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Income and Consumption Effects Access to financial services among the small holder farmers in ebonyi state of Nigeria

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INCOME AND CONSUMPTION EFFECTS OF ACCESS TO FINANCIAL SERVICES AMONG THE SMALL HOLDER FARMERS IN EBONYI STATE OF NIGERIA.

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CERTIFICATION

UGBOR IKWOR KALU, a postgraduate student in the Department of Agricultural Economics, with registration number PG/M.SC/95/21524, has satisfactorily completed the requirements for the course and research work for the degree of Master of Science in Agricultural Economics. The work embodied in this Dissertation Report is original and has not, to the best of my knowledge, been submitted in part or in full for another diploma or degree of this or any other University.

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ABSTRACT

This study was carried out to evaluate the Income and Consumption effects of Access to financial services among the Small Holder Farmers in Ebonyi State of Nigeria. This was necessitated as a result of small holder farmer's poor financial services administration with consequent low farm output. The variables that exist with the financeal services includes: adequacy of credit, types of financial services provided, repayment abilities of the sampled farmers and timeliness of the financial services (loan) etc.

The main objectives of this study were to identify and examine the nature and patterns of fiancial services available to small holder farmers; to determine and explain the Credit needs of Small Holder Farmers in terms of adequacy and timeliness of financial services, ascertain and evaluate the extent o to which the current parameters or variables of the existing financial services to farmer deviate from the financial services needs, assess and analyse the effects of access to financial services on farm income and consumption and to find out the constraints that affect the adequency and timeliness of financial services to small holder farmers in Ebonyi State of Nigeria.

Data were collected by the use of interview schedules and information were recorded by the researcher. Average,

frequency, percentage and credit gap index and time lag index were developed by the researcher to analysis the data collected. Furthermore, cash flow budget and chi-square test were employed in the analyses.

The result of this study indicated that the Credit/ Loan from the financial institutions were grossly inadequately and untimely provided.

From the Cash flow budget, it reveals that for a farmer to cultivate/hectare of Rice and Yam-based crops he/she needs ₦38,430.00 and ₦149,130.00 from external sources while he/she provide ₦25,620.00 and ₦99,200.00 respectively for the cultivation of each hectare of the named crops. These assumption above were drawn from the fact that the equity valuations of the farmers should be 40% of the total cost of production.

It was recommended that the lending agencies should determine the financial services needs of the small-holder farmers before extending them to the farmers.

The amount of loan/credit to be given to the small holder farmers be increased or revealed upward upto ₦20,000 and above per cropping season.

CHAPTER ONE

INTRODUCTION 1.

1.1 Background Information

Desai and Mellor (1993) stressed that financial services facilitates complementarities between intermediate inputs, labour and operating assets enabling farmers to have inputs available when they need them. Furthermore, financial services encourage diversification of Agriculture and development of other economic activities that complement or supplement agriculture. Financial services also promote agricultural production and saving linkages of technology change in Agriculture as well as consumption linkages resulting from increased rural income.

Zeller (1993) opines that access to credit has potential of substituting for some higher cost traditional saving, self insurance and community level coinsurance strategies as well as substituting for high interest of informal credit. He further pointed that credit and savings facilities may be particularly needed in environments of considerable inter-annual income fluctuation and where product and input markets are imperfect exhibiting high seasonal price - fluctuations. Oladunni (1992) emphasized that credit can be used to adjust to changing economic conditions of the small holder farmers in the rural areas. The adoption and acquisition of new

technologies is made easier by use of credit.

Changes in technology usually results in an increase in the productivity, makes it possible to produce more food and fibre per worker and consequently to have more goods available for consumption per person (Bishop and Toussant, 1958,). Olayide et al. (1980) emphasized that Agricultural technology can be labour saving, labour enhancing and labour enlarging at the minimum possible expenditure of energy. It also accelerate agrarian revolution and at the same time ensure optimum employment and increased farm productivity and aggragate ouput. Credit makes it possible for farmers to have inputs they need to realise the full potentiall of the new technology and hence to repay loans promptly (Deaton 1989, Desai 1989, Desai and Rao 1978 Desai Gupta and Singh 1988). Ogunfowora et. al. 1997 stressed that credit strengthen the farmer's position in the disposal of his farm produce instead of having the timing, determine the urgent need for cash. This prevents the farmer from being forced to dispose his product at low market price prevailing during the harvest.

Vittas and Cho; (1996) opines that information is highly imperfect and costly to acquire and the allocation of credit suffers from the unequal distribution of information.

Famoriyo (1980 and Uduk (1990) observed that inaccessibility to reach the rural areas due to near absence of good rural road network makes it difficult for officials of financial institutions to reach the farmers who dive in scattered villages. In their study Famoriyo and Nwagbo (1981) identified failure to reach a sizeable number of small holder farmers and unacceptable default rates as some of the problems faced by credit institutions. Klonsky (1993) in California Agriculture pointed out that large commercial banks find that transaction costs are the same regardless of the size of loan, they therefore prefer large, well secured loans, over small ones. For small holder's loan, cost of the lending is too, greater relative to the caring potentials. Financial services for the poor poses some specific problem of policy and programm design because the small holder farmers have little or no collaterial to offer and credit amounts and installments are small raising per unit transaction costs (Zeller, 1993). CBN (1993) emphasized that since 1990 the increased cost of farm materials arising out of the inflationary trend in the economy, high cost of investible funds and deregulation of interest rate have to a large degree influenced the position of the farmers as they were unable to cope especially where the limited same outlets are largely rural.

In an attempt to solve these problems in Nigeria, the Federal Government adopted a variety of strategies to provide access to credit and mobilization of savings among the Small Holders Farmers and other Small Businesses. Among the programme introduced to solve the problems are: the establishment of Rural Banking in 1977 to extend banking services to the rural areas. Theprogramme was based on Okigbo's Financial Review Committee report which recommended that government should take an initiative aimed at complelling commercial banks to open branches in the rural area (Okigbo, 1976). The establishment of the Agricultural Credit Guarantee Scheme Fund (ACGSF) in 1978 to serve as an inducement to Commercial and Merchant Banks to increase credit allocation to Agriculture. It also covers the missing gap between borrowers and rural formal financial institutions. According to Eyo (1995) the flow of funds had been on one way which is from banks to borrowers. The saving component of credit delivery was to create a two-way flow of funds that is to say credit from rural financial institutions to borrowers and saving from borrowers to rural financial institutions; the establishment of Nigerian Agricultural and Co-operative Banks in 1973, as the sole giant towards Agricultural development in Nigeria. The bank was set up in order to improve the level and quality of all aspects of Agriculture

production to enhance the availability of storage facilities and to promote the marketing of agricultural products through liberal credits to farmers. (Adekanye 1983) and the establishment of Community Banks for the purpose of providing credit banking and other financial services to the members largely on the basis of their self-recognition and credit worthiness. According to Victor (1993) generally, the objective of the banks has been to support the government in its bid to improve the income and welfare of farmers while promoting rural development and increasing the nations production of food and Bibre to meet the needs of our rapidly growing population.

1.2 Problem Statement

The State of financial services to Small Holder Farmers in Nigeria appear to be poor, this is because most of the credit granted to Small Holder Farmers come at such times when such inputs, such as funds would have been late to be invested in farming operations and more often than not the financial services thus provided is grossly inadequate. They key research problem is that scanty knowledge is available regarding the optimum credit needs of Small Holder Farmers and the income and consumption effects of their access to financial services.

Most past researchers have emphasized or concentrated on the nature and availability of financial services to Small Holder Farmers. Very little is known about the effects of current financial services on the income and consumption of Small Holder Farmers.

The purpose of this study is to assess the state of financial services granted to the Small Holder Farmers. The study will further evaluate the credit needs of the farmers in question vis-a-vis existing income and consumption effects of access to financial services among the farmers. If the tasks above are accomplished it would help in maximising the impact of financial serfices on Small Holder Farmer's income, production and consumption.

The research question which constitutes the subject of inquiry include the followings:

i) How adequate and timely are the existing financial services?

ii) What are the credit needs of farmer as determined by the cash flow patterns?

iii) What are the effects of access to financial services on farm income and consumption among Small Holder Farmers?

iv) What strategies would influence the existing financial services towards credit needs of farmers?

1.3 Objective of the Study:

The broad objective of the study is to investigate the optimum credit needs of farmers, the extent to which the current financial services deviate from the credit needs and the effects of the existing financial services on farm income and consumption among farming households.

The specific objective are to:

1. identify and examine the nature and patterns of financial services available to small holder farmers.
2. determine and explain the credit needs of Small Holder Farmers in terms of adequacy, timeliness of financial services.
3. ascertain and evaluate the extent to which the current parameters of the existing financial services to farmers deviate from the financial services needs;
4. assess and analyse the effects of access to financial services on farm income and consumption among Small Holder Farmers;
5. find out the constraints that affect the adequacy and timeliness of financial services to small holder farmers;
6. make recommendations on how financial services can be enhanced to impact more positively on farm income and consumption.

1.4 Statement of Hypothesis

1. Financial Services currently available to Small Holder Farmers are not variance with financial service in terms of adequacy and timeliness of the services.
2. Financial Services currently used by farmers have no effect on farm income and consumption.

1.5 Significance of the Study

The study would serve as an exploratory step sought to identify the constraints of the financial services to the Small Holder Farmers which would serve as criteria model for agricultural financing policy in the future.

The findings would create awareness of the lapses and difficultures encountered in the delivery of approved financial services of the Small Holder Farmers in Ebonyi State of Nigeria. It would also be of immense benefit to all the agencies involved in financial services delivery to the Small Holder Farmers in the study area. This is because the study would provide them a useful information regarding the optimum credit needs of the small holder farmers. It is also hoped that the findings of the study would be particularly useful to the Government of Nigeria (specifically the Ministry of Agriculture), Consultants and Researchers.

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2.1 Scope of Financial Services

Services provided by formal financial institutions includes farm level loans (both in cash and kind) and short and long term loans for crops and other enterprises. Others include extension, sales of farm inputs, marketing of farm produce or sales of consumer goods, collection of deposits (saving) other borrowing and loan recovery. These services are either directly and indirectly. The financial institutions do not themselves sell farm inputs and services but they participate in those activities by making loan to those engaged directly in those businesses Desai and Mellor, 1993) Perry (1984) stressed that financial services for farmers include farming advance, farm development loan, insurance of farm building equipment and livestock. Ralph (1995), emphasized that other financial services have been defined in the agreement to include the following activities:

a) Acceptance of deposits and other repayable funds from the public;

b) Lending of all types, including consumer credit, mortgage credit, factoring and financing of commercial transaction;

c) Financial leasing;

d) All payment and money transmission services, including credit, charge and debit cards, traveller cheque and

bankers drafts;

e) Guarantees and commitments;

f) Trading for own account or for account of customers in an over-the-counter market or otherwise; the following:

i) foreign exchange;

ii) derivative products including, but not limited to futures and options;

iii) money markets instruments (including cheque, bills, certificates of deposits;

iv) exchange rate and interest rate instruments, including products such as swaps, forward rate agreements;

v) transferable securities;

vi) other negotiable instrument and financial assets, including bullion.

g) Participation in issues of all kind of securities, including underwritten and placement as agent (whether publicly or private) and provision of service related to such issues.

h) Money broking;

i) asset management, such as cash portfolio management, all form of collective investment management, pension fund management custodial, depository and trust services;

J) Settlement and clearing services for financial assets, including securities derivative products and other negotiable

instruments;

k) Provision and transfer of financial information and financial data processing and related software by suppliers of other financial services; and

l) Advisory, intermediation and other auxilliary financial services on all the activities listed in sub-paragraphs (a) to (k) above; including credit reference and analysis, investment and portfolio research and advice, advice on acquisitions and on corporate restricting and strategy. The rural financial scheme provide services as credit services, saving servicing and insurance services (Zeller, 1993).

2.2 Income and Consumption Pattern of Small Holder Farmers

Income is defined as the net return to all the households resources land, labour, bullocks and managerial skills. It comprises net farm income. Income from any non-farm businesses owned, wage and salary earning and returns from other investment (land, rents, interest on saving account pensions etc). The Income available for consumption and gross investment are sourced from the above means (Singh and Asoken, 1981). In reduced form per capita income is hypothesised to be a function of a household resources endowment (land, bullocks and irrigation) the age caste and education of head and and of annual rainfall and the prevailing wage rate (Singh and Hazell, 1993).

They further pointed that the determinatnts of per capita income are clearly more complex involving socio-economic factors as well as agroclimate condition.

Desai and Meller (1993) stressed that the consumption expenditure on food is continous and fluctuates among the small holder farmers - household. Spencer (1980) emphasized that consumption demand is the personal consumption expenditure on goods and services. And the level of consumption depends on the level of income that is dispensable income. The dependency is such that as incomes increaases; consumption increases but not as fast as income.

Pierre et. al (1996) conceptualized that many households in developing countries operates at mear subsistence income levels. For this reason, it strengthen their motive for consumption smoothing, since the consequences of a bad income drawn in a given period would be catastrophic under such circumstances. According to them would affect their consumption patterns.

2.3 <u>The need for Financial Services Among the Small Holder Farmers</u>

Oluwude (1979) observed that the need for financial services stemmed from the pattern of distribution of agricultural income and consumption expenditure due to the seasonal nature of farming. He also added that while income is accurred to the farmers once or twice annually and the consumption expenditure is incurred throughout the year and it also fluctuate.

Farmers, particularly those that operates small farms had to borrow to compensate the shortfall in their income to meet their consumption needs.

Oladunni (1992) also added that credit as part of the financial services provided by financial institutions is important and necessary in agricultural production, since it is a unique resources which provides the opportunity to use additional inputs and capital items now and pay the cost from future earnings. The researchers also added that credit can contribute to the improvement in the net income and consumption of samall scale farmers. It helps the farmers to meet seasonal and annual fluctuation in Income and Consumption expenditure. Financial services helps in mobilizing saving among the small holder farmers from the rural areas. Saving mobilization is a process involved in bringing into circulation or into useful life or proper use of idle resources. The money saved (capital formation) would have been consumed or spent extravagently but there are saved and later used for investment, payment of debts, purchasing of agricultural goods and services.

2.4 Administration of Financial Services

According to Okolue (1994) administration of credit involved advising and monitoring of all aspects of credit on a day-to-day basis to ensure that it is fully repaid. Credit administration is a function of adhering strictly to the cannons of good

leanding. It also involves proper documentation, disbursement and monitoring of the use of the funds to ensure repayment z at the agreed time (Orji, 1989). Efficiency use of the credit will be achieved if the credit needs of the farmers are ascertained followed by good administration by the formal and formal sources of credit to small holder farmers (Adegeye and Dittoh 1985; Mabogunje 1965; Okorie 1986 and Ihimodu 1986).

However, recent emperical evidence reveal that credit though not the sole factor inhibiting agricultural development in Nigeria, could be seen as a major facilitator which deserves the emphasis accorded to it, by successive administration in the country in the bid to shore up agricultural output.

The foregoing review has therefore established that for proper functioning and administration of the financial services delivery system to small scale farmer roups, there is need for the identification of the various factors that favour prompt repayment, saving mobilization, and the putting in place of a machinery for loan recovery such that default rate is at the barest minimum. The success of any farm financial services scheme and the viability of the farm enterprise generally depend, to a large extent, on the repayment capacity of the beneficiaries and their willingness to repay farm loans. And the greatest challenges to establishing effective financial services systems for small holder farmer is finding way to cut

overhead administrative services costs inherent in extending financial services to many small holder farmers, while maintaining effective supervisory and monitoring control (Petit, 1990).

2.5 Theoretical Framework

The theory of vicious cycle of poverty as revealed by Spencer (1971) that less developed countries are poor, they do not generate enough saving to finance their own capital formation.

In an attempt to break the vicious cycle of poverty among the small-scale farmers in Nigeria, the Federal Government (FG) has adopted varieties of strategies among them are the provision of Credit and Saving Mobilization among Small-Sclae Farmers and other businesses. Since, Nigeria is an agrarian area and the agricultural activities are dominated by small scale farmers who have low capital base (Ucheagwu, 1995). The Schemes adopted to inject financial services which serves as the antipooverty measure into the rural small scale farmers includes Nigerian Agricultural Cooperative Banks, State supervised Agricultural Credit Scheme and others.

In small scale agricultural production, the optimum financial servifes needs of the farmers serve as the most crucial issue in administration of financial services to the small holder farmers.

For instance, Credits of Small-Holder Farmers deals with adequacy and timeliness of production credit. It further relates to the quality and appropriate channel of the production credit.

However, some researchers have a conflicting views about the optimum financial services needs of small scale farmers. Ugwoke (1988) in his studies on the determination of credit needs reported that an average amount of ₦5,000 and above as loan per cropping season of 2 hectares was needed by small scale farmers. The repayment capacities of small scale farmers was not also emphasized. The general effect of these credits to the small scale farmer were not also recognised or ascertained. And among other researchers failed to include the above variables, these includes Akeh (1988); and Ukeni (1990)

2.6 Analytical Framework

Different analytical techniques have been used to study the income and consumption effect of access to financial services among small scale farmers in the rural areas. For instance the optimum credit needs of small scale farmers were analysised using descriptive statistics such as percentage, mean frequency and cross tabulation (Ugwuoke, 1988; Akeh, 1988).

In view of the crucial nature of this, effort will be made to provide a very comprehensive and balanced picture of at-

least the optimum credit needs of small scale farmers by making use of credit gap index and time lag index of the financial services provided to small scale farmers. The credit gap index measures the timeliness of the financial services (Credit) received by the farmers from their lending agencies. These methods involve comparing the amount of production needed (requested) and the amount granted by the lending agencies or received by the small-scale farmers. Transactions cost to both parties are included in the amount of production credit. It will further determine the timeliness of credit disbursed by the lending agencies to the small scale farmers through assessing the period when credit is needed by small-scale farmers and when the farmers received the credit and other financial service will also be computed.

The use of cash flow budget analysis of the farmers would be helpful in determining the farmer's repayment capacity.

CHAPTER THREE

METHODOLOGY

3.1 Study Area

The study ~~will be~~ was conducted in Ebonyi State of Nigeria. The choice of the State is based on the fact that it is a ~~an~~ major food producing area in Southeastern Nigeria and the largest Rice and Yam are produced in the area.

Geographically, Ebonyi State lies between longitudes $5^{o}40'$ and $7^{o}00'$ North and Latitude $7^{o}28'$ and $8^{o}30'$ East. It is bounded on the North-East by Benue State, West by Enugu State; South East by Cross River State and on the South West by Abia State (Administrative map of Ebonyi State; 1997).

Ebonyi State lies in the tropical rainforest zone characterized by heavy rainfall and high equable temperatures. The mean annual temperature is 80^{oF} (Eze and Idike, 1997) while the mean annual rainfal varies between 2250mm to 2000mm with a marked dry season from November to March.

Ebonyi, a young State created out of the former Abia and former Enugu States in October 1, 1996 has a population of about 1,796058 people (1998 projection of the 1991 Census figure (FOS 1996) with a total land area of $7,087km^2$, the State has a population density of $253km^2$. The State is endowed with productive arable land. Over 80% of the households in the State

are engaged in agriculture. Administratively, Ebonyi State has 13 Local Government Areas which are grouped into three agricultural zones. Ebonyi North, Ebonyi Central and Ebonyi South.

3.2 Design of the Study (Development of Instrument)

The information for the study was obtained by the researcher through interview schedule conducted at the farm level and some financial institutions engaged in providing financial services to small scale farmers.

In the interview schedule, the researcher visited the farmers and some lending agencies to collect information regarding the financial services provided by these formal financial institutions.

3.3 Sampling Procedure

Three Local Government Areas; one from each of the three agricultural zones of the State were purposively selected for the study. The Local areas selected includes Afikpo South Local Government from Ebonyi South, Ikwo from Ebonyi Central and Izzi from Ebonyi North. In all, ninty small holder farmers that benefited from financial services of the formal financial institutions were selected. The Small-Holder Farmers selected for the study were those engaged in Yam and Rice production.

Table 1: Distribution of Farmers Interviewed by Local Government Areas Selected from each Zone

	Name of LGA	No of Farmers Interviewed	Percentage
1.	Afikpo South	30	33.3
2.	Izzi	30	33.3
3.	Ikwo	30	33.3
	Total	90	100%

3.4 Techniques of Data Analysis

In order to analyse the data collected the researcher made use of statistical techniques such as percentages, means and frequency distribution. Other aspects of the data were analysed using flow budget. Maximum utility function from consumption of the small holder farmers preference rate and income model were used in the analyses. Adequacy and timeliness of credit were used in analysing credit gap index and time lag index respectively.

i) Credit Gap Index Measures the credit adequacy of small scale farmers. If no gap exist between the credit needs of small holder farmers and credit granted by the lending agencies, then the credit gap index will be zero. It implies that credit was adequately provided to the small holder farmers. If otherwise, credit was inadequately provided. The formula for computing credit gap index:

$$CgI = \frac{An - Ag}{An}$$

The credit gap index is thus $0 \leq CgI \leq 1$ where

An = amount of credit needed

Ag = amount of credit granted by the lending agencies.

ii) Time Lag Index: $TL = \frac{Tn - Tr}{Tn}$

where TL = Time Lag

Tr = when credit was received by small holders farmers

Tn = when credit was needed by small holder farmers

Time lag index measures the timeliness of credit received by small holder farmers. If no time lag exist between when application was made and when it was received by the Small holder farmers, then the time lag index will be zero. Otherwise, the time lag index will be more than zero. Time lag index lies between zero and eleven since short term credit duration is within a year. Thus $0 \leq Tl \leq 11$.

CHAPTER FOUR

PRESENTATION OF ANALYSIS OF FINDINGS 22

This chapter contains the organisation and analysis of data in response to the specific objective of the study.

Table 2: Distribution of Respondents according to Farm Plots owned

Size of Farm Land	Frequency	Percentage
0.5 hectare	20	22.22
0.6 - 1 hectare	40	44.44
More than 1 hectare	30	33.33
Total	90	100%

Those who had more than 1 hectare of farm land represents 33.33% of the total sampled farmers. From this distribution it implies that majority of the sampled farmers owned 0.6-1Ha of land which repre ents 44.44% of the total sampled farmers. These farms are often in scattered plots located at different places and each farmer had to move from one plot to the other during his/her farming operations. These problem bring about low efficiency of labour use, which further reduces their productivity because energy is mostly lost through moving from one plot of farm to another.

4.2. Sources of Financial Services

Most of the small holder farmer sourced their financial services from three major sources namely supervised Agricultural credit schemes (SACS); United Bank of Africa (UBA); Union Bank of Nigeria (UBN) and Community Banks located in some local government areas of Ebonyi State.

Table III shows the sources and types of financial services received by the small holder farmers in Ebonyi State.

Table III Distribution of Sources and Types of Financial Services received by Small-Holder Farmers.

Possible sources of Financial Services	Types of Financial Services	Frequency	Percentage
Supervised Agricultural Credit scheme	Loan; Provision of disease/pesti control; Supply of improved varieties. Advice on the use of credit borrowed; Tractor lending.	40	44.44
United Bank of Africa (UBA)	Loan, Overdraft, Saving mobilization and insurance services	20	22.22
Union Bank of Nigeria (UBN)	Loan, Saving, services, overdraft Advice on the use of Credit/Loan	10	11.11
Community Bank	credit services Saving services extension services	20	22.22

The table above revealed that the Agricultural loan scheme provided a lot of financial services to 44.44% and the least is the Union Bank of Nigeria (UBN). These services ranges from lending loan, saving, extension services, advice on the use of loan or credit supply of improved varieties of crops and livestocks.

Table IV: Distribution of Sources, Amount Requested, Amount Granted, Credit gap and Credit gap indix

Possible Source of loan	Amount Requested	Amount Granted	Credit Gap ₦	Credit Gap Index
Supervised Agricultural Credit Scheme				
i) 40 Small holders	₦10,000.00	₦50,000	₦5,000	0.5
ii) United Bank for Africa				
20 Small holders Farmer	₦20,000.00	₦15,000	₦5,000	0.25
iii) Union Bank of Nigeria PLC				
10 Small-Holders Farmers	₦15,000.00	₦10,000	₦5,000	0.33
iv) Community Banks				
20 Small Holder Farmers	₦10,000.00	₦10,000	0	0

Source: Field Survey October 1998.

From the above table, it is only those small holders farmer who sourced their loan from Community Bank received the amount 1 of money needed or requested. Thus their credit gap index were zero. While other sources of loan to the small holder farmer

were not adequate because their credit gap index were not zero. Reasons why those who sourced their loan from Community Banks includes (i) They are members of the banks (ii) proximity (iii) No security or collateral was needed. These farmers represent only 22.22% of the total population of the sampled farmers.

Table V: Distribution of Sources of Loan, Time Needed, Time Received, Timeliness gap and Time Lag Index of Credit Granted to Sampled farmers.

Possible Source	Time Needed	Time Received	Timeliness Gap (Months)	Time Lag Index $1-\frac{Tr}{Tn}$
Agricultural Credit loan Scheme: 40 Small holder Farmers	March	June	3	1.00
United Bank for Africa: 20 Small holder farmers	February	May	3	1.00
Union Bank of Nigeria PLC: 10 Small holder Farmers	January	June	4	5
Community Banks 20 Small holder Farmers	March	April	1	0.33

Source: Survey October, 1998

The above table revealed that the time most of the small holder farmers requested their financial services (loan) were in conflict with when they received their loan from the financial

institutions. These were shown by using the time lag index which indicated no zero and all of them in absolute terms were greater than zero. This implies that gap existed between when the loans were needed and when the small scale farmers received the loans. This creates a great problem in the credit use, because the season of ax farming operations might elapsed. This will lead to diversion of loan and it will reduce the loan repayment abilities of the sampled farmers.

4.3 Allocation of Loan Granted to the Sampled Farmers

From the survey data, the researcher observed that some of the loan received by the sampled farmers were allocated to land purchase and land clearing operations. These represents 23% and 23% respectively.

Furthermore, majority of the loan received by the sampled farmers were allocated to weeding. This was as a result of lateness of loan. This represents 28% of the total sample farmers who obtained loans from defferent sources.

Table VI: Allocation of Loans to Various uses among the Sampled Farmers.

Allocation:		
Weeding	28	28
Land Purchase	23	23
Clearing	23	23
Tillage	10	10
Nursery	12	12
Transplanting	4	4
	100*	100.00

*Multiple Responses. Source Survey Data, October, 1998

4.4 Cropping Pattern, Input Use and Technological Profile of Farmers

4.4.1 Cropping Pattern of Farmers: -

From the sampled farmers, it was observed that the crops the researcher study included yam (Dioscora spps) and Rice (Oryza spp). The farmers grow yam under mixed croppings but Rice is grown as a sole crop.

The rice produced by the sampled farmers were based on famfeel system and planted on low land (swamp) areas.

Table (VII): Distribution of sampled Farmers According to the Main crops Grown.

Crops	Frequency	Percentage
Yam (intercropped with Maize, Okro, other vegetables)	40	44.44
Rice	50	55.55
Total	90	100

Source: Survey Data October 1998

Table vii above shows that 44.44% of the sampled farmer cultivate Yam that is their main need for financial services is mostly for Yam production while 55.55% represents those that requested financial services for rice production.

4.4.2 Input Use and Technological Characteristics of Farmers

The input use and technological characteristics of the sampled farmers were determined by the type of crop grown, area of land where the crops were grown and season of cultivation. From the survey data, almost all the sampled farmers carried out the following technologies in the production of rice. Cultivation of farm land (clearing and land preparation/nursery preparation setting of traps to control rodents, transplanting, weeding bud scaring, harvesting, threshing, winnowing and bagging.)

It was also found that all the sampled farmer who were engaged in yam production adopted the following technologies in their production. Land preparation, planting of seed yam, weeding, staking of yam, harvesting and carrying of yam produce to yam bans.

4.5 Cost Structure of Crop Enterprises and Assessment of Financial Services Needs of Small Holder Farmers

4.5.1 Calenders of Farm Operations of the Sampled Farmers

The calender of farm operations in the study area is greatly affected by on set of fainfall since they do not have irrigation equipments.

From table (VIII) below, it shows that each farming operation has an optimum period of implementation and if the period elapses it increases the risks of the sampled farmers. For this reason

there is a periodic demand for financial services to carry out each farming operation.

From January to February, the crop farmer take inventory of inputs and procurement of early season crops. Such crops include yam, maize, melon, cassava and others. Then from March to May the sampled farmers start land preparation and planting of early season crops depending on onset of rains.

In May and June, nursery preparation for swamp rice takes place. Weeding and fertilizer application (nanure) is yam. Transplanting of swamp rice, routine maintenance of yam and trap setting in rice farm take place in July.

From August to September, weeding and fertilizer application in swamp rice occur. Then from September to October, fertilizer application take place for the second time. Bind scaring in swamp rice starts from late October to November. Harvesting and threshing of rice occur within November and December. The complete harvesting of yam starts from December and ends in January of the next year.

From the calender of farm operation data, the researcher observed that if any farming operation eludes the farmer due to insufficient financial services, it can lead to a reduction in the farm income.

Table VIII: Calender of Farm Operation of the Sampled Farmers

N/B: Indicates the interval of farming operations of the sampled farmers

4.5.2 Farming Operations Cost Data and the Month in which the operations were Done, in cultivating Rainfed low Land Rice

For a farmer to cultivate one hectare of rainfed low land rice, the various farm operations (technologies) requred will cost him/her a total of about ₦44,000.00. This aspect of cost covers only the labour cost as indicated by a sampled rice farmer in the study area.

Table IX: Distribution of Farming Operations, Cost Data and the Month in which the operation were done in the Cultivating of 1 hectare of Rainfed low land Rice Paddy)

Farm Operation	Total No. Manday Used	Wage Rate ₦	Proportion of Manday Hired	Month in which operations were done
Nursery Preparation	8	150.00	6	June
Clearing and land preparation	20	150.00	20	June
Packing of Bonds	10	150.00	8	July
Puddling	20	150.00	20	July
Nursery pulling	10	150.00	5	July
Transplanting	20	150.00	16	July
Setting of Traps	10	200.00	10	August
Fertilizer application	5	150.00	5	September
Weeding	20	150.00	20	September
Bird Scaring	10	1,600.00*	6	Oct-November
Harvesting	20	150.00	12	November
Threshing	15	100.00	10	December
Winnowing	8	150.00	5	December
Bagging	4	150.00	2	December
Carriage	10	200.00	6	December
Total	190	₦43,250.00	151	

Source: Survey Data, October, 1998

From table VIX above, it is seen that a sampled Rice Farmer must spend ₦43,250.00 for cost of labour in order to cultivate 1 hectare. It also revealed that ₦13,350.00 or 30.86% of the cost of labour for cultivating 1 hectare of rice will be supplied by farm family. Then ₦29,900.00 or 69.13% of the labour cost will be sourced from any lending agencies in order to complete the cost of labour. This cost excluded the indirect costs such as cost of extension services or any other fiancial services.

4.5.3 Farm Operations and Costs for One Hectare of Yam based Crop

In cultivating 1 hectare of yam-based crop, the farmer would require the following technologies, land preparation stumping, tillage, planting, weeding, fertilizer application, staking of yam, pest and disease control. Harvesting and carriage to yam barns set table X below.

Table X: Distribution of Farm Operation, Cost Data and the month in which the Operation were done in the cultivation of 1 hectare of Yam based crop.

Farm Operation	Total No Mandays Used	Wage Rate ₦	Proportion of Mandays Hired	Months of Operation
Land preparation	20	150.00	10	March
Stumpting	10	150.00	6	March
Tillage	20	300.00	12	April
Planting	5	100.00	2	April
Mulching	2	100.00	0	April
Weeding	15	200.00	10	June
Fertilizer application	15	150.00	5	June

Staking	20	150.00	10	July
Pest and Disease Control	10	150.00	5	August
Weeding	15	200.00	8	September
Harvesting	30	150.00	20	December
Carriage	15	200.00	6	December
Total	177	₦31,450.00	102	

Source: Survey Data, October, 1998

Table X reveals that the sampled Yam-based farmers provided 75 Mandays which valued ₦13,250.00 or 42.37% of labour cost, while the sampled yam-based farmer requires to hire 102 mandays which values ₦18,200.00 representing 57.63% of the total labour cost required to cultivate 1 hectare of yam-based crop. The cost of represents the cost of labour for yam-based production. This cost also excluded indirect costs such cost of financial services.

4.5.4 Purchased Farm Inputs, Cost Data and the Months of Purchase for the Cultivation of 1 Hectare of Rainfed low Land Rice

For a farmer to enagage in the production of 1 hectare of fainfed low land rice, he/she would prucahse the following farm inputs that would be used in farming operations. 3 cutlasses, 2 big hoes, 16 bags of NPK fertilizer, 40 empty bags, 5 tarpauline, 5 sickles, 1 file for sharpening the edges of hoes and cutlassess and purchase of 1 hectare of swampland. These inputs are to be

purchased at different months within the farming seasons in a year. This implies that the sampled rice farmers will purchase these inputs when they need them (see table below).

Table XI indicates that most of the sampled rice farmers purchased file, farm land, cutlasses and big hoes in January. These inputs cost ₦150.00, ₦5,000.00, ₦1,500.00 and ₦1,400.00 respectively. In February, the sampled farmers purchased hybird rice for planting at the rate of ₦500.00 per headpan. Then the total cost for five headpans of rice is ₦2,500.00. This implies that the farmers purchased the above inputs from their income generated from last year's rice harvest. The farmers also purchased 16 bags of fertilizer for ₦4,000.00 in May. In July the sampled farmers purchased traps (wire) at a cost of ₦1,000.00 and in October, they purchased 16 empty bags at a cost of ₦2,000.00. In November, the sampled farmers purchased tarpauline and sickle at a cost of ₦2,500.00 and ₦450.00 respectively.

Finally, each of the purchase, the sampled rice farmer needs credit or other financial assistance to supplement the total tost of production. The purchase are also time dependent.

Table XI: Distribution of Purchased Farm Inputs, Cost Data and the Cultivation of 1 Hectare of Rainfed Low x land rice

Farm Inputs	Amount spent to Purchase each ₦	Quantity of Input Purchased	Months of Purchase of Input
Land	5,000.00	1ha	January
Cutlass	500.00	3	January
File	150.00	1	January
Big Hoe	700.00	2	January
Fertilizer	250.00	16 bags	May
Empty Bag	50.00	40 bags	October
Tarpauline	500.00	5	November
Sickle	150.00	3	November
Rice	500.00	5Headpans	February
Tranps wire	200.00	5	July

Source: Survey Date, October 1998

Table XII: Cash Flow Budget for 1 Hectare of Rainfed Low land Rice of the Sampled Farmers

Cash flow Budget	Jan-Feb	March-April	May-June	July-August	Sept-Oct	Nov-Dec.
Cash Inflow						
Sale of Rice						₦98,000.00
Cash Outflow:						
Purchase of Inputs						
Land	₦5,000					
Cutlass	1,500					
Hoe	1,400					
File	150					
Traps (Wire				₦1,000.00		
Rice	2,500					
Sickle					₦750	
Empty Bag					2,000	
Tarpaaline					2,500	
Fertilizer			₦4,000			
Labour Inputs						
Land clearing				₦3,000.00		
Nursery preparation			1,200			
Packing of Bonds				1,500.00		
Puddling				3,000.00		
Transplanting				3,000.00		
Setting of Traps				2,000.00		
Nursery pulling				1,500.00		
Weeding					3,000	
Fertilizer application					750	
Bird Scaring					16,000	
Harvesting						30,000.00
Threshing						1,500.00
Winnowing						1,200.00
Bagging						600.00
Carriage						2,000.00
Total Cash outflow	₦10,550		₦5,200	₦15,000.00	₦25,000	₦8,300.00

From the above cashflow budget, the sampled rice farmers reveals that during January-February, May-June, July-August and September-Ocotber periods show net cash flow deficits. This implies that the sampled rice farmer needs ₦10,550.00 ₦5,200.00; ₦15,000.00 and ₦25,000.00 respectively in the various periods indicated above. These net cashflow deficit are covered with short term borrowing from financial institutions so that the outstanding debts are prbjected to the period of net cashflow surplus, which occur during November-December periods as shown in table XII.

In November-December period, sufficient cash was accrued to the sampled Rice farmer in the study area that will offset the already incurred expenses as it was indicated by the cash flow budget. During November-December period the sampled Rice farmer realized ₦98,000.00 from the sales of rice produce. At the same period, the rice farmer incurred ₦8,300.00 for hiring labour only. This cost will be offset by the cash flow in this period. The net cash flow surplus in November-December is ₦89,700.00, this can cover the operating loan incurred during the periods of net cashflow deficit and still the farmer will be left with a surplus of ₦35,450.00.

From this analysis, it implies that the rice farmer's repayment capacity is high despite that the farmer's family living and income tax expenses was not measured. Also the

effect of financial services as show in the cashflow budget is positive effect, this is because the sampled farmer's income have increased after repaying the cash borrowed from financial institution and maintain a cashflow surplus. This will also increase the consumption, of the sampled farmers, according to keynes as income increase the consumption will also increase but as fast as the increase in income. It is also assumed that the other farm and non-farm activities engaged by the sampled farmers would generate income that will take care of the family living and income tax expenses.

4.5.5 Purchased Farm Inputs, Cost Data and Month of Purchase for the Cultivation of 1 Hectare of Yam-Based Crop

In the production of 1 hectare of yam-based crop, a farmer will require the following: one hectare of farm land, 3 cutlasses, 2 big hoes, 3 small hoes, a file, Aldrin dust, 10,000 seed yams, 1,800 staking sticks and 16 bundle of staking ropes. These farm inputs purchased at the prevailing prices. See Table XIII. Within January and February, the yam based farmers are expected to purchase 1 hectare of land, 3 cutlasses, 2 big hoes and 3 small hoes at ₦7,550.00. Within March and April, the sampled farmer purchased file, seed yam and fertilizer at a cost of ₦204,150.00 Then from June-July the sampled farmer purchased other inputs that were needed in the cultivation of yab-based crop. These inputs were Aldrin

dust, staking sticks and staking ropes which cost a total of ₦5,900.00. This showed that the sampled yam-based farmer is expected to spend at least ₦217,650.00 for the purchase of farm inputs only.

Table XIV: Distribution of Purchased Farm Input cost Data for and the month of Purchase for Cultivating 1 Hectare of Yam Based Crop.

Farm Inputs	Amount Spent to Purchase each	Quantity Purchased	Month in which the Input were purchased
Farm Land	₦4,500.00		January
Cutlass	150.00		January
Big Hoe	700.00		February
Small Hoe	50.00		February
File	150.00		March
Seed Yam	20.00		April
Fertilizer	250.00		April
Staking sticks	25.00		June
Staking Ropes	50.00		July
Aldrin Dust	50.00		July.

Source: Survey Data October, 1998

Cash Flow Budget	Jan-Feb	March-April	May-June	July-August	Sept-Oct.	Nov-December
	₦	₦	₦	₦	₦	₦
Cash Inflow						
Sale of Yam						400,000.00
Cash Outflow						
Purchase of Inputs						
Land	4,500					
Cutlass	1,500					
Big Hoe	1,400					
Small Hoe	150					
File	150					
Staking Sticks				4,500		
Staking Ropes				300		
Seed Yams		200,000				
Fertilizer		4,000				
Aldrin Dust			600			
Labour Input						
Clearing of Farm Land		3,000				
Stumping		1,500				
Tillage		6,000				
Weeding (Twice)			3,000		3,000	
Fertilizer application			2,250			
Mulching		200				
Pest & Disease Control				1,500		
Staking of Yams				3,000		
Harvesting						4,500.00
Carriage						3,000.00
Total Cash Outflow	₦7,700	₦215,200	₦5,850	₦9,300	₦3,000	₦7,500.00
Net Cashflow (Surplus/Deficit)	₦7,700	₦215,200	₦5,850	₦9,300	₦3,000	₦392,500.00
Opening Bal.	-	7,700	222,900	228,750	238,050	241,050.00
Closing Bal.	7,700	222,900	228,750	238,050	241,050	151,450.00

Source: Survey Data, October, 1998

The cash flow budget in table XV, reveals that the sampled yam-based crop enterprises recorded net cashflow deficit during January-February, March-April, May-June, July-August, and September-October periods. For the net cash flow deficit the sampled yam - based farmer needs ₦7,700.00, ₦215,200.00; ₦5,850.00; ₦9,300.00 and ₦3,000.00 respectively to cover the operating costs mentioned above. These sampled yam based crop farmers require a short term borrowing to cover the operating costs incurred in the period above.

In November-December, Net Cash flow surplus of ₦392,500.00 accurred. This is due to the fact that the sampled farmer sold they yams produced within that year. This net cash flow surplus can be used to cover the operating cost incurred in the previous period that experienced Net Cash flow deficit if adequate credit were sourced and received on time. The sampled yam based farmer will still be left with a net gain of ₦151,450.00 From this it implies that the yam based farmer has a high repayment ability if credit were sourced adequately, timely and also supervised. The increased in income of the sampled farmers will increase their consumption patterns and other expenses like prompt payment of their children school fees.

4.6 Sensitivity of Farm Credit Needs To Equity Variations

For a sampled Rainfed Low land Rice farm, the amount of credit needed to cultivate 1 hectare is ₦64,050.00. According to lending policy of Commercial Banks, a farmer must provide at least 40% of the total cost of carrying a farm project on small scale. Thus the farmers equity will be 40% of the total cost of production which is ₦25,620.00. The credit adequacy that the lending agency should grant to small farmer cultivating rainfed low land rice should be ₦38,430.00 for 1 hectare of land.

And for the sampled yam-based crop farmer, the farmer needs ₦248,550.00 for cultivating 1 hectare of farm land. As the equity capital is 40% of the total cost outlay, then the farmer will provide ₦99,420.00 while the lending agencies should grant ₦149,130.00.

4.7 Constraints of Financial Services Administration

The study covers four major credit sources to small scale farmers in Ebonyi State. These major credit sources include United Bank of Africa PLC (UBA); Union Bank of Nigeria PLC (UBN); Agricultural Credit Scheme and Community Banks.

The major constraints encountered by the financial institutions in administering financial services to small holder farmers in Ebonyi State include: Low repayment of the borrowers, outright illiteracy of small holder farmers. In

addition, the formal lending agencies complained that the Small holders farmers have their farm scattered in interior areas. That is each farm enterprise must be reviewed separately and varified before a loan is granted. The physical distance between farms and Bank translate into increase in administrative costs and further reduced the recovery rate.

The bank distress discouraged the farmers from saving in the financial institutions and this goes further to affect the bank in loan recovery.

4.8 Test of Hypotheses

i) Financial Services currently available to Small Holder Farmers are not variance with Credit needs in terms of adequacy and timeliness.

From the study, it was ascertained that the existing financial services supply patterns among the sampled farmers were at variance wit their credit needs (adequacy and timeliness). This stemmed from the fact that their credit were not adequate and timely by using the Credit Gap Index (CGI) and Time Lag Index (TLI) from table (iv) and v), the sampled farmers credit gap indices were not zero and the time lag indeces of all the sampled farmers were not zero.

ii) Financial Services Currently used by farmers have no effect on farm income and consumption.

From the study also, it is revealed that the financial services currently used by farmer have positive effect on the farm income and consumption because the X^2- chi-square used indicated that we have to accept the alternative hypothesis since $X^2_{.201} < X^2_{v}$ (3.39) at 5% level of significance. The financial services currently used by the sampled farmers have positive effects on the income and consumption of the farmers. Increase in income and consumption patterns of the sampled farmers.

CHAPTER FIVE

SUMMARY OF STUDY, CONCLUSION AND RECOMMENDATION

Financial services are provided to Small Holder Farmers by financial institution with intention of providing sufficient sufficient food for the family and surplus for the market to enable the farmer to repay the loan and to have a better standard of living through increase in income and consumption patterns of the sampled farmers.

The study was carried out to determine the income and consumption effects of Access to Financial Services among the Small Holder Farmer in Ebonyi State of Nigeria. During the study, data was collected through interview schedules from the sampled samll scale farmers engaged in the cultivation of Rainfed Low land Rice and Yam based Crops.

It was ascertained that the credit needs of these farmer were sourced from supervised Agricultural Credit Scheme, United Bank of Africa, Union Bank of Nigeria PLC and Community Banks in Ebonyi State. The sampled farmers also received some other financial services such as Savings mobilization, Overdraft, Supervision of the Loans and Provision of Advances to the Small Holder Farmers.

The amount of Credit needed by a sampled Rainfed Low Land Rice farmer to cultivate 1 hectare of rice farm were N64,050.00 and Yam-based crop farmer needs N248,550.00 to cultivate 1 hectare of farm.

Majority of the sampled farmers hired their labour for carrying out their farming operations. They emphasized that labour supply were scarce relative to their demand and secondly, they had scarce credit and of the other financial services.

5.2 Conclusion

The main objective of this study has been to determine the Income and Consumption effects of access to financial services among the Small Holder Farmers in Ebonyi State of Nigeria. The amount of credit provided by formal fiancial institutions although it were not adequate and timely but it assisted the small holder farmers. It improved their consumption and increased their income. The increase in income helped them to offset their previous debts and also helped them in paying their children's school fees and other little needs of their family.

This conclusion is reached after proving the hypotheses to be invalid. That is the financial services currently available to small holder farmers are at variance with the financial services in termsof of adequacy and timeliness of the services. Secondly, the financial services currently used by farmers have a positive effect on farm income and consumption.

5.3 Recommendation

Having assessed the financial services provided to the Small Holder Farms by the formal financial institutions in Ebonyi State, it is necessary to make some recommendations on how efficiently and effectively to administer small holder financial services. After careful examination, the following recommendations are put forward to check some of the constraints associated with the administration of financial services to Small Holder Farmer in Ebonyi State:

1. The formal financial institutions should determine the financial services needed by the Small-Holder Farmers before administering them.

2. Government should maintain a special unit responsible for Research and Investigation, the finding of which could serve as a basis for policy formulation and programme planning and for periodic evaluation.

3) An agricultural financial institutions should have an active financial policy and bring financial services to the small holder farmers in Ebonyi State of Nigeria.

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