coefficients were significant at the 5% level whereas interest rate, income and membership of savings group were not significant at 5% level of confidence.

The model for informal data is:

Equation II: $\log Y = 5.741753 - 0.1650924 \log I_t^*$
(0.28544)

$- 0.4687302 \log I_n^* +$
(0.61726)

$0.5522898 \log F_s^* +$
(0.13950)

$0.5420482 \log O_p^* +$
(0.21020)

$$0.131202 \log T^{*}$$
$$(0.08734)$$
$$+ \quad 0.8228487 \log M^{*}_{b}$$
$$(0.38498)$$

$R^2 = 48$

* Logarithmic values

( ) standard error of coefficient

$F = 4.07578$

The model above explained 48% of the variation in loan of informal credit. Interest rate and income coefficients were not significant whereas farm size, operating expenses, technology and membership of savings group coefficients were significant at the 5% level of confidence.

6.9 Discussion of Regression Coefficients and their Statistical Significance

For the two regression equations, the coefficients of multiple correlation (R^2) were 60% and 48% for data set I, and data set II respectively. These percentages showed that the proportion of observed variability (in the volume of loan demanded) explained by the combined effect of the independent variables is greater for data set I than data set II. However, the estimated functions are good fit for according to Nwoko (1989), as long as R^2 is up to 40% the regression will be good fit at 10% or 5% confidence level.

The F-value of 4.08 for data set II (informal loan regression) was significant at 95% level of confidence and thus indicate a strong influence of the six independent variables on the volume of loan demanded (Equation II).

While the F-value of 0.90 for formal loans was not significant at 95% level of confidence and thus indicate a weak influence of the 6 independent variables on the volume of loan demanded (Equation I).

Table 7.10: Results of 6 independent variables related to the demand from formal loan by small farmers

Variables	Regression Coefficients	Standard errors	t-values	Level of significance
I_t	3.533425	2.38326	1.483	NS
I_n	-0.4909128	1.46516	0.335	NS
F_s	0.8394963	0.26393	3.181	0.05
O_p	0.4876557	0.13326	3.659	0.05
T	0.2670235	0.01877	14.226	0.05
M_b	0.1066676	0.52651	0.203	NS

Degree of freedom (df) = 8
R^2 = 0.60097
a = 7.313456
F = 0.90366
NS = Not significant beyond 5% level of confidence

Source: Computed from field data, 1995

Table 7.11: Results of 6 independent variables related to the demand from informal loan by small farmers

Variables	Regression Coefficients	Standard errors	t-values	Level of significance
It	-0.1650924	0.28544	0.578	NS
In	-0.4687302	0.61726	0.759	NS
Fs	0.5522898	0.13950	3.959	0.05
Op	0.5420482	0.21020	2.166	0.05
T	0.1312021	0.08734	1.502	0.05
Mb	0.8228487	0.38498	2.137	0.05

Degree of freedom (df) = 32
R^2 = 0.48469
a = 5.741753
F = 4.07578
NS = Not significant beyond 5% level of confidence

Source: Computed from field data, 1995.

6.10 Discussion of Parameters

The parameters of the significant independent variables used in the analysis are now discussed in greater deal.

1) Farm size (FS): Farm size was a significant variable for both formal and informal loans and it had a direct relationship with the volume of loan demand for the two loan sources. Its significance might be due to the fact that for most farmers in the study area farmland was a limiting resource. Some farmers leased land during the study period. Such that the volume of loan demanded was influenced by any change in farm size.

The implication is that as the farmers became more interested in farming thus spending more and more in it, the farmers need for loan increased.

2) Operating Expenses (Op): For both formal and informal loan sources, the cost of running the farm (for buying of inputs, hired labour) is positively correlated with the volume of loan demanded. This result was expected. As most of the respondents had farming as their main occupation, an increase in farm inputs costs did not prevent the farmers from making use of these inputs hence the demand for more

loan to purchase them. This factor is significant for both formal and informal loans.

3) Degree of Usage of Modern Technology (T): The regression coefficients of the two sources of loan were significant. The positive sign of this variable for the two sources of loan indicates that an increase in the number of modern farm inputs used increased total farm costs and hence the volume of loan needed to pay for these inputs. This result is consistent with the real life situation.

4) Membership of Savings Group (Mb): Membership of savings group is a very strong determinant of the amount of credit demanded by farmers from loan sources. The marginal contribution of membership group to the volume of credit demanded for informal loan is both positive and significant while that for formal loan is negative and non-significant. This means that it is easy for a farmer to borrow from an organisation.

The explanation for the positive sign of this variable for informal loan might be that there is an informal organisation ruling, that it is only members that can borrow certain amounts or above such amounts. Farmers therefore go in for loans in any organisation where they are members to help finance their farm projects. This factor was however not significant for formal loans. Members are under no obligation to borrow if they do not want to. This factor also gave a negative sign

for the formal loan. The formal farmers are not allowed to borrow from any informal organisations since they are not members. Even though they are allowed to borrow, it is not easily accessible to them and the interest would be higher than the interest they charge members.

6.11 Testing of Hypothesis

Two kinds of statistical techniques were employed in testing the null hypotheses versus the appropriate alternatives.

Hypothesis I

1) Student's t-test:- This was employed in testing hypothesis one.

The result of the test showed that calculated t at 5% and 10% levels of confidence is greater than the tabulated t.

t calculated = 3.621 while the tabulated t with 40 degrees of freedom at 5% and 10% confidence levels are 2.021 and 2.704 respectively.

Therefore the null hypothesis is rejected meaning that there is highly significant difference in the mean amount of loan obtained from formal and informal sources of loan among small farming households. That is, the difference $(\bar{X}_1 - \bar{X}_2)$ is significant. The sample means of formal loan source and informal loan source is significant.

Hypothesis II

This hypothesis was tested by comparing formal and informal loans on the basis of their loan terms and conditions. The operational suitability of loan source was examined on

the basis of interest rate charged by formal and informal loan sources, amount of loan given, cost of loan of each source, grace period, duration of loan given by each loan source, collateral requirement and distance travelled to each loan source.

The study revealed that the overall interest rate is 24% for formal loan as compared to 17% for the informal loan as it was contained in Table 6.2. The study showed that the overall interest charged by the formal loan sources was higher than the informal loan sources. The study also suggests that the informal lenders grant small amount of money to their borrowers than the formal lenders. In terms of cost of loan, the study shows that heavier expenses were incurred by formal loan recipients than their counterparts partly because of the relatively longer distance they had to travel. The study also reveals that the formal lenders gave a longer grace period than the informal lenders.

It is indicated that the formal lenders want their borrowers to pledge such assets as stock and share, personal guarantee/surety, livestock and crops, land and buildings while the informal lenders want their borrowers to pledge farm produce and at times they do borrow to farmers without security.

From the analysis of collateral requirement, many farmers would prefer to operate with the informal loan sources because of their mild collateral requirement which they can easily afford as compared to the formal loan sources which required such assets as land, building which the farmers cannot easily afford.

The data on Table 6.2 shows that formal loan recipients had an average distance of 9kms as compared to only 3kms for the informal loan source. The analysis above supports the reasons why many small farmers obtained money from the informal loan sources. This is because the operational procedure of the informal loan sources is quite simple and mild. The formal and informal loans were compared in terms of operational conveniences. The result revealed that the informal loan sources have fair and simple operational procedure than the formal loan sources. In other words, the formal loan sources have complex and complicated operational procedures.

CHAPTER SEVEN

SUMMARY, RECOMMENDATIONS AND CONCLUSION

7.1 Summary of Findings

This study was designed to analyse and explain the determinants of demand for formal and informal credit by small-scale farmers in Delta State.

The study examined the relative accessibility, proximity, loan terms/conditions, cultural elements and community-oriented factors of small farmers' demand for formal and informal loans.

The three agricultural zones of Delta State were surveyed. A random sample of six (6) local government areas was made: two from each agricultural zone. A survey of 72 farmers, 24 formal and 24 informal lending agencies were selected to determine the factors influencing small farmers demand for formal and informal loans. Both primary and secondary data were analysed. Primary data were based on a set of structured questionnaires administered to randomly selected farmers, informal loan agencies and formal loan agencies. Secondary data were obtained from Central Bank of Nigeria Annual Report and Statement and financial records of the selected formal and informal loan agencies.

The data analysis was done by using tables, simple averages, percentage and multiple regression to examine and compare the factors influencing small farmers demand for formal and informal loans.

Two sets of data were generated and two regressions were run for the formal loan (Data set I) and informal loan (Data set II).

Four functional forms were tested; the ordinary linear, semi-logarithmic, double-logarithmic and exponential forms. The double logarithmic form was adopted because it had the highest R^2 value and showed many statistically significant variables.

The respondents had farm sizes which ranged from 0.1 hectare to 5 hectares. The major source of farmland for small farmers in the study area was family land. Therefore, it would be very difficult for the farmers to use land as a collateral.

Majority of the formal loan recipients (about 55.5%) earned farm income of between ₦1001 and ₦5000 as against 63.6% for informal loan recipients while 44.4% of the formal loan recipients had farm income of between ₦7001 and ₦13000 as compared to 33.4% for the informal loan recipients. The study revealed that formal loan recipients earned more farm income than the informal loan recipients.

Two main sources of finance were identified and grouped under formal and informal sources of loan. The study showed that 17% of the sampled farmers obtained their loans from formal loan sources. Informal loan sources on the other hand, accounted for 61% of the sampled farmers. About 22% of the respondents obtained their loans from both formal and informal combined.

The amount of loan requested from the formal loan sources ranged from ₦500 to ₦8001 or above while, the amount of loan demanded from the informal sources of loan ranged from ₦500 to ₦8000. The study revealed that formal loan recipients demanded for the highest amounts of loan, while the least amount was demanded by the informal loan recipients.

As regards the amount of loan obtained by respondents from loan sources, it was observed that the informal loan sources gave the highest percentage, followed by formal loan source and the least is the combined formal and informal.

The study revealed that the formal lenders wanted their borrowers to pledge such assets as stock and share, personal guarantee/surety, livestock and crops, land and buildings while the informal lenders wanted their borrowers to pledge farm produce and lend to farmers without security.

On the methods of operation of formal and informal loans, the study shows that formal and informal sources of loan have different criteria for granting loans. The informal loan source is simple and easy to operate by farmers but the operation of formal source of loan is complicated and cumbersome.

On the duration of loan granted to small farmers by formal and informal sources of loan, the study showed that 67% of the formal lenders gave a loan period of 1-6 months, 33% of the formal lenders gave a loan period of 7-12 months. In the case of informal lenders, 45% of them gave a loan period of 7-12 months while 55% gave a loan period of 13-24

months. The study shows that 89% of the formal lenders gave short-term loans while 36% of the informal lenders gave short-term loans. About 11% of the formal lenders gave medium-term loans while 55% of the informal lenders gave medium-term loans and 9% of them (informal lenders) gave long-term loans.

Loans were obtained at different interest rates from formal and informal sources. Borrowers from formal loan were charged interest rates which ranged between 11% and 28% while borrowers from informal sources were charged interest rates ranging between 3% and 60%.

It was found that formal sources of loan were strongly influenced by farm size, operating expenses and degree of usage of modern technology. The factors that strongly influenced the informal loan sources were farm size, operating expenses, degree of usage of modern technology and membership.

Two hypotheses were tested. The first one assumed that there was no significant difference in the demand for loan from the formal and informal sources of loan among small farming households. The t-calculated was greater than the t-tabulated. The test shows that there was a difference in the loan demand of formal and informal loan. Hypothesis two assumed that there was no significant difference in the lending criteria of both formal and informal sources of loan. Comparative analysis was employed to test some lending terms and conditions of both formal and informal loans. The test

signified that the lending criteria of both formal and informal sources of loan differed significantly.

7.2 Recommendations

On the basis of the findings of this study, the following recommendations are made.

1) The amount of loan given to small farmers especially the formal loan sources was small relative to demand. Since the amount of loans given to farmers was small relative to demand, it is recommended that the amount be increased. The idea of placing a ceiling by the formal lending agencies on the amount of loan given to farmers does not seem to be a realistic approach in tackling farmers' financial problems. The amount granted should be in constant review in accordance with the prevailing purchasing power of the naira and with the estimate of production cost on per hectare basis. Also, the provision of inputs like improved seeds, fertilizers, herbicides and tractors on hire at subsidized prices is a good and encouraging incentive. This will increase yield, efficiency and ensure loan repayment on time.

2) Simplication of the procedure adopted in the extension of loans - the slow and cumbersome loan procedures of many loan institutions especially the formal sources of loans often discourage farmers, who complain that they have to fill up detailed and lengthy forms they do not understand.

The procedure should be simple enough for farmers to understand and yet provide loan institutions enough information for decision making and effective administration of loans to farmers. This can be achieved by standardising the scales of loans for various crops and limiting the information required to a minimum especially in short term seasonal production loans which most of the small farmers required.

3) Most of the farmers especially formal clients had to travel long distances to get to the loan institution. This, in addition to increasing the cost of loans and cost of production, will increase the risk involved in carrying money to and from the loan institutions. The need for the establishment of branch offices in every local government area, as has been done by informal loan is thus recommended. In addition, the branch offices should have powers to give and receive loans on behalf of the credit institutions.

The need to establish loan institutions nearer to the rural areas arises since it was observed from the study that travelling cost incurred by farmers in search for loan retards the demand for agricultural loan in rural communities. In the light of this, government loan institutions, for example, the Nigerian Agricultural and Cooperative Bank, should not only have branches in all the states, but also should work directly with the local government headquarters to ensure that the supply of loan meets its demand in rural areas. The ultimate aim should be to extend the activities of lending

agencies to the local authority and village levels so as to integrate more farmers into the main-stream of agricultural development.

4) Another important consideration is that farmers depended almost entirely on informal sources for their loan needs with friends, relatives, money lenders, cooperative societies, esusu, etc constituting the major sources. These informal sources can be developed to act as channels for the flow of funds from banks to rural areas as well as a security for such loans. These sources should be developed with government support as well as legislation to streamline their activities and to generate discipline and confidence in their operations.

5) In addition to enchancing the efficiency of the informal lenders, government should put more pressure on formal loan agencies (especially the banks) to establish more branches in the rural areas in compliance with the rural banking scheme of the government. This is because it has been observed by previous researchers that one of the problems militating against efficiency of the formal credit systems in improving agricultural production is the unwillingness of farmers to travel long distances in order to obtain loans. If more branches of such institutions are established nearer to the farmers, more farmers will be induced/enabled to seek loans from such sources.

6) In view of the nature of collaterable assets owned by a majority of the farmers and which they are willing to offer for loans, government should encourage the formal sector to

consider accepting them from the farmers who do not have other more tangible assets to offer. If those assets as owned by the farmers were adequate to secure informal loans and induce repayment, there is no reason why formal lenders cannot accept them. Moreso, if the complicated official protocols and formalities involved in loan application, processing and subsequent approval are reduced, more farmers could seek and obtain formal loans.

7) The conditions imposed by credit institutions especially formally loan markets have been identified as major hindrance to the acquisition of loans by small farmers. Many of the institutions only lend to small farmers on the basis of the security they can provide and many small farmers are unable to produce the substantial security required. It is clear that too rigid an insistence on tangible security will preclude many of the farmers from loans. This calls for flexibility in security requirements and the adoption of other criteria of credit worthiness.

In this regard, the character and the ability of the farmer to use credit productivity should be considered where the farmer has no tangible security to offer. In India and elsewhere, this has been achieved by lending to farmers on the basis of the productive increases which loan generates. Repayment of loans are timed to coincide with the new and increased income generated from increased production. Such a lending approach makes it possible for poorer farmers to have access to credit.

8) The study revealed that interest rate on credit affected its demand. If the interest is high, the demand is low and vice versa. It is therefore, recommended that the interest rate should be set at a minimum level that will encourage farmers' demand for loans and at the same time encourage loan institutions to cooperate with the Central Bank's rural banking programme to respond more to the financial need of agricultural sector. Any interest rate above 8% is likely to affect the demand for loans by the small scale farmers adversely.

9) Disbursement of funds should be timely and repayment schedule realistic and flexible enough to allow a suitable grace period.

This means that loans should come at the proper time. Funds disbursed after the planting season are wasteful and unproductive and may be diverted to other areas. Grace periods should also be such as to enable the farmer reap the full potentials of his production. It is further suggested that costs and returns should be realistically projected. Allowance should be made for escalation in costs.

10) The Commercial Banks operating in the study area should decentralise their farm loan approval procedures. Branch Managers should be given the authority to approve farm loans of not more than ₦6,000. This will minimise the problems often encountered by small farmers in the study area. Some farmers told the researcher that they sometimes wait for a period of about five months or more before their application

for loans of between ₦300.00 to ₦500.00 were approved.

11) To attract more farmers' patronage of loan institutions, the major factors (proximity of the lending source, good disbursement method, loan term/duration and good repayment arrangement considered before choosing a loan source) should be made attractive. This could be achieved by giving more subsidy so as to lower the interest rate. Also, by the extension of the repayment period to enable farmers liquidate the debt with proceeds from their farm, improving the quality of services rendered to their clients.

7.3 Conclusion

The study set out to achieve, among other objectives, the determinants of small farmers' demand for formal and informal credits in Delta State, and to relate these determinants to the operations and policies of the major farm lending agencies.

The effectiveness of a loan institution is judged by the extent to which it makes its impact felt by the farmers, especially small scale farmers. The size of the loan, the procedure of granting such loans and the timing of loan release and repayment are all essential if farmers are to derive maximum benefits from lending agencies.

It has been indicated that small farmers lack reasonable access to sources of loanable funds and that existing loan institutions despite successive expansion of their lending operations do not meet the loan requirements of many small farmers. The procedures and requirements of loan institutions

were identified as important factors that vitiate and reduce the access of small farmers to loans.

The demand for agricultural loans emanated from the socio-economic environment of the loan recipients as indicative from their production goals. The amount of loan obtained by respondents from their sources was determined by the credit worthiness of the farmer clients, that is, the ability to constitute effective demand. Other determinants include the availability of loanable funds, administrative convenience and government policy. On the other hand, the amount of loan demanded by farmers depend on their farm size, income, degree of usage of modern technology, operating expenses and interest rate charge.

The average loan size obtained by recipients was small relative to the average amount of loans applied for. This is an indication of inadequate financing. Respondents' major sources of loan was informal loan agencies. Very few farmers obtained loans from the formal loan sources.

It is certain that informal lenders in the study area have no fixed rate of interest. The rate agreed on by different private lenders for any particular principal or loan varies with personal acquaintance and relationship. But on the average the interest rate is usually very high. Despite the interest rate, informal sources have contributed immensely to agricultural finance in the study area. Though the bulk of finance comes from this source, the dependence

of small scale farmers on this source cannot but inhibit and hamper the proper development and growth of agriculture. Farmers should be protected from the excessive charges by way of interest from the private lenders.

The factors influencing small farmers' demand for formal and informal was looked into. There is no significant difference in factors influencing the borrowing decisions of small farmers for formal and informal loans though informal loan has more significant variables than formal loan. There was no significant difference in the demand for loan from the formal and informal sources of loan. The lending criteria of both formal and informal sources of loan differed significantly.

In conclusion, if the aforementioned recommendations are adhered to, more small-scale farmers in Delta State will have access to credit and hence there will be increased in their farm production.

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