

UNIVERSITY OF CAPE COAST

PERCEIVED IMPACT OF RURAL CREDIT ON THE CEREAL
FARMERS IN THE KOULIKORO REGION OF MALI

BY

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CLASS NO.	
ADMISSION NO. 225377	
CAT. CHECKED	DUAL CHECK

THESIS SUBMITTED TO THE DEPARTMENT OF AGRICULTURAL
ECONOMIC AND EXTENSION OF THE SCHOOL OF AGRICULTURE,
UNIVERSITY OF CAPE COAST IN PARTIAL FULFILMENT OF THE
REQUIREMENT FOR THE AWARD OF MASTER OF PHILOSOPHY
DEGREE IN AGRICULTURAL EXTENSION

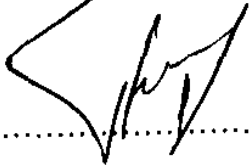
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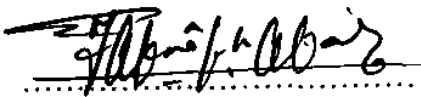

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SUPERVISORS' DECLARATION


We hereby declare the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.


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ABSTRACT

Lack of credit, especially among small-scale farmers, has been one of the factors that impede the adoption of numerous innovations recommended by Agricultural Extension services in MALI. The situation has been mainly attributed to inadequate establishment of services in areas where poor and marginalized farmers (especially women) live. An unfortunate assumption has been that poor farmers do not save and, therefore, constitute a high credit risk. To address this state of affairs, Sasakawa Global-2000, in collaboration with Ministry of Agriculture, has established fourteen farmers' rural savings and loan banks in Mali since 1997. The study was conducted to determine perceived impact of rural credit on the cereal farmers in the Koulikoro region of Mali.

A descriptive correlation survey research design was used for the study.

The target population was farmers who are associated with the CREPs sited in two districts, namely: Niamabougou, and Soundougouba. Fifty-eight male and twenty-nine female respondents out of 385 members of the two CREPs were selected through stratified random sampling for the study.

The results indicated that the majority of CREPs members were small-scale farmers cultivating land areas ranging between 0.5 ha and 20 ha. Most of them (74.0%) were males with 26.0% being females. The proportion of young members (representing 31.2%) fall within the ages of 21 and 40 years.

The study showed that majority of CREP credit recipients were farmers who used their credit for agricultural production, animal farming and trading.

The result also revealed that small-scale farmers could be financially sound savers and borrowers and that farmers' rural savings and loan banks have demonstrated

simplicity and flexibility in organising savings and credit services that could fill the gap left by formal banks. They have reached small-scale farmers and increased their income.

Indeed, women perceived their financial situation to be better than before CREP. However, like men, they found the level of their savings mobilisation to be poor. The perceived impact of the CREP was found to be significantly and positively associated with land size, production, level of saving and credit services and also with the level of social condition standards. Regression analysis indicated that about eighty-five percent (85.2%) of the variance in the level of CREPs impact was explained by the level of social condition standards, level of production, and level of savings mobilisation and level of credit and services.

Among the recommendations offered are that the impact of the CREP can be improved by:

- ❖ Strengthening cereal's bank policy.
- ❖ Giving general attention and care to women in terms of: membership of CREP, and access to credit.
- ❖ Having effective relationship and collaboration with other credit institutions and
- ❖ Mounting effective monitoring and training programmes for CREPs members.

ACKNOWLEDGEMENTS

I express my sincerest Thanks to Lord God Almighty for the grace given to me to write this thesis.

I must submit that in an academic exercise of this nature in a university, one cannot help seeking guidance. It is on this note that I wish to express my gratitude to my supervisors, Dr. J. A. Kwarteng and Dr. Moses M. Zinnah who served as my supervisors for the study.

I express my sincere gratitude to SASAKAWA-AFRICA ASSOCIATION (SAA). Through SAFE programme and its Director Dr. Deola Naibakolao for providing this opportunity permitting me to reach this notable step of my career. My special gratitude goes to Dr. Marcel Galiba my country Director who proposed me for this opportunity and took care of my family during this period.

A debt of gratitude and sincere thanks is owed to the staff of department of Agricultural Extension of their contribution and close co-operation during my academic years in the University of Cape Coast.

I am greatly indebted to the many Farmers who gave me, without expectation, friendly welcome on their farms and willingly answered my questionnaire despite their numerous activities.

Finally, I have to thank the Ministry of Agriculture of Mali, my Dear country, for allowing me to come down to Ghana to improve my knowledge and skills. Without its support, this programme would not have been possible.

There is not enough space to list everyone, but to everyone, who contributed through your fruitful criticisms and invaluable comments to the success of this study, I say "Aw ni tié or Thank you. God bless you.

DEDICATION

I dedicate this work to my mother Mrs. Kadia Camara, my Father Daba Camara, and my wives MARINA ROUDAEVA-YAKOVLEVNA and FATOUMATA KEITA for their support and encouragement.

ABBREVIATIONS

B.D.M.	-	Banque de developpement du Mali
B.C.E.A.O	-	Banque-Centrale des Etats de L'Afrique de L'ouest
B. N. D. A.	-	Banque Nationale de developpement Agricole.
C.R.E.P	-	Caisses rurale d'Epargue et de Prêt
F.A.O.	-	Food and Agriculture Organisation
I.D.A	-	International Development Agency
ILO	-	International Labour Organisation
S.A.F.E.	-	SASAKAWA. Africa. Fund. For Extension Education
S.G 2000	-	Sasakawa-Global 2000
U.N.D.P.	-	United Nations Development Programme
U.S.A.I.D.	-	United States Agency for International Development

TABLE OF CONTENTS

Candidate's declaration.....	i
Supervisors' declaration.....	ii
Abstract.....	iii
Acknowledgment.....	vi
Dedications.....	ix
Table of contents.....	x
List of Table.....	xiv

CHAPTER ONE

1.0 Introduction.....	1
1.1 Background to the Problem.....	1
1.2 Statement of the Problem.....	5
1.3 The Objective of the Study.....	7
1.4 Justifications for Study.....	8
1.5 Research Questions.....	9
1.6 Hypotheses.....	10
1.7 Definition of variables.....	11
1.8 Definition of Terms.....	12

CHAPTER TWO: LITERATURE REVIEW

2.1	Introduction.....	14
2.2	The concept of Rural Development.....	15
2.3	The role of Credit in rural Development.....	16
2.4	Credit for Rural Poor.....	27
2.5	Women's Access to Credit.....	30
2.6	Some approaches to Rural Credit Delivery for the Poor.....	32
2.7	Informal Finance.....	33
2.8	Approach based on the Model of Grameen Bank.....	35
2.9	A Report by UNDP (1993) Point Out.....	35
2.10	An approach Assisted by Government and NGO's.....	36
2.11	Potential for Saving in the Subsistence Sector.....	38
2.12	Criteria for assessing the impact and the effectiveness of rural financial institutions for the poor.....	42
2.13	Contextual Frame Work.....	46

CHAPTER THREE: METHODOLOGY

3.1	Introduction	50
3.2	Study Design.....	50
3.3	Population and Sampling.....	50
3.4	Instrumentation.....	51
3.5	Study Area.....	51
	Climate.....	51

	Vegetation	52
	Relief and Soils	52
	Hydrography	52
	Demography	52
3.6	Pilot Study	53
3.7	Field Work	54
3.8	Data Processing and Analysis	55

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1	Introduction	56
4.2	Demographic Characteristics of the Study Population	56
4.2.1	Characteristics of CREPs' members	57
4.3	Level of deposit mobilisation and services	65
4.4	Frequency of savings of CREPs' members	67
4.5	CREPs members' perception of the performance of credit services	69
4.5.1	Utilisation of loans	72
4.5.2	Members access to credit and repayment	73
4.5.3	Opinion of CREPs' members on the credit given	75
4.5.4	Level of production	76
4.5.5	Level of income	77
4.5.6	Living Standard of members (health, education and nutrition)	78

4.5.7	Extent to which the CREP Programmes	
	have reached poor people...	79
4.6	Relationship Among the variables of the study...	84
4.7	Pearson’s correlation co-efficient between independent	
	variables and impact of credit...	85
4.7.1	Relationship of farmers’ age and with other variables...	86
4.7.2	Relationship of land size with other variables...	87
4.7.3	Relationship between levels of production with	
	other variables...	87
4.7.4	Relationship between the level of savings	
	mobilisation and services with other variables...	88
4.7.5	Relationship between credit services with other variables...	88
4.7.6	Relationship between level of social conditions and	
	other variables...	89
4.8	Best Predictors of the CREPs’ Impact...	89

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1	Introduction...	91
5.2	Background information...	91
5.3	The Research Hypotheses...	92
5.4	The Study Area...	92
5.5	Methodology and Analysis...	93

5.6	Summary of the findings.....	93
	i) Gender and age.....	93
	ii) Educational background.....	94
	iii) Family and land size.....	94
	iv) The level of production.....	94
	v) The level of income.....	95
5.7	Performance of the CREP as perceived by the beneficiaries in terms of loans giving, loans recovery, level of savings, frequency of savings.....	95
5.8	Performance of the CREP as perceived by the beneficiaries in terms of access to credit, level of interest rate, level of satisfaction of collateral requested.....	96
5.9	The perceived impact of rural credit on the living standard of farmers in terms of education, health nutrition and clothing.....	97
5.10	Relationship among the variable of the study.....	98
5.11	Conclusions.....	99
5.12	Recommendations.....	102
5.13	Areas for Further Research.....	103
	References.....	104

LIST OF TABLES

1.	Reliability of variables...	54
2.	Sex of CREPs' members...	57
3.	Age of CREPs' Members...	58
4.	Educational Background of CREPs' members...	59
5.	Family size of CREPs' members...	59
6.	Land size of CREPs Members...	61
7.	Land ownership of CREPs' Members...	61
8.	Type of Labour used...	62
9.	Farming Activities ...	63
10.	CREP members' saving habit ...	64
11.	Reasons for saving in the CREP...	64
12.	Members' Perception of performance of savings mobilisation and services provided by the CREP...	66
13.	Frequency of saving of CREPs' members...	67
14.	CREPs members' perception of social impact development projects ...	68
15.	Members' Perception of the performance of the credit services...	71
16.	Utilisation of loans by Borrowers...	73
17.	Members Receiving Credit and repayment ...	75
18.	Opinion of CREP members on the loan given...	75
19.	Level of CREPs' Members production...	77

20.	Level of CREPs' Member Income... ..	78
21.	Farmers' perception of their conditions standards... ..	79
22.	T-test comparison of gender perception regarding the level of savings, level of access of credit, level of present output compare to past one, level of social living conditions, standards, education, health, Nutrition, clothing.	81
23.	Pearson correlation coefficient between independent variable and impact of credit.	85
24.	Stepwise Multiple Regressions of variables that predict farmer's perceived impact of CREP	90

List of figures

Figure 1: Map of Mali.....49

CHAPTER ONE

INTRODUCTION

1.1 General Background

The problem of rural development expresses itself in the persistence of under development in the third world countries. The rural populations are denied the opportunities for the optimal mobilization of rural manpower and resources for self-reliant and self-sustaining development (UKwu, 1983).

The Republic of Mali is located in Western Africa. Her Population is about 11 million inhabitants with an area of 1,240,000 km². The country is surrounded by Algeria, Mauritania and Niger, in the North and North East, Senegal in the West, Burkina in the East, and La Cote D'Ivoire in the South. Seventy four percent (74%) of Malian population live in the rural areas (World Report, 1998).

Since the majority of third world countries' populations live in the rural areas, an improvement in their levels of living would show positive results in overall national development. The problem of rural development has therefore received attention from the national government, quasi-governmental as well as international organizations. It has, in the same vein, received different emphasis under different development plans in Africa and in various forms (World Bank Report, 1987). All the plans are however aimed at spreading the benefits of economic and social development to the rural poor. This is because it has been noted that an improvement in the social and economic conditions of the rural dwellers would go a long way to create impetus for overall national development (Brown, 1986).

One of the means of improving the lot of the rural dwellers is through helping them to increase their production and productivity which would help increase their incomes (World Bank, 1975).

Mali is basically an agricultural country. The predominant economic activity in the rural areas is agriculture, which employs over 80% of the active population. Agriculture also contributes 45% of Mali's Gross Domestic Product (GDP) Banque Central Des Etats de L'Afrique Occidentale (BCEAO). Therefore a boost in agriculture in terms of ways of increasing production and productivity would result in income increases which would be used to finance the levels of living of the people involve. But other economic activities too are vitally important not only for their linkages with and impact on agricultural activities but also for their contribution to the overall level of the rural economy (Ukwu, 1983), thus an expansion in such economic activities would also result in rural development.

The majority of economic activities in the rural areas are small scale in size which is evidenced in over 80% of the rural population engaged in agriculture, being small scale peasant farmers (National Bank of Mali, 1987). However, credit facilities for the peasant farmers and for that matter those engaged in other economic activities have been grossly inadequate despite various governmental measures. These efforts were expressed in the form of credit associations and co-operatives as well as efforts of the Agricultural Development Bank and the National Bank of Mali.

One of the main problems hindering production in agriculture in the rural areas has been identified as lack of capital. One of the essential pillars of support for new

production technology is the availability of agriculture credit. The credit could be used to buy or adopt land being cropped (Dowswell, 1999).

The reasons for the inadequate access to credit facilities by the rural dwellers were identified as the problems attendant in loan administration, especially for a large number of small borrowers (BCEAO, 1999). This too was exacerbated by the fact that there was a net negative flow of funds from the rural areas to the urban areas due to their savings in large commercial banks. Research has revealed that the adoption of new agricultural technology depends upon many factors, which are inter-related. Among them, it is reported that socio-economic elements can influence the adoption or the rejection of innovations and therefore influence production (Vanden Ban, 1957; Alao, 1971).

Hence, the cost involved in the adoption of certain innovations may impede their acceptance. Since small-scale farmers are poor, they cannot allow purchasing the required input of productive technologies. Another problem that small-scale farmers face is the little information or the misperception about their savings propensities or the sources from which they obtain credit. Since poor people's incomes are very low and the savings potential appears to be very small, the credit components in almost all rural development programmes has been based on the assumption that this category of the society does not save and is a poor credit risk. However, it has been shown in several ways that rural savings are potential source of credit capital; it provides the basis for a sound financial institution; discourages haphazard credit use and constitutes a strong internal source of agricultural investment. Unfortunately, one of the primary difficulties facing agriculture in Mali after independence was and remained insufficient credit and

lack of saving among small-scale cereal farmers. Consequently, the majority of them are unable to access new technologies. It was to fill this gap that the National Development Bank and National Agricultural Bank were established in 1965 and 1970 respectively to ensure that credit facilities were available to the rural farmers. However, after two decades the different programmes carried out have also not yielded expected results. The access of credit has been biased in favour of the wealthier and more influential farmers. This failed effort forced farmers particularly the poor to depend upon the black market's credit or "usury" field where the interest rate is very high to the extent that they became increasingly poorer. To address this worrying situation, the government of Mali has encouraged innovative credit programmes based on the cooperative approach. Some of the programmes which emerged and adopted such systems, organized into co-operatives are "Caisse Niesigisso, caisse Mutuelle de Credit de pays Dogon, established respectively at the community and regional level. Along these lines the Ministry of Rural Development in collaboration with Sasakawa Global 2000 (SG.2000), has set up rural saving and loan banks programmes in areas where small scale cereal farmers have no access to credit. The rural banks were therefore set up to alleviate these short-comings by pooling the resources of the particular locality they serve together as savings and to use these in bankable ventures in order to boost the productivity, and, subsequently, incomes of the rural population. They were also set up to reduce the flow of funds from the rural areas to the urban areas and finally to act as catalysts in rural development (BNDA, 1987). Commonly called CREP (Caisse Rural d'epargne et de pret) are voluntary associations of people who decided independently to put their saving together. The deposited money could be lent to those among them who were evidently in need of it. By

and large, CREP is a unit which is owned, managed and patronized by the people in a community where it is sited.

The main objective of the CREP is to improve the well being of members by:

1. Developing and cultivating the ideas of solidarity and mutual confidentiality among themselves;
2. Encouraging saving mobilisation, which is fundamental to firmly enforce the CREP;
3. Promoting beneficial credit with a reasonable interest rate so that members can be productively employed in income-generating activities including agricultural production and agro-processing, marketing agricultural products, raising livestock and trading.

1.2 The statement of the problem

The availability of agricultural credit is one of the essential pillars of support for new production technology, (Dowswell, 1999). There are many constraints to the socio-economic development of rural areas in Mali. These include lack of infrastructure, low productivity, low-income levels, low level of life expectancy and mass poverty.

In Mali, the leading ill that agriculture suffers from is the insufficiency of credit. The small-scale farmers have limited access to formal or commercial bank credit and the high interest rates charged by formal and non-formal lenders were important factors that led government and other partners to promote alternative unusual credit systems (Galiba, 1999).

Yumus (1976), founder of the Grameen Bank affirms this saying, "it is through access to credit that the small-scale farmers can enter the battlefield of the various economic war. To ask him to engage in this battle without access to credit is to take him to certain defeat".

The desire for rural credit may arise in the areas because of:

- i. Crop and livestock failure
- ii. The need for business expansion, and
- iii. The seasonal cycle of agricultural production vis-à-vis a largely non-seasonal or steady pattern of total consumption (Mellor, 1968).

This need for rural credit is supported by the F. A. O (1994) that credit in the short run enables the poor to weather shocks without selling productive assets which would make them more vulnerable to future shocks. In the long term, credit will enable the poor to invest in agricultural and non-agricultural productive assets, to adopt new technologies and farming method, to increase their production and productivity, and to take precautions to minimize or prevent degradation of the environment. Thus, credit to the poor stabilize consumption and engage in self-employment through private investment becomes an important means for improving the developmental needs of rural areas.

This is the context in which Sasakawa Gobal-2000 has chosen cooperative action in support of agricultural extension. Sasakawa Global-2000 programme started in Mali in 1996 to help small-scale farmers to achieve higher food productivity through science based practices. However, there was a big hurdle. How would farmers take part in a nation wide demonstration programme to get acquainted with pertinent innovations and

acquire new skills and know-how without outside support? The issue of credit loomed. The purpose of this study therefore, is to investigate the perceived impact of rural credit on the cereals farmers in the Koulikoro Region in the Republic of Mali.

1.3 The Objective of Study

The main objective of the study was to examine the perceived impact of rural credit on the cereal farmers in the Koulikoro Region of Mali .

The Specific Objectives were:

1. To describe farmer's demographic characteristics in terms of:
 - Sex
 - Age
 - Education
 - Land size
 - Occupation
 - Crop type
- 2) To establish the level of production of the beneficiaries of loans.
- 3) To examine the level of income of the beneficiaries of loans.
- 4) To determine the performance of the CREP, as perceived by beneficiaries in terms of loan given, loan recovery, level of saving of members.
- 5) To determine the nature and strength of relationship among variables of study.
- 6) To examine the social impact of rural credit and saving on the living standard of farmers in terms of education, health, nutrition, housing, clothing and employment situation

1.4 **Justification and Relevance of the Study**

Writing on Urban Bias and Rural Development in Ghana, Brown (1986), noted that:

“In economic terms, the development of the rural areas should be justified by the fact that it will not only raise production, productivity and purchasing power and the living standard of the rural population, but also serve as a first step toward the achievement of a balanced urban-rural development which has come to be considered as indispensable in any worthwhile development programme. Finally, on moral and humanitarian grounds at least it will only be fair that the rural areas receive their fair share of the attention and resources devoted to the development in the various countries”.

The above considerations show the need for support systems in the rural areas that can help the rural people to improve themselves and thus enhance rural development. It can therefore be said, that it is proper and justifiable to have a credit system that is specifically instituted to serve the credit needs of rural people.

The small-scale farmers' limited access to formal or commercial bank credit and the high interest rates charged by non-institutional lenders were important factors that led government and NGOs, including Sasakawa Global-2000, to promote alternative rural credit institution in Mali. This form of financial system is based on rural co-operative approach initiated and managed by farmers themselves. It is viewed as local point for the indigenous, grass-roots mobilization of local resources for local development and emancipation.

It is through such organized, collective action of communities at the local level as pointed out earlier, that small-scale farmers who represent almost 80% of rural producers in Mali can afford to acquire inputs needed for the adoption of recommended technologies. By doing that, they are able to raise their level of crop production, income, savings and investments and thus cross the poverty line over time. Therefore the improved situation of these particular groups will stimulate the rural economy upon which depends largely the national economy. For these reasons, Sasakawa Global-2000 in collaboration with Ministry of Rural Development established in 1997 such innovative approaches to credit delivery system, which are entirely managed by and for farmers themselves. Fourteen (14) farmers' rural saving and loan banks were set up covering the whole country. After 6 years of implementation, it has become necessary to assess the impact of the programme. The findings and recommendations will help not only to share this experience with other countries and institutions, but also allow policy makers, managers, and developers to understand the real impact, and possibly the need to modify the programme for improvement.

1.5 Research Question

- To what extent do the demographic characteristics of the farmers influence the access to credit from CREP?
- Has the production of the beneficiaries of the loan increased?
- What is the impact of rural credit on the income of beneficiaries?
- What is the performance of the CREP, as perceived by beneficiaries in terms of loans given, loans recovery and level of saving of members?

- What are the nature and strength of relationships between the variables of the study?
- What is the social impact of rural credit and saving on the living standard of farmers in terms of: education, health, nutrition, housing, clothing, condition of work, employment situation?

1.6 Research Hypotheses

H₀ : Rural credit has no impact on the incomes of beneficiaries

H₁ : Rural credit has an impact on the incomes of the beneficiaries

H₀ : Rural credit has no impact on the increasing of the production of beneficiaries of the loans

H₀ : Rural credit has no impact of the levels of saving mobilization and loans

H₁ : Rural credit has an impact of the levels of savings mobilization and Loans.

H₀ : Rural credit has no impact on the living standard of farmers.

H₁ : Rural credit has impact on the living standards of farmers.

H₀ : Farmers' demographic characteristics do not affect savings mobilization, loan recovery and loan given.

H₁ : Farmers' demographic characteristics affect saving mobilization, loan recovery and loan given.

1.7 Variable of the Study

Dependent variable

The dependent variable of the study is the perceived impact of rural credit on cereal farmers.

Independent variables

Farm size

Level of income

Level of production

Level of education

Gender

Age

Activities

Level of saving of CREP members

Level of loan given out (disabused)

Level of loan recovery

Health facilities

Nutrition

Clothing

1.8 DEFINITION OF TERMS

Impact Evaluation

Impact evaluation is directed at establishing with as much certainty as possible whether or not an intervention is producing its intended effect.

In other words, determine the significance, importance, value or power of rural credit in improving on agricultural production of the farmers.

Saving

Saving is a mechanism whereby the bank obtains money either through the deposits of memberships or other sources of funds.

Loan

Fund that is lent by the CREP to a member for a specific purpose and is required to be repaid at an agreed interest and time.

Effectiveness

Extend to which the programme has actually reached small scale farmers. Extent to which small scale farmers have access to credit services. Extent to which the borrower's output and income have increased as a result of the credit provided.

Productivity of loan

This measures the viability of the investment into which the loan was applied by the borrower. It is normally measured in terms of returns on investment or turn over.

Rural Credit

This refers to the transfer of money from an individual or an institution to a borrower for a particular purpose at an agreed interest charge over a specific period of time.

Small-scale farmers

A household head (man or woman) who has small size, farm plot (less than 1 ha), earns his livelihood only from agriculture and generally based on subsistence production.

CHAPTER TWO

Literature Review

2.1 Introduction

Rural development has been seen to be very important in recent times especially in the developing countries where it has become a feature of national development plans. Also, many international agencies and donor countries have become interested in financing rural development.

The reasons for the above are not far fetched, which include the fact that the well being of the rural population is the first major step towards achieving a balance between rural and urban areas as well as living standards of the rural poor (Brown, 1986). Other reasons are that the manufacturing sector has included a relatively small indigenous, entrepreneurial element and few linkages to domestic resources or to rural demand. Industrial production has been capital intensive, based largely on imported inputs and caters for a market of relatively high-income domestic urban consumers (ILO, 1972).

Moreover, the idea that the industrialization based in the urban areas would help to stimulate production in the rural areas and bring its benefits to the population has so far failed (Osei-Bonsu, 1983)

Among the means of achieving rural development is the use of credit from credit institutions. Historically, there has been an expansion of the activities of the nation commercial banks into the rural areas with the main aim of stimulating the rural economy. However, unless rural banking is organized to take the special needs of the rural economy into account, the proliferation of rural branches of national banks can only multiply the siphoning of rural savings to urban areas (UKwu, 1988).

2.2 The Concept of Rural Development

The word rural itself has various connotations or dimensions including, economic, psychological, ethnic and racial contents (Famorinyo, 1977).

Therefore the term usual may be used depending on the context with which the subject is examined.

A rural area has been demographically designated to be a place of less than 5,000 persons. Abban (1986) defines rural areas as “where the majority of the people are engaged in primary economic activities such as farming and fishing. Secondly, it is an area of many countries where the income per capita is lower than the national average and that the majority of the population lack access to social amenities like good drinking water, better health care, sanitation facilities, etc (Abban, 1986).

The concept of development is rather complex one with different meanings. For Francis Perrox (1980), growth is distinguishable from development. Growth consists of rising national and per capita real income, while development entails a good deal more in terms of both economic and social change (Benjamin, 1981).

However, it is possible for a country's economy to grow without developing as witnessed by what happened in Kenya and the Ivory Coast with high economic growth rates in the 60's and 70's but instead leading to increased inequality and poverty (Osei-Bonsu, 1983).

Rural development then means the totality of all efforts which would bring about progress in the living conditions of the rural people. It has different meanings and interpretations but for this study the definition by Mabogunye (1981) is going to be used, which says, “Rural development is concerned with the improvement of the living

standards of the low-income population living in rural areas on a self-sustaining basis through transforming the socio-spatial structures of their productive activities it would be distinguished from agricultural development which it entails and transcends. The essence of rural development implies a broad based reorganization and mobilization of the rural masses so as to enhance their capacity to cope effectively with the daily tasks of their lives and with changes consequent upon this.

This definition points to the fact that rural development is a conscious effort at improving the well being of the rural people in their environment. It means raising incomes through increased production and productivity, involving them in the planning, implementation and the monitoring of the rural development process. In addition narrowing or eliminating social inequalities through income re-distribution. This can be brought into the main stream of the political, economic and social life of the country (Osei-Bonsu, 1983; Lele, 1975).

Rural development has therefore received a lot of attention in development literature, national plans etc, and is found in the considerable number of rural development programs in the third world countries and being assisted by donors (Lele,1975).

2.3 The Role of Credit in Rural Development

The knowledge as to how to bring about development of the subsistence rural economic activities of the developing countries is still scanty (Lele, 1975). In recent time, the means of augmenting rural development has identified the need to find ways of

maximizing the use of the resources of the rural areas to improve the rural potential over time (Lele, 1975).

These resources include credit, which can be mobilized by the rural people themselves through savings. Rural savings could be quite high and this is not well known by planners of rural development who always think of rural credit needs as little, based on the assumption of small incomes and thus low savings propensity (Lele, 1975).

Abban (1986) defined credit as access to capital for which payment will be made at a later date. According to him, through credit farmers are able to use capital at the time they need it, they also state that there are risks of lending of agricultural production because the farm units are small and have the financial resources. In their research report, N'Diagne and Zeller (2000) concluded that the benefits of access to credit for small holder farmers depend on a range of agro ecological and socio-economic factors, some of which are time-variant and subject to shocks such as drought (Research Report 116. IFPRI). Abban (1986) further asserted that there is the need to establish special agricultural banks to cater for the needs of the small-scale farmers. But the access to the banks and elaborate lending procedures limit the usefulness of these banks to many small-scale farmers.

In Kenya a review by Von Pischke (1987) of small holder credit schemes showed that there was considerable savings potential of small holders.

There is therefore a lot of savings potential in the rural areas which could be mobilized for financing production increases and incomes.

However, a lot of these are being siphoned off to the urban centres. An example is found in the net flow of bank funds from the rural areas to urban areas even though the

rural dwellers had been saving in the larger commercial banks in Ghana (Bank of Ghana, 1989; Ukwe, 1983).

Pinstrup-Anderson (1993), reports that in Europe and the U.S., low international food prices are due to large government subsidies while in Asia, it is due to the significant gains achieved since the Green Revolution in the 1960s. In Africa, however, low food prices are due to the generally low incomes of the people. The non-agricultural sector is also tiny, and will take a long time to expand sufficiently to generate enough incomes. Thus, all these reflect the inadequate purchasing power of millions of people in a world where more than one billion people earn less than a dollar a day. Clearly then, the poor are not in a position to convert their food and other developmental needs to effective market demand. The demand for rural credit then becomes a crucial factor to facilitate development.

Pinstrup-Anderson (1993) further indicates that if current trends continue, by the year 2020, sub-Saharan Africa will have a food shortage of about 250 million tons, which is more than 20 times the current food gap (cited in FAO, 1993). With low calorie intake, there is bound to be poverty, malnutrition and hunger. Consequently, rural development may remain only a concept in the minds of a hungry people, unless some form of economic empowerment in the form of rural credit, among others, is made available to the rural people. Thus, access to credit from both institutional and non-institutional sources becomes an important mechanism for the poor. This is not only to improve and protect their food security but also to improve their income, shelter, clothing and other social amenities, and to enjoy a reasonable level of living.

A survey of literature on rural credit schemes shows that historically credit is usually from two main sources or categories in many developing countries.

- (1) Institutional credit agencies.
- (2) Non- institutional credit agencies.

In Ghana as the same in Mali, the oldest are the non-institutional credit programs which include the following:

Relatives and friends

Private moneylenders

Traders

Distributors of farm inputs

Processors of agricultural products.

The most important is the moneylender in terms of amount money given out as loans and influence in society (Owusu Acheampong, 1986).

In a survey by Aluko in 1972 and quoted by UKwe (1983) the predominant sources of credit for the rural dwellers had been the informal or non-institutional sector which contributed up to 92 percent while the banking system contributed 8 percent. The above clearly points to the fact that there has been little institution credit available to the farmers or the rural dwellers.

Institutional or formal credit agencies include the large commercial banks like the Agricultural Development Bank, and the National Development Bank in Mali. Others include the credit associations, cooperatives as well as credit made available through rural development program.

These institutional credit agencies are very necessary and meaningful development will not possible in the rural areas without them (Owusu Acheampong, 1986). For credit to play a central role in rural development then permanent source of credit, especially through the mobilization of local savings, and its effective application is necessary (Lele, 1975). Credit in the rural areas has been categorized into two forms, as consumption and production credit. Consumption credit is used to buy consumable goods and services on financial returns that can be generated to enable borrowers pay off their credit, for example personal loans for wedding, funerals, and so on.

Production credit, which is the second form of credit, is for the acquisition of factors of production. The application of which greater returns are generated. Rural development programmes have aimed at the subsistence agriculture sector, which forms up to 80 percent of the rural working population. Therefore, most literature on rural development credit components and its effects has largely been centred on the improvement of the agricultural sector, and its modernization through the use of credit as well as access to such credit

However, there is little information from development literature on the uses of credits, and its effects on the other sectors of rural economies, the assumption being that rural economies are largely dependent on agriculture and is the main focus of rural development plans (UKwe, 1983). This is because agricultural incomes provide one of the primary sources of demand for the products of small-scale enterprises in the rural areas (Lieholm and Chelta, 1976). Also, for increased demand and profitability of rural industries products, there should be a concomitant or a proceeding of such industries by a dynamic agricultural sector and a growing economy (Lele, 1975).

But for all these lack of information on rural industries credit needs, there are usually some forms of credit delivery to small industries in the rural sector, for example when blacksmith in Mali involved in a development programme were first taught how to repair the implements used in an agricultural improvement programme because of lack of spare parts and credit made available to them, there was an increase in the use of improved equipment as well as reduction in time required to repair equipment and make spare parts. Thus better methods and new equipment resulted in increased production which was made possible by the use of credit (Lele, 1975).

However, from the point of view of rural development there is a low linkage between industry generally and agriculture. Therefore to improve agriculture through the use of credit among other resources, there should be a strong support and finance of small-scale industries based in rural areas (Ukwe, 1980).

There is evidence that the use of credit, could bring about production increases and incomes in the agricultural sector of the rural economies, through the investment and provision of capital to the agricultural sector in African though it is very low now (Layane, 1985).

Murray (1965) asserts that, credit makes it possible for farmers to take advantage of new machinery, improved seeds, fertilizer, etc. Thus enabling them to operate their farms on a more profitable basis.

Credit was apparently, the major vehicle in the rapid promotion for purchased inputs, needed for innovation in a rural development in Malawi, which involved the use of fertilizer and improved seeds of groundnuts (Diagne Zeller, 2000).

In a study on the effect of a new variety of rice seed on production of rice in Sri Lanka, Abdul *et al* (1977) found out that the crop loans scheme facilitated the widespread use of intensive cultivation practices, in addition to meeting additional credit requirements, which rise from the adoption of intensive system of cultivation.

Therefore, in order to increase output levels of farmers there should be changes in method of production as practised by the farmers now, and these change would invariably need credit to finance them and access to this credit, could also influence acquisition or adoption of innovations and its subsequent use of new capital. This is because the aim or the objectives of various rural development programmes is to increase overall productivity in a region, as well as to increase participation of low income farmers in agricultural production, and subsequent upon that income increases which would bring a reduction in income differences between classes of farmers (Lele, 1975).

Capital for acquiring productive access is essential for success, and the amount of credit a farmer controls for use in the farm business, determines to a large extent his level of income (Murray and Nelson, 1965).

Therefore, credit can be regarded as a key element in the development of the productive capacity of small-scale farmers which increases farmers incomes properly delivered and utilized.

However, credit delivery to the agricultural sector is very low Ghana where for example the large commercial banks which mobilize the available savings in the country, devote only about 9 percent of their total loan to agriculture (Bank of Ghana, 1985).

Moreover, these loans are mainly directed to the large-scale farmers with very little left over for the small farmer (Lele, 1975; Bank of Ghana, 1988).

Another characteristics of loans to the small scale agricultural sector, is provided by the Agricultural Development Bank which shows that most of the credit to the rural areas, has in the past been directed towards export crop farmers like cocoa farmers in Ghana.

On the loans to large scale farmers being more prominent Lele (1975) cited that the record of the Agricultural Finance Corporation in Kenya show that 88 percent of the gross loans outstanding in 1971 had gone to large scale farmers.

Thus credit delivery and recovery, and therefore its administration to both lender and farmers has been beset with problems, which makes loans to the agricultural sector and for that matter small scale food crop farmers a headache in organizing credit programmes (Lele, 1978).

Some of the problems that initiate against credit administration by the financial institution and its acquisition by the farmer include lack of trained personnel of the banks, overly ambitious expansion of credit facilities, and credit given in isolation. Problems hindering the farmers' access to credit include lack of suitable collateral security, attitude of the lending institutions, lack of effective marketing of produce, very low yields per acre and per capita investment, low commodity prices at harvest time, irregular supply of

farm inputs, farmers' attitude to repayment of loans from institutional credit agencies and poor extension services as well as low standard of education of farmers.

Financial institutions in many African countries which specifically provide credit in the rural areas, are relatively new. Their staffs are, on the average more or less, inexperienced in development credit administration; therefore mistakes are bound to occur (BCEAO, 1999). On over ambitious expansion of credit facilities Uma Lele (1975) hypothesis that it is due to the inadequate follow up by the credit institution which emphasize on credit expansion but not on its effective collection.

On credit given in isolation, it is believed that due to the rather poor coordination of credit with other services associated with technological change and modernization, like effective extension, marketing of both farm produce and procurement of farm inputs and good research on new improved varieties. In fact, the lack of effective linkage between other factors of production and credit had led to impact on agricultural production (BCEAO, 1999). Most rural dwellers lack access to credit, and this is due to the large banks assistance on the farmer providing collateral security that they can provide is unattractive to the banks. This has therefore led to a situation where the small-scale farmers do not qualify for loans (BCEAO, 1999). The attitude of the lending institutions make it almost impossible for the farmer to get needed credit, in that procedures for getting loan are either cumbersome therefore time wasting or the fact that a farmer has to operate a current account, which he simply does not and thus excludes him from getting credit (Lele, 1975). Farmers are usually producing but effectively marketing the produce is virtually non-existent or traditional thus leading to poor storage and deterioration of produce and therefore low prices resulting in the farmer not being able to repay a loan

granted. In this way, the farmer does not satisfy the credit institution of his credit worthiness therefore, impedes the viability of output oriented programmes (Donald, 1976).

Moreover due to technological constraints, a farmer might still be using low yielding varieties of seeds and relatively poor methods of production resulting in low incomes and that adoption of new technology is basic to the purpose of small scale farmer credit programme, that lack of which would be little value to borrowers, who might encounter repayment problems (Donald, 1976).

With regard to low level of education of farmers, the Agricultural Development Bank in Ghana has revealed that most farmers are uneducated and that seeking assistance of the banks means contact with strangers with different attitudes and level of education and therefore finds it difficult to get loans from the credit agencies.

With regards to poor extension, Lele (1975), hypothesises that there is positive correlation between poor extension and low repayment rates of loans by farmers in a credit programme of a rural development project in Ethiopia.

Touching on low commodity prices at harvest time, the USAID, 1986 report claims that there is usually poor price uncertainty and low harvest prices, resulting in low profitability, hence loan repayment problems.

On farmers' attitudes to repayment of loans from credit institutions the USAID (1986) says past credit programmes failed mainly because it was abused since it was regarded as government money not to be paid back, thus it is mainly a social attitude.

All of the foregoing discussions could be summed up that the lack of access to credit by small scale farmers are due to institutional problems of loan administration as

well as the fact that agricultural loans are usually filled with high risks and uncertainties due to the risk and uncertainties associated with agricultural production, therefore there have been different approaches to credit delivery and recovery to the small scale farmer, and for that matter, the low income rural dweller. But the marginal costs involved in credit delivery, do not match the marginal benefits derived from the credit by a credit institution, which is not based in the rural area (Bank of Ghana, 1987) and serving solely the locality it is based in.

Therefore rural banks were set up to fill the unavoidable vacuum created by the lack of credit in the rural areas, but all the review of literature has told us about, has not touched principally on the effects of a credit scheme like the rural banks on production and incomes of the rural dwellers. It is to fill this gap in our knowledge, and also to provide policy makers and the banks themselves with information on how far their credit programmes are having their desired impact that this study should be taken.

Moreover the rural banks are unique in that they usually use savings from the rural areas in which they operate unlike other credit agencies which utilise funds from outside the rural areas, but whose activities in the rural areas are well known to some extent, unlike that of the rural banks.

Another reason is that, most of the literature on credit programmes were centred on specific package deals in specific rural development projects and their components: as well as the activities of large commercial banks in credit administration in the rural areas, but little information can be gathered on the role of the rural banking systems which has been in existence for a long time ago.

2.4 Credit for the Rural Poor

As noted by Owusu Acheampong (1986), the importance of both institutional and non-institutional sources of credit cannot be over-emphasised. He reported that in Ghana in the 1940's and 1950's, the growing importance of cocoa farming necessitated rural credit to boost up cocoa production. Thus, many cocoa farmers borrowed money from money lenders, relatives, and friends to start their farms; and with the increase in cocoa prices in the 1950s and early 1960s, there was a windfall for cocoa farmers whose incomes increased, and who used this money for such development activities as private housing programmes. The transformation of such Towns as Dormaa Ahenkro, Duayaw-Nkwanta, Abesim and New Drobo in the Brong-Ahafo Region into urban towns is attributed to borrowed non-institutional credit. Other development projects supported by borrowed credit included schools, water supply systems and streets. Owusu-Acheampong (1986), further reports that in the 1980s institutional credit given to rice and cotton farmers in the north and the maize farmers in the south, particularly from the Agricultural Development Bank (ADB) of Ghana, subsequently improved their income; and the same could be said also of fishermen along the coast and around the Volta Lake who have improved their fishing operation by the use of outboard motors and good nets, with credit provided by the banks. In the light of the above, there is the strong hope that the establishment of rural banks in the rural areas of Ghana would increase the productive capacity of rural people and consequently increase their incomes, which will in the long run enable them to improve their purchasing power and their living conditions. This, however, does not imply that the availability of credit to the rural people will automatically transform the rural communities in Ghana for the credit is said to be

analogous to the buzz saw; in the hand of the expert it is a wonderful tool but in the hands of initiated it can be very dangerous (Owusu Acheampong, 1986).

According to Meier (1989) and Busher (1995), the agro-economic dogma of the 1960s, 1970s and 1980s with regard to helping the poor and raising their productivity was known as supervised credit. However, Meier (1984) continued, that Adams, Graham and Von Pischke (1984), realising the disappointing results of government subsidized agro-loan programmes in almost all developing countries, raised an opposing view against development with "cheap credit". This thus triggered a very lot of debate between proponents of the two schools of thought. The reasons those against "cheap credit" advanced after a careful scrutiny of the supervised credit programmes were that in many cases, loan repayments were poor; most loans were granted to rich, rather than poor farmers; the low interest rate worked against savings; and the regulation of sub-loan conditions deterred the banks from subjecting loan applicants to careful checking of credit worthiness (cited in Adams et al, 1984).

The above reasons against cheap credit may be justified to some extent because it is true that in Ghana and elsewhere, until recently, many people have misappropriated credits given them and so have not been able to repay their loans for others to benefit from. Others have not been able to repay due to unfavourable weather or market conditions. Still others are not willing to repay because they have the impression that government finance such credit by using tax funds. A newspaper report title "Farmers reluctant to pay up loans, "seems to support these. The then acting Eastern regional Minister of Ghana, Miss Addow said "credit are not gifts and therefore must be paid back" (Daily Graphic: 1/4/96)

She lamented over a situation where out of 88 tractors secured for farmers in 1989 at ₦ 5 million each (FAO/Italian Government and UNDP-sponsored mechanization programmes) only one percent had been recovered in 1991; and that the overall recovery rate up to 1996 still has been disappointingly low despite pressure from the Ministry of Agriculture on the farmers to repay. She further said that under a Special Employment Project (SEP) in the same area, only 9.5 percent (₦2.3 million) out of ₦24.5 million granted as loans to farmers has been recovered.

Meier (1989) agreed with Adams et al (1984), and contents that "imposing how ceiling on interest rates and allocating massive amounts of credits to rural financial markets in order to speed up rural development and improve income distribution," as help by the conventional wisdom of the 1960's and 1970s' have failed, and most often even made matters worse. He argues that low interest rate ceilings provide income transfer to loan recipients, leading to distortion of the real price ratio of investment opportunities by under valuing the real cost of capital in different sectors. To Meier (1988), the persistent problems that are associated with such credit policies include:

1. Credit loans go to wealthy farmers while small farmers are rationed out of the credit market.
2. Loans for agricultural programmes are diverted to non-agricultural uses.
3. Such credit policies encourage consumption and discouraged saving; and the setting in of significant distortions in the optimal allocation of resources across markets.

On informal sources, Meier (1988) argues that as farm size increase, private credit sources, like village moneylenders and pawn brokers, chit funds with an array of implicit

interest rates. At this level, because of the need for substantial capital, the banks become important sources of credit than friends and relatives. However with the implementation of development plan, Meier (1989) further indicated that official lending complements but clearly does not supersede informal sources. This has been supported by several sample surveys, which indicated that the volume of informal credit is far greater than that of organized institutions. This is due to the fact that the informal sources are characterized by a much shorter processing time; better screening techniques or enforcement devices (showing a lower default rate), and higher interest rates (borrowers may not want to pay an even higher rate by defaulting to extend repayment time; and, it is an incentive to lenders to lend more at such high rates).

Even though the informal sources are larger and closer to the rural people than formal institutions, there are still many people who have no access to rural credit.

Munyakho (1994), argued that the single largest obstacle facing small entrepreneurs is access to rural credit, and that "although many can manage interest rates of 35 to 48 percent annually, they often have to resort to greedy moneylenders, who charge up to 240 percent" in Kenya. However, with loans, many operations are soon able to increase their profitability and expand; and that "one in two businesses creates employment after getting a loan".

2.5 Women's access to credit

In many developing countries, rural women represent more than 50 percent of the rural active population. Even though they are heavily involved at the starting point, during, and at the end of agricultural production process, women constitute the poorest

segment of the rural society. In fact, the United Nation's estimates that women provide 60-80 percent of agricultural labour in Asia, and 40 percent in latin America (Blumerg, 1989).

In sub-Sahara Africa, women are responsible for about 70 percent of staple food production. In Mali, the micro-finance and trading project promotes self-help women's organizations and develop for them many programmes including crop trading, saving mobilization and credit. Example Miseli group; Cafo gigne.

Getubig (1989) also remarked that the majority of women accessing to credit transferred their loan control to men within their households. She reported that only 37 percent of the sample retained full control over their loan. However, she noted that, women, who are widowed, single or divorced, were more likely to have control over their loans.

Farmers require financial services for a number of reasons including the purchase of agricultural input or the hiring of labour. However, evidence suggests that women farmers remain highly marginalized group in terms of financial credit from formal sources or from co-operative and development agencies tied to cash commodities. For, as F.A.O/ (1993) observed women are responsible for food crops while men are responsible for cash crops.

A study conducted in Kenya indicated that only 3% of female farmers surveyed had obtained credit from a commercial bank compared to 14% of male farmers. In a similar study in Nigeria, 14% of male and only 5% of female farmers surveyed had obtained credit from a bank (Saito et al, 1994).

In Ghana, women farmers identified lack of access to credit as a major constituent to overcoming rural poverty (Prah, 1995). Sarris and Shams (1991) had earlier given the following reasons for the lack of women's access to credit although they observed that the banks considered the women to credit worthy as:

1. Rural women are more often illiterate and need education as to what credit facilities exist or can be made available to them.
2. Credit institutions favour larger farmers this excludes women farmers, who are usually small-scale operators.
3. Traditional and cultural values (especially in the North) prohibit women from seeking credit on their own, and more women than men are without legal title to land they farm and thus lack an important collateral.

2.6 Some approaches to Rural Credit Delivery for the poor

The International Fund for Agricultural Development (IFAD) 1993, has suggested that a viable way to promote grass root development and rural poverty alleviation in Africa, especially in Sub-Saharan Africa, is to extend credit through three distinct approaches. These are:

An approach based on the model of rural informal finance;

An approach based on the model of Grameen Bank;

An approach assisted by Government and Non-Governmental Organisation in such a way as to decentralise the operations of existing institutions to work effectively with the poor.

2.7 Informal finance

Seibel (1987) identified four types of informal finance

Type I: Rotating Savings Association (RSA). Fixed contributions at fixed intervals by members. The sum collected is disbursed in rotating order to one member at a time. Its shortcoming is lack of a permanent loan fund available in times of need to all members.

Type II: Rotating Saving and Credit Associations (ROSCA). Same as RSA, except that part of the sum is put into a general fund for loans, insurance, emergency fund and social services.

Type III: Non-Rotating Saving Associations. (NRSA) The regular members contributions are deposited, possibly with a bank, and paid back at the end of a stipulated period.

Type IV: Rotating Saving associations. (RSA) Regular members' contributions plus revenues from fees, and joint business are put into a loan fund. Usually, different interest rates are charged on loans for members. Contribution may or may not be paid back at the end of a stipulated period.

The Rotating Savings and Credit Association (ROSCA) is one form that is heavily used by low-income people particularly by women. These associations are found world wide under many names. Their popularity among low and middle-income groups demonstrates poor people's propensity to save. In Ghana, ROSCA or "Susu" have evolved into larger-scale credit and saving facilities. It is recognized that informal finance offers many advantages. The informal or indigenous financial agents know their clients better than formal banks do, which reduces their information costs; their

administrative and staff overhead is lower; their interest rates are regulated so they can adjust to market forces and they are not subject to reserve requirements. However, despite their potential, most forms of informal finance have their shortcomings too. They are isolated from larger market, which curtails eventually lenders' access to funds and reduces competition. They also have limited ability to provide long-term finance and large loans. And it has also been argued that as long as poor people, particularly women rely on informal markets they will remain outside the economic line.

Linking informal and formal finance can reduce some of these limitations. However, some scholars think otherwise; (Hansel, 1974). This according to them, in many areas where formal financial systems are highly centralized and corrupt, it may be unwise to link them to indigenous schemes. Therefore they argued that the best way to help ROSCA might be to leave them alone.

Globally, there is still much to be learnt about the nature and feasibility of such links. Donors and governments could support research and experimentation in forging links between informal and formal systems.

Whatever, links are forged, the important thing is that, local control and equity interests should be emphasized and retained. Among the informal finance approaches, ROSCA may be particularly desirable as they incorporate savings and credit, and seem to be effective in reaching poor people, particularly women.

In Ghana, for example, the Africa 2000 supported by the Canadian International Development Agency, is successfully disseminating the ROSCA approaches to villagers unfamiliar with this type of savings. Other good examples are Rwanda's Rural Savings and Loan Banks, Burundi's Co-operative Credit Banks, Guinea Congo, Madagascar's

Rural Savings and Loan Banks.

All of these experiments have shown that, even small farmers, with low and irregular incomes, are capable of making regular payments into a common fund. They can survive and co-exist with official credit institutions.

2.8 Approach based on the Model of Grameen Bank

Grameen Bank is a specialized bank for the poor in Bangladesh. It is considered internationally as the most successful financial institution in extending credit to rural poor. Started in 1976 by an Economic Professor who guaranteed commercial bank loans to the landless poor because they could not provide collateral on their own, the project became a specialized credit programme in 1983. The Bangladesh Government contributed 60% of the initial paid up capital and the rest came from the savings of the borrowers themselves and the supports from donor agencies, notably the Ford Foundation and the International Fund for Agricultural Development.

Studies conducted in 1990, showed that, the Bank was serving more than 850,000 borrowers, of whom 91 percent were women. Almost all the Grameen Bank beneficiaries are poor. The Bank has consistently maintained a repayment rate of over 98 percent from the start.

Other studies conducted by the Bangladesh Institute of Development Studies (BIDS) showed that the investments of its borrowers have yielded high rates of returns enabling them to repay their loans and earn a reasonable profit (Hossain, 1988). Impact studies by the World Bank from a sample of 800 borrowers showed an increase in income of 28 percent as a result of the loan (Remenyi, 1991).

Among the more important design features that have contributed to the bank's performance are its method of targeting grass roots organizations, loan conditions, incentives/penalty systems, insistence on accountability, nature of investments and support services for saving mobilization, autonomy, and leadership and institutional support (Remenyi, 1990).

2.9 An Approach Assisted by Government and NGOs

Sometimes this approach is called quasi-formal alternatives. A variety of quasi-formal innovation institutions have developed in the last years to provide financial services to poor people. They vary in size, ownership and organization but fall into certain large categories.

Financial intermediaries: Generally, NGOs such in Women's World Banking or Government agencies get the credit from Banks to small borrowers. They also provide training, help with loan application and guarantees to lenders that reduce transaction costs to both borrowers and lenders.

Parallel programmes: are Institutions (usually NGOs) set up to provide financial service. Examples are, the Saving Development Foundation in Zimbabwe, the Working Women's Forum in Maddars.

Poverty Oriented Development Banks. Generally, government intervenes to help existing institutions so that they adapt their rules and procedures or decentralize their operation to work effectively with small farmers, landless people and rural women.

For example, IFAD (1993) had established a number of branches of Agricultural Development Bank in Lesotho and abolished regulations that prevent women from

accessing credit. Thus, many people have improved their living standards through the opportunity given to them.

In the light of this above consideration, it obviously appeared that, the past failure of financial institutions to reach poor farmers have led to seeking alternative approaches which can help to achieve this objective. Many experiments have turned to innovative approaches, which are initiatives from the rural areas for the small-scale farmers. Since small scale farmers represent almost 70% of rural population work, and produce the majority of the national production, any policy that takes into account these social categories, by giving them the opportunity to meet their needs will foster agriculture development. By doing this, it would be possible to reach the 4% per year of agriculture growth rate needed if hunger is to be averted (World Bank, 1975). In this connection many programmes have shown that by giving the poor access to credit at reasonable terms, they can help them become economically, sociologically and technically more productive and thereby increase their income, which will in the long run enable them to improve their living standards. But what is the scope for bringing this about? Different types of institutions have been successful in delivering credit services to the poor, as exemplified by Grameen Banks, Saving and Credit or "Susu" in Ghana, Congo and Madagascar's Rural Savings and loan Banks, etc. Their effectiveness has much to do with design of the credit delivery systems to small-scale farmers. Both donors and governments have a major role to play by promoting these types of informal financial approaches to poverty alleviation.

However, it is important to stress that credit alone cannot work or contribute to reducing poverty without adequate market and infrastructure and advisory services such

as agricultural extension.

It was in this perspective that Sasakawa Global 2000 decided to help some African countries' small-scale farmers including Benin Mali, and Burkina Faso by bringing to them improved technologies and promoting innovative financial programme which constitutes a better way to restore their productivity.

The SG2000 project started in 1996 in Mali with an objective to demonstrate the feasibility of increasing productivity of food crops by introducing simple agricultural technologies to participating farmers. In 1997 the project, in collaboration with Ministry of Agriculture Development, experimented with farmers' Rural Savings and Loan Banks based on indigenous loan of collective organization. They were designed to reach small-scale farmers who are typically left out by formal credit schemes. After six years of implementation and management many studies have been undertaken to evaluate the financial performance and the impact of these banks based on the calculation or evaluation of benefits. The main cause is that, what are the criteria used for assessing the impact of rural credit on the beneficiaries.

2.10 Potential for saving in the subsistence sector.

In most developing countries, agricultural production is primarily in the hands of small-scale farmers. Their first concern is to provide food for the family. Producing for the market is possible when there is surplus of harvest. In this environment, are these people able to save? In fact, rural saving has become one of the crucial debates. Some scholars argue that it does not exist or it is not enough to be considered due to the cost involved. On the contrary, others think that lack of information about how the poor

actually organise their lives leads to the belief that they are too poor to save. Thus, few financial programmes have promoted deposit facilities. However, there is evidence that they can do save in formal financial market and in other liquid assets. The practice depends on the spoor's capacity and willingness to save.

Von Pischke's (1973), reviewing smallholder credit in Kenya, pointed out those small holders have a greater capacity to generate savings than is commonly assumed. Also indicative of rural savings capacity is the existence of indigenous mutual savings societies. In Mali for instance, these kinds of associations are scattered over the country.

Besides saving money, poor people as previously remarked save in kind, for example, by building up stocks of grain seasonally, running them down when the harvest season is over. They possess livestock and other durable assets such as household tools, gold, etc that can be sold in times of crisis (drought or flood) and then repurchased (Abban, 1986). Recent research indicated that given opportunities and incentives to save, poor people can save far more than previously thought (F.A.O., 1994). Similarly, investigation undertaken in Benin showed that farmers preferred keeping their yearly surplus in kind, especially buying cattle or keeping it at home. One third of them go to local bank for agricultural credit and only women subscribe to informal savings institutions namely "susu" clubs. It was also observed in Benin that, despite their low income level, farmers used to save a substantial amount for precautionary demand, but they hoard it in obscure places at home, or in credit associations prevalent in the areas. For this reason research cannot easily access such savings and that is why studies commonly assumed that rural residents have low marginal propensities to save (Stuart, R, 2000).

Globally, what is important to stress is that, rural savings among small-scale farmers exist in large quantity and in different forms, if properly organized and mobilized, they could be a strong means for rural development. In this connection, Galiba (1996) observed that, the first duty for a country, which wants to be developed, is to begin keeping an account of its available national resources and then to ensure their investment through international means.

Donald (1974) in his work on "Rural Saving Mobilisation" found that an obstacle to saving deposits in bank is the rate of inflation, which erodes the value of savings when held in financial form. He concluded that the most impressive collection of savings deposits from poor people has been obtained from cooperative organizations rather than banks.

Indeed, these cooperative organizations, commonly known as credit union or credit cooperatives, are members owned cooperative designed to mobilise members' savings and provide loan to members. The model has been gradually experienced and expanded in many countries over the world. The results obtained had varied or mixed from one country to another.

Unfortunately, experiences in many developing countries showed that the government has taken upon itself the initiative to organize farmers into cooperatives. The latter became important channels for government-sponsored credit with professional management, offering input supply, marketing programmes as well as financial services. They often had to operate under the directives and control of the state.

In short, the policies adopted were based upon the top-down decision-making and the exclusion of active membership participation. This impersonal organisation form

often fails to stimulate either the inclination to save or a sense of obligation to repay loan. It may be accompanied by mismanagement and occupation since many of the government established cooperatives have only been able to survive with the help of a large influx of outside funds. Failures have led much government in developing countries to revise their policies and adopt new shapes by encouraging the initiative, which come from farmers themselves, namely institutions based on local associations.

The Director General of the International Labour Organisation (I.L.O. 1977) commented, "The trend towards more informal associations may become more widespread as such groupings meet the needs of poorer people whose capacity for managing formal associations is still inadequate". In the same direction, F.A.O (1975) noted that Institutions based on traditional, indigenous forms of collective organisation are sometimes advocated as the most appropriate ones for involving the entire population in a balanced process of social and economic development village organisations well-rooted in tradition have been proven effective in mobilizing participation for development."

In fact, the main reasons for the proliferation of informal groups that appear to be the essential elements of cooperatives derived from the cultures in which these groups are found. In many counties in Africa, the life patterns of people are cooperative. People voluntarily combine efforts to clear land, to plough, to build houses and engage in other economic activities.

Stuart, (2000) described the farming of such conditions as an adaptation to poverty. Informal rural cooperatives are set up to find solutions to basic problems that affect the core participants. They respond flexibly to changes in the socio-economic

environment for all such association, reliance on members' savings and capital contribution is an important feature to their success.

For example, in Rwanda, where credit unions were created for the specific purpose of rural savings mobilisation, membership grew by 47% between 1977 – 1986, with real savings deposits growing at an average annual rate of 34.8% and outstanding loan at 54.4%. In Cameroon, these numbers were 14% and 42.4% for loans. In both countries, credit union savings and loan grew significantly higher rates than the national average (Cuevas, 1998).

To sum up all the arguments raised, it is important to note that small scale farmers' savings mobilisation is the greatest asset for national development since the majority of this category of the population lives in rural areas. Well-designed financial services that find their roots and build up from local level can help to attract and increase poor people's savings and facilitate their access to credit.

2.11 Criteria used for assessing the Impact and the Effectiveness of Rural Financial Institutions for the Poor

To assess the impact and effectiveness of any rural financial institution services for the poor, it is important to be clear about the criteria that are used in practice. Though many countries have developed quite elevate system for calculating financial performance of rural credit agencies such as standard financial ratio analyses, and internal economic rate of returns, few produced regular information on their impact and effectiveness. Even though internal economic rate of returns (IRR) for example is used as an indicator of effectiveness, it has proved that it does not fully reflect project

effectiveness. A more fundamental criticism is that the use of IRR leads evaluation to focus on short-term for benefits. Abban (1986), pointed out that IRR calculations do not pay attention to long-term environmental impacts since normal discount rates mean that long-term costs or benefits have almost no effect on the IRR. Getibig (1989) cited the example of a social forestry project in India in which the eleven-year repayment period encouraged farmers to plant fast growing eucalyptus that cannot be used for fodder.

It is also recognized that standard financial practice analysis used as a tool to assess rural financial institutions performance on effectiveness does not take into account the various components such as subsidies, free equipment by government/donors, free training for staff and repayment default cost, involved in their operations on the special objectives often assigned to them (Robert, 1974).

However, Yarom in 1992 introduced a framework of performance assessment that has been widely agreed by practitioners.

The framework emphasises two criteria:

- i. Self-effectiveness
- ii. The level of outreach, that is, the extent to which the institution has succeeded in reaching its target clientele and the degree to which it has met that clientele's demand for financial services.

These two criteria have also proved that they do not provide a full assessment of the economic impact, but they serve as quantifiable process for the extent to which the institution has reached its objectives and made transparent the social costs. From a development point of view, the real test of performance should have been to assess the

sustainability of the schemes over a long period, the safety of depositors' funds and the financial viability of the institution.

By and large, the controversies over the criteria for the measurement of the impact, effectiveness and sustainability of financial institution programmes are likely to continue. As observed earlier, traditional measures, stress demand, number of borrows, number of loans, percentage of targeted group reached increase in production or productivity whereas, the proponents of financial markets rightly stress the resources of funds for credit transaction, cost reduction, the financial viability and the sustainability and effectiveness of the credit schemes themselves.

However, it is generally acknowledged that, impact effectiveness and sustainability of the credit schemes are multidimensional concepts that cannot be viewed in terms of a single variable. Therefore, on the impact side, seven criteria are often used to assess the impact of rural financial programmes for the poor. They are:

1. Extent to which the programme has succeeded in reaching the really poor people, not poor sectors. This is measured in terms of the proportion of beneficiaries who are truly poor and the number of poor borrowers reached by the programme (Getubig, 1989).
2. Extent to which the programme has developed good deposit facilities, services, and incentives which enable poor people to save frequently small sums of varied value into a lump sum which when required in a quick, affordable and transparency manner.

3. Extent to which the programme has charged interest rates, that allow the institutions to cover its cost and deliver the services at prices that clients are willing to pay.
4. Extent to which the programme has performed in loan recovery. Sustained high loan recovery represents the simplest and clearest indicator of a programme's success as it reflects the profitability of the loan, as well as the borrower's satisfaction and support of the programme (Getubig, 1989). This is not always true, because the client can borrow money from relatives or moneylenders to pay his debt in case the credit did not earned good results.
5. Productivity of the loan. It is referred to the variability of the investment into which the credit was used by the borrower. This can be measured in terms of turnovers or capital-output ratio. However, this criteria is often difficult to measure accurately when applied to small-scale investments of poor borrowers, because a part of income goes to consumption and thereby introduces a bias on the estimated turnover. Thus, asset retention by borrower is often used even though it is less precise measurement (Getubig, 1989).
6. Impact on borrower's income. This impact refers to the extent to which the borrower's real income has increased as a result of credit provided. This criteria is probably the most difficult to measure by conventional "before-after" or "with-out" techniques. The difficulty stems from the problem of isolating the effect of credit from many intervening variables and the comparability between the experimental and control group (Getubig, 1989).

7. **Non-economic criteria.** The most difficult task of all is to develop success criteria for non-economic objectives of credit programme. It may be referred to the empowerment of rural women, increasing their status in the family and the community. These, however, are legitimate objectives that must also be considered in assessing effectiveness of programme (Getubig, 1989).

In this connection, as far as farmers' Rural Savings and Loan Banks are concerned, an important point that must be observed here, which is overlooked, is the participation of those people who are involved in the programme.

2.12 Contextual Framework

Within the context of the literature review, the contextual framework was examined. The literature revealed that, informal sources of credit continue to be the most common providers of rural credit. In many cases, these have been smaller amounts and so have had little impact, if any, on rural development. Substantial credits in the hands of many rural dwellers have been idle, and there have been instances where rural dwellers have lost considerable amounts of money, farms and properties through bush fires. These, in addition to the unpredictable rainfall pattern, precipitate the need for a more reliable form of credit delivery that will facilitate rural development.

However, the introduction of formal banking institutions has not helped much. Lending activities in the past have benefited only a small section of the rural people, and so their impact on rural development has been minimal. This is so because many rural people are poor and so lack collaterals. They are therefore marginalised as credit

acquisition more or less depends on an applicant's ability to provide collaterals and securities. As pointed out by Munkner (1978):

"Only a small section of the population is gaining from development, and income inequalities widen rapidly. In rural areas mainly progressive farmers and large producers benefit from credit schemes, modern technology and farm inputs for increased production whereas a vast majority of small-holders and farm workers do not participate in growth and development".

Given the above situation of discrimination in credit delivery by banking institutions, most rural dwellers become more impoverished as income inequalities widen. There is belief, however, that if credit delivery is done in favour of the small-scale producers with very minimum restriction, the frustrations that the rural people go through in search of rural credit to improve their productive capacity will be fairly reduced, so that development will be enhanced through increased incomes. In the operations of the rural banks therefore, it is conceived that the accessibility of the rural poor to rural credit will be enhanced if the banks set up financial arrangements that will meet the circumstances and conditions of the rural people. As Pinstrup-Anderson (1993) put it:

Highly specialised credit institutions are not necessarily the best financing arrangement for the poor; suitability of an institution to prevailing conditions and acceptability to prospective customers should be the main criterion in promoting different types of financial intermediaries in rural areas. For the poor, it is extremely important to have informal financial intermediaries and to have appropriate operational linkages between them and formal financial institutions."

It is therefore, no wonder that despite the higher interest rate charged by moneylenders who are found everywhere in Africa, these moneylenders continue to exist while many formal institutions regularly have difficulty with loan repayments and often require recapitalization (Hoff and Stiglitz, 1990). The establishment of rural banks,

therefore, is seen to be a way of reducing the power of moneylenders through competition.

Given the objective of Rural Banks, it is expected if they really live up to expectation by easing the accessibility of rural people to rural credit, people will be empowered economically and thus will contribute meaningfully to rural development. It is within this perspective that the perceived impact of rural credit was examined.

Therefore, in this study, to assess the perceived impact of rural credit on the cereal farmers the criteria used included the following indicators.

1. Level of socio-economic impact as a result of credit granted to borrowers
2. Level of credit granted
3. Level of savings mobilization and services provided
4. Level of credit facilities and services offered
5. Level of production
6. Extent to which the CREPs programmes have reached the poor people.

CHAPTER THREE

METHODOLOGY

This chapter contains a description of the methods and procedures that were used to generate the data to examine the impact of rural credit on the cereal farmers in the Koulikoro region of Mali.

3.1 Study Design

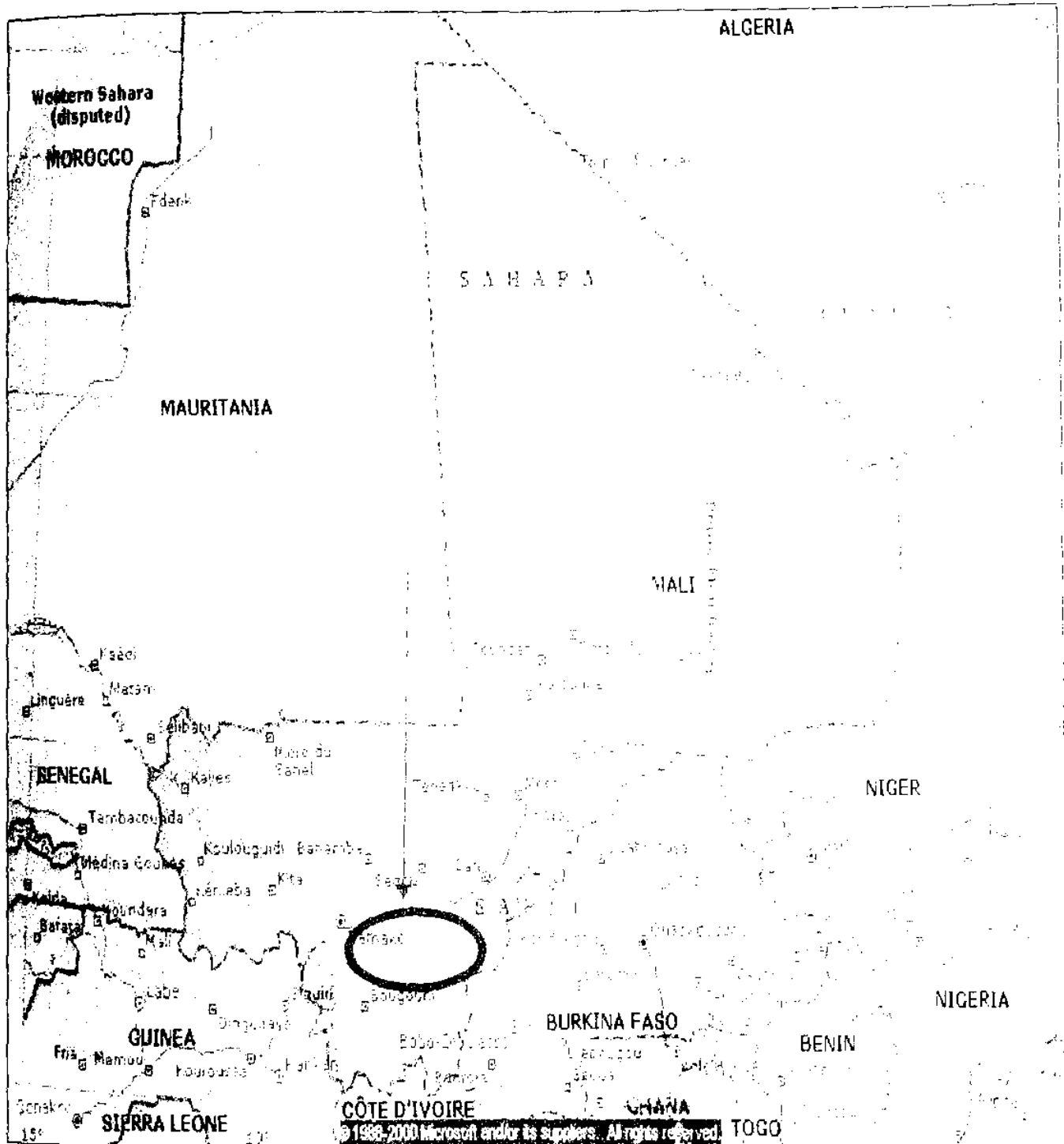
A descriptive correlation survey research design was used for the study. The design enabled the assessment of the characteristics or nature of the defined population and the strength of relationship among the variables of the study

3.2 Population and Sampling

The target population was farmers who were associated with the CREPs. The population was from two districts, namely: Niamabougou, and Soudougouba. As the study sought to find out the perceived impact of the rural credit on the cereal farmers, a stratified random sampling was used to draw the sample to be studied.

This selection was based on the characteristics of population. A list of CREPs members was obtained from each of the CREPs. Male and female members were listed separately in two groups. Then a proportional random sampling of farmers was done in order to give a good representation of males and females in the population. Through these fifty-eight male and twenty-nine female members out of 385 members of the two CREPs were selected. Almost a quarter of the entire membership was selected (80 members), although 77 were able to respond to the research.

Fig 1: Map of Mali with the Study Area circled



3.3 Instrumentation

Two instruments were used to collect data. These were the interview schedule and questionnaire. Questionnaires were administered to Sasakawa personnel, while the interview schedule was used to guide the interviewing of illiterate farmers. Farmers' opinions were directly sought on some issues while in others five point Likert Scale was used to measure the characteristics of the variables that have been defined under the specified objectives. Experts of agricultural extension did content validation of the instrument.

3.4 The Study Area

This study was conducted in the central region of Mali (Fig. 51). The region covers areas of 3,800 square kilometres and is divided into eight districts for administrative purposes. The Region was chosen mainly because it is a region where there is not only dry cereal cultivation (Sorghum, Millet), but also rice irrigation areas (Baguineda) and has a high livestock population.

3.4.1 Climate

The climate is hot and dry/type soudanian with a unimodal rainfall not only by the seasonality but also by their variability. The annual ranges between 600mm to 900mm. The rainy season starts in May is highest in August and stopped in October, followed by a long dry season.

3.4.2 Vegetation

The vegetation is characterized by an important development of woody stratum with grasses interspersed with short and some dense forest along water bodies. The main trees are *vittelaria paradoxa*, *Parkia biglobosa*, *Caya senegalensis*, and *Citrus* sp. The herbaceous stratum is made up of *Andropogon gayanus* and *Penicetum pedicellatum*.

3.4.3 The Relief and Soils

The relief is characterised by a peneplain with lateritic emergences. There are a lot of valleys with agricultural potentialities. The main soils are ferruginous tropical soils, shallow lands soils, and sandy soils.

3.4.4 Hydrography

The hydrographic network of the central region of Mali is made up by the river Niger and his tributaries.

3.4.5 Demography

The population of the region is about 800,000 inhabitants (census, 1980). The main ethnic group is the Bambara; there is however other settler ethnic groups like Foulani, Mossi, Marka. The population of Koulikoro the region is mostly illiterate and the majority earn their livelihood from agriculture.

Pilot Study

To verify the reliability and validity of the instrument developed, a pilot study was undertaken in the two districts. The pilot study was conducted in nearby area where farmers are similar in characteristics of farmers of the main study area. Data was collected with research instrument and analysed using Cronbach alpha reliability to determine the internal consistency of items measured type on the likert scale.

Before the pilot study, two assistants were trained two days in the Sasakawa Office.

The training covered the following areas:

- The purpose of the study
- The procedure for selecting respondents and dealing with a situation where respondents cannot be located or interviewed.
- The way to ask each questions, the need for a brief introduction and what was expected from the respondents.

After this prelude, the researcher and the two field assistants from 25th-30th March, 2003 carried out the pilot study, in the Konobougou village. This pre-test sought to ensure that the questions on the questionnaires were clear, meaningful, appropriate, and understood. Fifteen farmers were interviewed during the pre-test and data collected were computed and analysed using the statistical package for social sciences (SPSS). Comments and suggestions of respondents were considered and incorporated into the final version of the questionnaire. The reliability co-efficient (Cronbach's alpha) of items of the survey instrument, measured on 5 point-likert type scales, is given in Table 1.

Table 1: Reliability of variables.

Variables	No. of Items	Reliability of Co-efficient (Alpha)
Credit services and their impact	11	95
Saving mobilization and services.	6	70
Loan recovery	5	85
Credit granted and used for agricultural production	6	79
Level of production	6	70

The table shows that the scales on the instruments were reliable and consistent.

3.5 Field Work

The fieldwork began on 5th April and ended on 30th June, during the fieldwork, the researcher introduced the assistants to the CREPs staff in the area where each was to cover. The main reason for this was to explain the purpose of the study and to seek their support for achieving successful result. A follow-up was regularly made to the assistants not only to collect the questionnaires but mainly also, to ensure that the interviews well conducted, the questionnaires were well filled and completed. It also enabled the researcher to appraise the problems the assistants came across during their work.

The main problems encountered were:

- (a) Unwillingness of some farmers to respond to the interviewing because either they had no time or they had left home when an agreed time was given for a meeting.
- (b) The difficulty to obtain from some respondents the total information about amount of savings, credit granted and the purpose for which the credit had been used.

At the end of the fieldwork, data had been collected on 77 intended respondents.

3.6 Data Processing Analysis

Data collected were analysed using the statistical Package for the Social Sciences (SPSS). A codebook was prepared to guide transformation of interview schedule into numerical data analysis. Frequency distribution was run to check any coding and correct them where necessary. Descriptive statistics involving means, frequency, percentage and standard deviation were computed to summarize and described the data.

T-test procedure was used to examine whether a significant difference existed in terms of

- (i) Level of saving
- (ii) Access to credit services
- (iii) Level of production
- (iv) Level of income
- (v) Level of social condition

One-way ANOVA procedure was also used to determine whether there is significant difference in terms of perceived impact of rural credit on cereal farmers from the two CREPs. Correlation techniques were used to determine the nature and the strength of relationships among the variables of the study. An alpha level of 0.5 was established a priori for all tests.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results and discussions of the study. The discussion is based on the following research questions:

1. To what extent do the demographic characteristics of the farmers influence the access to credit from CREP?
2. Has the production of the beneficiaries of the loan increased?
3. What is the performance of the CREP, as perceived by the beneficiaries in terms of loans given, loans recovery, level of saving of members?
4. What are the nature of and strength of relationships between the variables of the study?
5. What is social impact of rural credit on the living standard of farmers in terms of education, health, nutrition and clothing?

Each item in the questionnaire is carefully analysed as a descriptive or in association with other items, to find out the significance.

4.2 Demographic characteristics of the Study Population.

This section of the findings gives a broad picture of the characteristics of the respondents who were sampled in the CREPs.

4.2.1 Characteristics of CREP Members

Sex

Of the 77 members sampled, the gender distribution was as seen in Table 2. The majority were males (74%)

Table 2: Characteristics of CREPs' Members

Characteristics	Frequency	Percent	Cum. Percent
Male	58	74.0	74.0
Female	19	24.7	100.0
Total	77	100.0	

Source: Field data, 2003

Age

The age of members interviewed ranged between 21 and 70 years. Young members who fell within the age range of 21 and 40 years represented a third of the overall population sampled. About half the population were between 41 and 60 years. The rest were above 60 as can be seen from table 3. This showed that the active population of between 21 and 60 years were the main beneficiaries of the CREP. All the members interviewed however were married.

Table 3. Age of CREPs' Members

Age (years)	Frequency	Percent	Cumulative percent
21-30	8	10.4	10.4
31-40	16	20.8	31.2
41-50	18	23.4	54.5
51-60	20	26.0	80.5
61-70	8	10.4	90.9
70+	7	9.1	100.0
Total	77	100.0	

Mean = 3.32 sd = 1.42
Source: Field data, 2003

Educational Background

The majority of farmers interviewed were illiterate as shown in Table 4. They represented 41 (53.2%) out of the 77 members sampled. Those who had completed primary and Junior Secondary Schools represented 9.1% and 7.8% respectively. However, 28.6% of the respondents had had adult education. This picture demonstrates again that illiteracy is still predominant in the rural areas.

Table 4: Educational backgrounds of CREP members

Educational level	Frequency	Percent	Cumulative Percent
Illiterate	41	53.2	53.2
Primary	7	9.1	62.3
J.S.S.	6	7.8	70.1
S.S.S.	1	1.3	72.4
Other	22	28.6	100.0
Total	77	100.0	

Source: Field data, 2003

Family Size

The average family size was seven. About 86% of the farmers have the family size between 1 and 10. The rest had family sizes of more than 10 members.

Table 5: Family size of CREPs' Members

	Frequency	Percent	Cumulative Percent
1-5	40	51.9	51.9
6-10	26	33.8	85.7
More than 10	11	14.3	100.0
Total	77	100.0	

Mean - 1.6 sd - 7.2

Source: Field data, 2003

Size of Farm Land

The average land size cultivated ranged from 0.5 to 20 hectares depending on the respondent's district. In the rice cultivation area the land size ranged from 0.5 hectares to 5 hectares as against 0.5 hectares to 20 hectares in the sorghum and millet cultivated areas.

The study showed that 29.9% respondent cultivated land size not more than a hectare. Most of the farmers in this group were women. This means that women, who cultivate small land size, could be limited in savings mobilisation and therefore also have limited access to credit. This is because land is one of the most important factors in rural areas, which guarantees productivity, and enhances savings mobilisation and subsequently, access to credit.

Table 6 Land size of CREP Members

Land distribution	Frequency	Percent %
0.5 – 1.0	23	29.9
1.1 – 3.0	20	26.0
3.1 – 5.0	11	12.9
5.1 – 7.0	3	3.9
7.1 – 10.0	3	3.9
10.1 – 15.0	11	14.3
Above 15	7	9.1
Total	77	100.0

Source: Field data, 2003

Land Ownership

Table 7 indicates that 59.7% of the farmers interviewed purchased their own land while 26% and 14.3% of the respondents inherited family land and rented their lands respectively.

Table 7: Land Tenure of CREP Members

Land tenure	Frequency	Percent
Hired	11	14.3
Private	46	51.7
Other	20	26.0
Total	77	100.0

Sources: Field data, 2003

Type of labour used by CREP Members

Almost all the sampled population used family labour (94.8%). Only 3.9% and 1% used seasonal labour and permanent labour respectively. This type of labour was expected because the land use depended on the crop type. Families normally tended to plant rice and sorghum, which took up only a small percentage of the land size. The family could therefore adequately supply the required labour. Table 8 shows the distribution.

Table 8: Type of Labour Use

Type of Labour	Frequency	Percent	Cumulative percent
Family	73	94.8	94.8
Seasonal	3	3.9	98.7
Other	1	1.3	100.0
Total	77	100.0	

Source: Field data 2003

Farming Activity

Table 9 shows that a large number of respondents representing 85.7% of the sampled population were mostly engaged in agricultural production in which women alone represented 25%. This figure was so because agricultural production (cultivation of rice, millet, and sorghum) was a common feature especially as these products were staples. About 8% were engaged in market gardening and 2.6% were engaged in animal farming while another 3.9% were engaged in trading and agro-processing.

Table 9: Farming Activity

Activities	Frequency	Percent
Agricultural Production	66	85.7
Market gardening	6	7.8
Animal Farming	2	2.6
Trading and Agro-processing	3	3.9
Total	77	100.0

Source: Field data, 2003

CREP Members Saving Habits

Table 10 sought to find out from CREP members whether they had had any experience with saving with any institution. The table shows that out of the bulk of CREP members interviewed, 38 respondents representing almost 49% of the sampled population had had some previous experience in saving money. A large proportion among them used to save money in the “informal bank” (Association or Tontine). This support Stuart (2000), who said the “poor can save and want to save money.

Table 10: Have you ever saved with any institution before?

Habit of Saving	Frequency	Percent
Yes	38	49.4
No	38	49.4
No response	1	1.3
Total	77	100.0

Source: Field data, 2003

Reasons for Saving in the CREP

Table 11 shows that 71.4% of the sampled population considered the security of their saving and the facility to credit before joining CREP. The majority of them joined the CREP through the advice given by the relatives or friends who had ever been and were been members of the CREP. Since the CREP's objective was to address mainly the farmers' need of loans, it was deemed necessary to find out what the members of the CREP's perceptions were on the effectiveness or impact of those credit facilities provided.

Table 11. Reasons for Savings in the CREP

Reasons	Frequency	Percent
No response	10	13.0
For security	8	10.4
For Credit	4	5.2
Both	55	71.4
Total	77	100.0

Source: Field data, 2003

4.3 Level of Deposit Mobilisation and Services

Savings mobilisation is the main component of the CREP's objectives, which seek to promote development from local resources. In this regard, the CREPs have established deposit facilities and delivering mechanisms in order to encourage savings especially among rural poor farmers. Members are required to pay a share of 3000 CFA and 500F CFA as registration fees. They are also required to save voluntarily a part of their income according to their capacity. Three options are given to them namely current account, savings account and both current and savings account. An interest rate of 6% a year is granted for the savings account. Some activities developed by CREP come to complement savings mobilisation.

The CREPs deal in agricultural inputs such as improved seeds, fertilizer and pesticides in order to satisfy the demand of their members. All these savings put together are used as a source of credit.

One of the aims of this research was to assess members' opinions on the impact of the deposit mobilisation and services provided to them by the CREP. Therefore, members were asked to rank their impression towards the following items based on a 5 point likert-type scale ranging from 1=very poor to 5 = "very good".

- Level of savings
- Level of interest rate on savings
- Condition of security granted to the savings
- Accessibility to the Savings
- Good management of Savings
- Level of success at special savings generation

Table 12: Members' Perception of the Performance of the Saving Mobilisation and Services provided by the CREP.

Variables	Degree of the impact					Mean & SD	N
	1	2	3	4	5		
Level of Savings	1	57	5	4	-	1.89	77
	1.3	74.0	6.51	5.2	-	0.89	(100%)
Level of interest rate of savings	4	4	65	4	-	0.4675	77
	(5.2)	(5.2)	(84.4)	(5.2)		1.14	(100%)
Condition of Security granted to the Savings		1	9	67	-	3.12	77
		(1.3)	(11.7)	(87.0)		0.99	(100%)
Accessibility to the Savings		55	10	9	1	3.5	77
		(71.4)	(3.0)	(11.7)	1.3	1.16	(100%)
Good Management of Savings		1	3	62	-	3.36	66
		(1.3)	(3.9)	80.5		1.46	(100%)
Level of the Success of special for generating savings	13	-	2	51	-	3.80	66
	(16.9)		(2.61)	(66.2)		0.99	(100%)

Source: Field data, 2003

Note Scale 1= Very Poor, 2 = Poor, 3 Average, 4 = Good 5 = Very Good

Numbers in bracket () are percentages.

It is observed from Table 12 that 82% of the respondents interviewed thought that the level of their savings ranged from very low to average. The mean value of 2.18 signifies that members perceived the overall level of savings mobilisation as poor.

It was also found that most of the CREP members (84.4%) perceived the interest rate of their saving account to be average. Eighty-seven (87.0%) were satisfied with the condition of security granted on their savings. On the question of good management, 80.5% of farmers thought that it was good while only 1.3% percent of the population sampled that it was poor.

4.3.1 Frequency of saving of CREP's members

Table 13 shows that 61 members of CREP representing 79.2% save on a yearly basis. This low frequency of saving is the main cause to the weakness of the levels of saving as shown in Table 13. These results corroborate what Stuart (2000) observed that "Though poor people want to save, they can not save each and everyday. It is recognized that to help them, it is necessary to provide on a daily basis the chance to save and withdraw and to take an advance against future saving".

Table 13: Frequency of savings by Members

Frequency of saving	Frequency	Percent	Cumulative Percent
No response	9	11.7	11.7
Daily	3	3.9	15.6
Weekly	2	2.6	18.2
Monthly	2	2.6	20.8
Yearly	61	79.2	100.0
Total	77	100.0	

Source: Field data, 2003

4.4 CREPs Member's perception of CREP impact on social development

The social impact of the CREP is also seen in the direct participation of efforts at community development at the catchments area. When the members were asked whether the CREP had made any contributions towards the social development of the community, 79.2% of them responded in the affirmative while the rest said no.

Table 14: Member's perception of CREP impact on social development

	Frequency	Percent
Yes	61	79.2
No	16	20.8
Total	77	100.0

Source: Field data, 2003

This section focuses on member's perception of the impact of rural credit with regard to the following items:

- Level of access to credit
- Level of satisfaction of interest rates changed
- Level of satisfaction of collateral asked for
- Level of loan given
- Level of loan recovery
- Level of saving of members
- Level of credit impact on borrowers output and social standards.

These items were measured on a 5 – point Likert Scale where 5 = Very Good, 4 = Good, 3 = Average, 2 = Poor, 1 = Very Poor.

4.5 Members of CREP's Perception of the Performance of Credit Service

Credit is either used for production or consumption purposes. In the rural area of Mali, the majority of the people are poor, and so any available credit is not exclusively used for production purpose, but also for consumption purposes. An access to rural credit therefore, does not only increase people's income, but also protect people's food security, improves their shelter, clothing and other social amenities (F.A.O, 1993).

Table 15 shows that generally, members perceived their level of access to credit to be good. About 82% of members found access to credit to be good as compared with 14.3% who found it to be poor or just average. However, another results indicated that 59.7% of the members had some difficulty in paying back their loans (See Table 17).

With regard to the collateral or group joint liability asked by the CREP, 81.8% of the members were fully satisfied as against 9.1% who were not. About the same number 9.1% were only somehow satisfied.

Pertaining to credit impact, 46 of the members representing 59.7% of borrowers felt that their present output compared to their situation before their involvement in the CREPs credit was good as against 40.3% of the borrower who found it as poor with respect to training. Most of them, 94.8% found it to be useful and relevant to their output. Concerning the visit provided by Agricultural Extension Agents, 94.8% of respondents expressed high opinion about the relevancy of AEA's visit and advice on the results farmers obtained from the CREP. The financial situations was found to be good by 90.9 of borrowers, while 5.2% and 3.9% perceived it to be average or poor respectively.

On social status 96.1% of respondents believed that there was improvement as against 3.9% who thought their social status was only average of very poor. The reasons given these failures were related mainly to drought and marketing problems. There are greater risks and uncertainties in agriculture than other sectors in Mali where rainfall

remains the main determinant of output. This demonstrates that credit alone cannot work to reduce poverty, or improve productivity. To be useful and profitable, credit systems must be backed by other sectors such as extension services, storage, roads and marketing. This conclusion was supported by Hansel (1974) who stated, "Without adequate markets and infrastructure, credit is likely to remain a debt as borrowers have limited options to make profitable investments." However, in general most of the farmers perceived the impact of rural credit to be good with the overall mean being 3.71 (and a standard deviation of 0.85).

Table 15: Members Perceptions of the performance of the credit services

Variables	Degree of performance of credit					
	1	2	3	4	5	Means SD
Level access to credit	3	3	5	63	3	3.78
	3.9	3.9	6.5	81.8	3.9	1.16
Level of interest rate	(2)	1	62	7	7	3.21
	2.6	1.3	80.5	9.1	9.1	.705
Level of satisfaction of collateral asked for	3	4	7	53	10	3.81
	3.9	5.2	9.1	68.8	13.0	1.49
Level of recovery		3	6	70	-	3.90
	-	3.9	5.2	83.9		1.43
Level of respondents present output		31	-	46	-	3.19
		40.3		59.7		.42
Level of the relevancy of the training results		2	2	73	-	3.92
	-	2.6	2.6	94.8		.22
Level of the relevancy of the visit and advice on the result.		1	3	73	-	3.93
	-	1.3	3.9	94.8		.19
Level of respondents present financial situation		3	4	70		3.83
		3.9	5.2	90.9		.43
Level of respondent present social condition	1	-	2.6	74	-	3.93
	1.3			96.1		1.07

Source: Field data, 2003

Note: Scale 1= very poor, 2= poor, 3= Average, 4= Good, 5= Very Good.

4.5.1 Utilisation of loans

Finally, it was observed that 90.4% of borrowers used their credit mainly for productive purposes (cereal production, animal farming, and agro-processing) and only 9.6% of them used their loans for non-productive investments (that is to meet social needs). This demonstrates that small farmers tend to put their loan in productive investment, contrary to those who argue that they use the loans mainly for consumption rather than production (Western African Bank Annual Report, 1998).

Experiences with micro finance programmes in Bangladesh and Philippines support these findings. For example, survey data from the Grameen Bank credit programme shows that client loans are used mainly for productive purposes. A survey of informal lenders and borrowers in the Philippines revealed that 48% small-scale farmers did not use informal credit for consumption (Von Pischke, 1989).

Farmers were also asked to indicate the nature of the investment for which the loan granted was used. Results in Table 16 show that cereal investment involving agricultural production, animal farming, trading and agro-processing were first areas where credit was used by borrowers. Forty four members, representing 57.7% of borrowers, invested in agricultural production, whilst 32.7% went into animal farming, trading and agro-processing and the remaining 9.6% were used to fulfil consumption and social needs.

Table 16: Utilization of loans by borrowers

Loan Utilization	Frequency	Percent	Cumulative Percent
Productive			
▪ Agricultural production	44	57.7	57.7
▪ Animal Farming	8	9.6	67.3
▪ Trading-Agro-processing	17	23.1	90.4
▪ Other	8	9.6	100.0
Total	77	100.0	100.0

Source: Field data, 2003

4.5.2 Members access to credit and repayment

One of the main objectives of the CREP is to promote credit with a reasonable interest rate so that members can be productively employed in income generating activities. To achieve this goal, CREP offers three types of credits: short-term (3 months), medium term (6 months) and long-term (from 1 to 8 years). The first term is undertaken with an interest rate of 1 % a month and the rest, with an interest rate at 15%. All these credits are given for a variety of purposes: trading, agriculture, and purchase of inputs, post-harvest equipment, annual traction, and agro-processing materials to name a few.

The loan requires either collateral or a group joint liability. The approved loan is given both in kind (especially such as fertilizers) or in cash. The amount of loan granted

varies according to guidelines maintained by CREPs. Nevertheless, the usual amount loans granted, ranged between 10,000F CFA and 150,000F C F A.

Table 17 revealed that 73 members, representing 94.8% of the interviewed respondents, declared receiving credit whereas 5.2% did not. A very important issue that banks in general consider before granting the credit to any individual group or organisation is how and when they can get the credit back.

Repayment conditions are determined with reference to the borrower's capacity to repay. The agricultural credit business, a loan project is normally considered viable if the loan can be repaid out of the income generated by the undertaking or project. It was noted that 46 members, representing 59.7% had serious difficulties in paying back their loan. This situation was noted in the sorghum and millet cultivation areas contrary to the rice cultivation zones.

Table 17: Members Receiving Credit and Repayment

Received credit	Frequency	Percent	Cumul. Percent	Repayment	Frequency	Percent	Cumul. Percent
Yes	73	94.8	94.8	Yes	31	40.3	40.3
No	4	5.2	5.2	No	46	59.7	98.7
Total	77	100.0	100.0	Total	77	100.0	100.0

Source: field data, 2003

4.5.3 Opinion of CREP members on the loan given

When asked whether credits received were good or not, 37.7% indicated the loan given was rather low, while 46.8% perceived the amount given was good.

Table 18: Opinion of CREP members on the loan given

	Frequency	Percent	Cumul. percent
No response	3	3.9	3.9
Very low	3	3.9	7.8
Low	26	33.8	41.6
Good	36	46.8	88.3
Average	8	10.4	98.7
Very good	1	1.3	100.0
Total	77	100.0	

Source: Field data, 2003

4.5.4 Level of production

Table 19 shows that the level of production for 52 respondents representing 67.5% of farmers who cultivated rice, sorghum and millet obtained yields from between 0 to 1000kg before CREP as against only 56% of farmers who obtain this yield after CREP. This result indicated that CREP credit had increased production level of the farmers. This is because before CREP no farmer was recording yield beyond 4000kg/ha, but after CREP some farmers 10.4% recorded yield between 4000 to 5000kg/ha. Also, the mean income of farmers after CREP exceeded their mean income before CREP. Mean income value before was 37,110F CFA and the mean income value after CREP was 72,695F CFA. However, it is necessary to note that, the effect of credit is more viable in the rice cultivation areas where farmers increased their production than other areas such as the cultivation of sorghum growing areas.

Table: 19 Level of CREP Members production

Yield (kg /ha)	Before CREP			
	Frequency	Percent	Frequency	Percent
0 – 1000	52	67.5	46	56.7
1000.5 – 1500.0	6	7.8	12	15.6
1500.5 – 2000.0			-	
2000.5 – 2500.0	9	11.7	-	
2500.5 – 3000.0	8	10.4	2	2.6
3000.5 – 3500.0	2	10.4	6	7.8
3500.5 – 4000.0	-	2.6	3	3.9
4000 – 4500	-		7	9.1
4500 – 5000	-		1	1.3
TOTAL	77	100.0	77	100.0

Source: Field data 2003

Mean yield before CREP = 945kg/ha (sd = 92)

Mean yield after CREP = 1967kg/ha (sd = 97)

4.5.5 Level of income

Results in table 20 show that before CREP, 43.2% of the respondents had income levels from 0 to 25,000 Franc CFA against only 5.2% after CREP's intervention. Also, the results indicated that the income levels of 13% of the farmers after CREP fell between 150,000 and 175,000F CFA while 3.9% of the farmer recorded income level

from 175000F CFA to 200,000F CFA. These results were confirmed in the table 15 where 90.9% of farmers indicated that their financial situation was good after CREP.

Table 20: Level of CREP's members income

Income	Before CREP		After CREP	
	Frequency	Percent	Frequency	Percent
0 – 25000f.cfa	33	43.2	4	5.2
25000.5 – 50,000.0	20	26.0	27	35.1
50,000.5 – 75,000.0	3	3.9	9	11.6
75,000.5 – 100,000.0	10	13.0	12	15.6
100,000.5 – 125,000.0	6	7.4	5	6.5
125,000.5 – 150,000.0	5	6.5	7	9.1
150,000.5 – 175,000.5	-	-	10	13.0
175,000.5 – 200,000.0	-	-	3	3.9
Total	77	100.0	77	100.0

Source: Field data, 2003.

Mean income before CREP = 37,110F CFA (sd = 120)

Mean income after CREP = 72,695F CFA (sd = 140)

4.5.6 Living standard of farmers (Health, Nutrition, education)

An important means for improving the development needs of rural people is the use of rural credit. This credit when available helps one to stabilize consumption and engage self-employment through private investment (Mellor, 1968). As seen in table 21 most farmers were able to afford the welfare items like education, nutrition, and health

needs more promptly than before CREP. After participating in the CREP, most farmers experience improved levels of welfare and could afford the welfare items better than before CREP. This possible explanation suggests that access to credit can living standard of farmers either directly or indirectly. There is however no further testing this work to establish a significant difference between welfare levels of farmers before and after CREP involvement.

Table 21: Farmer's perception on their social conditions standards

	Frequency	Percentage	Cumulative Percent
Ability To Take Care Of The Health			
- Yes	67	87.0	87.0
- No	10	13.0	100.0
Ability To Afford Better Feed			
- Yes	90.9	90.9	90.9
- No	9.1	9.1	100.0
Ability to Afford Children school Fees Better			
-Yes	73	94.8	94.8
- No	4	5.2	100.0

Source: field data, 2003

4.6 Extent to which the CREP Programmes have affected the poor

There is a clear recognition that agricultural production in most countries of Africa including the republic of Mali, is primarily in the hands of small-scale farmers.

One of the objectives of this research was to determine whether any significant difference exists between males and females on their perceived level of savings, level of access to credit, level of production, financial level and socio-economic standing. The t-test comparison of gender perception regarding the variables is given in Table 22.

Table 22: t-test comparison of gender perception in relation to the level of saving, level of access to credit, level of present output compared to the past, socio-economic standing (education, health, Nutrition, clothing)

VARIABLE	N	X	SD	t	p
Level of savings					
• Male	58	2.98	1.45	3.60	0.000**
• Female	19	2.11	1.28		
Level of savings services					
• male	58	3.87	0.31	1.49	0.138
• female	19	3.79	0.35		
Level of access to credit					
• male	58	3.62	1.33	-2.35	0.020*
• female	19	4.13	1.12		
Level of present output compare to past one					
• male	58	3.11	1.75	-1.82	0.070
• female	19	3.61	1.23		
Level of present financial situation compare to the past one.					
• male	58	3.10	1.74	-2.17	0.030*
• female	19	3.86	1.34		
Level of social condition standards					
• male	58	2.96	1.75	-1.52	0.131
• female	19	3.37	1.36		

Source: Survey Data 2003

Note scale 1 = very poor 2 = poor 3 = average 4 = good

5 = very good

**Significant at 0.01 alpha level, * Significant at 0.05 alpha level.

The results in table 22 showed that there was a statistically insignificant difference between males and females on the perceived level of savings services provided by the CREP. The p-value of 0.138 obtained is greater than the specified alpha level 0.05. Therefore, the null hypothesis (H_0) is accepted. Both men and women perceived the deposit services provided to be good with a mean value of 3.87; SD = 0.31, and 3.79, SD = 0.35 respectively. The policies and mechanisms were therefore found to be satisfactory although there could be further room for improvement so that these policies could be branded excellent.

Likewise, there was no significant difference between males and females on their perceived level of their present outputs compared to the past output since the credit. The respondents thus found it to be good with a mean value of 3.61; SD = 1.23, and 3.11; SD = 1.75 respectively.

There was no significant difference between males and females pertaining to their level of social standards. The p-value of 0.13 was greater than the 0.05 alpha level. This calls for the acceptance of the null hypothesis. Both men (with mean value 2.96) and women (with mean value of 3.37) perceived their level of social standards to be good.

However, there was a statistically significant difference between males and females on their perceived level of deposit mobilization. The p-value gave 0.000, which is less than the specified alpha level 0.05. This implies that the null hypothesis (H_0) which states, "there is no significant difference between males and females on the perceived level of deposit mobilization" must be rejected in favor of the alternative hypothesis (H_1). Men with mean value of 2.98, SD = 1.45 perceived their level of deposit mobilization to be somewhat average, whilst women perceived it to be poor with mean

value of 2.11, SD = 1.28. This result may suggest that women are weaker when we come to deposit mobilization. Therefore something should be done to address this situation.

Similarly, with respect to the level of access to credit, the p-value of 0.020 obtained is less than 0.05 alpha level. This indicates that the null hypothesis H_0 must be rejected in favor of the alternative hypothesis (H_1) that "there was a statistically significant difference between males and females on their perceived level of access to credit services. Women believed that their access to credit services seems to be good (mean = 4.13; SD = 1.12), whilst men perceived it to be good (mean = 3.62; SD = 1.33). This observation could illustrate that even though the number of women in the CREP is far less than that of the men (see Table 2), the CREPs administration pays more attention to women in terms of credit delivery. This finding confirms what Sharon, Holt and Ribe (1991) observed in financial institutions set up for the poor. The authors stressed that informal finance based, for example on savings and credit associations models, may be particularly desirable as they incorporate savings and credits which seem to be effective in addressing the financial needs of women. Galiba and Gleouenou (1996) came out with the same conclusion by pointing out that informal financial institutions can be used to reach low-income clients which include most women. Contrarily to what is obtain in this work, Nweze (1990) observed that rural women have been largely excluded from institutional or formal sources of agricultural credit in Nigeria. Thomas, (1996) observed also that women were discriminated against using a case study of the Kakum Rural Banks in Ghana.

By and large, results obtained from the CREP with respect to women's perception of their level of access to credit may suggest that the policy developed towards them must

be continued. However, emphasis on increasing the number of female beneficiaries should also be viewed as a great priority.

Pertaining to the level of present financial situation compared to that before CREP's involvement, the p-value of 0.030 obtained is less than 0.05 alpha levels. This implies that the null hypothesis (H_0) must be rejected in favour of the alternative hypothesis (H_1) that "there is a statistically significant difference between males and females on their perceived level of their present financial situation compared to that before CREP's involvement". Women perceived their present financial situation to be good (mean value of 3.86; SD = 1.34), whilst men found it to be average with a (mean value of 3.10; SD = 1.74).

It was expected that both males and females found their present output to be good but the differences observed may be attributed to the fact that women are heavily involved in the trading business and therefore, they are able to influence the market price and make more profit.

4.7 Relationship among the variables of the study

The Pearson correlation coefficient was used to describe the strength and direction of the linear relationship between different variables.

Table 23: Pearson's correlation co-efficient between independent variables and impact of credit.

Variables	A	B	C	D	F	G	H	I	J	K
A	1.00									
B	.219**	1.00								
C	.456**	-.030	1.00							
D	.250**	-.117	.388**	1.00						
F	-.072	.034	.076	.065	1.00					
G	-.052	-.012	-.084	.123	-.126	1.00				
H	.005	.015	.084	.176*	-.043	.403**	1.00			
I	-.183*	.027	.114	.148	.830**	-.072	-.021**	1.00		
J	-.195*	.083	.114	.111	.746**	-.054	-.073	.919**	1.00	
K	-.188*	.077	0.132	.187*	.612**	.338**	.268**	.768**	.788**	1.00

Source: Survey Data 2003

N = 77

* P < 0.05

* P < 0.0

- A = Age of farmers
- B = Level of education
- C = Family size
- D = Land size
- F = Level of production
- G = Level of Income
- H = Level of Saving Mobilization
- I = Credit Services
- J = Level of Social Condition Standards
- K = Impact of Rural Credit

4.7.1 Relationship of farmers' age with other variables

The results indicated that age had a negative correlation with credit services ($r = -0.183$), level of social condition standards ($r = 0.195$), and impact of the CREP ($r = -0.188$). These negative relationships may suggest that old farmers were perceived as those who constitute a high risk of credit. This could impede their access to credit. As a result, their socio-economic standards may be low.

Indeed, the adoption of improved farming techniques entails additional and more intensive farming activities, which the older generation may not be able to provide. They may need little credit that may consequently lead to little output. While younger farmers have the physical strength for work and more dynamism, they may want to plan for larger hectares and output. Therefore they would use more input and more credit which may lead to higher income, high savings and high reinvestment. Consequently, CREP would tend to pay more attention to young people than the old ones. This finding supports the results of Edoye (1980) who found that the ages of farmers had a negative relationship with the amount of credit used. It was also observed that age had a significant and positive correlation with family size ($r = 0.456$) and land size ($r = 0.250$). This may be an indication that aged farmers tend to have a large family with more people who can work on the farm. Thus, increase in family size would lead them to look for more land in order to provide more food. There was a significant and positive relationship between age and educational level ($r = 0.219$).

4.7.2 Relationship of land size with other variables

Land size was positively related to deposit mobilization and services ($r = 0.176$) and effectiveness ($r = 0.187$). This positive relationship would demonstrate that farmers have the opinion that people with large areas of land, would produce more, increase their income and thereby enhance their capacity for savings. In consequence, the latter deposits in the CREP will be available and given as credit to the clientele; and in the long run the impact of CREP will be strengthened.

However, it is worthwhile to point out that, even though the expansion of land is a possible way of raising production, today it has been observed that this system becomes difficult with regard to the growth of population and its pressure on land. As resources become gradually scarce, securing food supply in the next decades is going to depend crucially on the yield per unit. Therefore, farmers should be alerted and educated on the important issue. Agricultural extension services would have a greater role to play for achieving this notable goal of intensification.

4.7.3 Relationship between level of production and other variables

Level of production was strongly and positively associated with the level of social condition, which include nutrition ($r = 0.746^*$). Farmers felt that the higher the satisfaction given to them in terms of improvement of food security which is manifested in high production levels, the more likely the level of nutrition will be good.

The level of production was also strongly and positively correlated with the level of credit services ($r = 0.830$), level of impact of CREP ($r = 0.612$). The very high relationships would demonstrate that farmers have the opinion that the more the amount

of credit given, the better the credit would be utilised and the greater the output achieved. As a result, the social condition standards would be improved and CREPs' impact sustained. This perception of farmers confirmed what has been observed in the field.

4.7.4 Relationship between level of savings mobilization and services with other variables

There was a positive correlation between savings mobilization and services and impact of rural credit ($r = 0.268$). It could be deduced that any sound action that would be taken to ensure savings mobilization and services would result in improvement of CREP's impact.

4.7.5 Relationship between credit services with other variables

Credit services were very strongly and positively related to the level of social condition standards ($r = 0.919$) and impact of the CREP ($r = 0.768$). This could suggest that farmers have the opinion that by giving them more credit, their social condition standards could be improved. Consequently, the impact of the CREP would be enhanced. The perception of farmers is meaningful. Farmers think that credit transaction has two characteristics with the first relating to loan quantity, and the second to loan quality. Indeed, a sufficient and a proper use of credit would ensure greater output, increase income, which in return would allow the borrower not only to pay back in time, but also to ask for more credit for extending his investment opportunity. As a result, he would improve his welfare and living conditions.

4.7.6 Relationship between level of social condition with other variables

Level of social condition standards was very high and positively associated with impact of rural credit ($r = 0.788$). Farmers had the opinion that by increasing the socio-economic impact of credit, namely output, income and living conditions there would be a resultant high improvement of the impact of the CREP and vice-versa. It seems obvious that this indispensable change can not be brought about without imparting to farmers a good deal of agricultural extension. SasakawaGlobal-2000, in collaboration with the Ministry of Agriculture would have a key role to play. Their objectives are to assist small-scale farmers in achieving higher food productivity through the adoption of science-based technology hence, improving their living conditions.

5.2 Best predictors of the dependent variables

For best predictors of the perceived CREP impact of rural credit table 24 shows the result of the best predictors when four independent variables were regressed with level of CREP impact.

From Table 24, the adjusted R^2 values indicate that 62% of the variance in the level of CREP perceived impact could be explained by the level of social condition of farmers. Respectively, 19%, 3% and 2% of the variance in the perceived impact of CREP are explained by the level of production and the level of savings mobilization and the level of credit and service. In general, level of social condition and level of production were the best and significant predictors of the perceived CREP impact on the cereal farmers in the two districts. The result is consistent with the observation of Yaron and Piprek (1989) who among others pointed out that "there is no single formula for

developing a successful Rural Financial Institution (RFI); factors such as an RFIs' target clientele and the prevailing socio-economic conditions will determine the most suitable operational approach".

Table 24: Stepwise multiply regression of variables that predict farmers' perceived impact of CREP

Variable	Step of entry	Beta	R2	Adjusted R square	R square change	SE	F change	Sig.
Constant		2.018						
Level of social condition standards (LSC)	1	0.788	0.620	0.618	0.620	0.4594	271.950	0.000
Level of production (LP)	2	0.432	0.802	0.802	0.196	0.3307	155.344	0.000
Level of savings mobilization (LSM) and services	3	0.193	0.833	0.833	0.032	0.3034	31.998	0.000
Level of credit and services (LCS)	4	0.131	0.852	0.848	0.016	0.2895	17.172	0.000

The regression equation for estimating the level of perceived impact is:

$$I = 2.018 + 0.788 (LSC) + 0.432 (LP) + 0.193 (LSM) + 0.131(LCS)$$

Where 2.018 represents the regression constant estimate,

when LSC = LP = LSM = LCS = 0

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the background information, objectives, methodologies and the major findings of the study. It also delves into the conclusions drawn and the recommendations made to improve the effectiveness and the perceived impact of the CREP. The last part deals with the areas recommended for further research.

5.2 Background Information

Lack of capital, especially among small-scale farmers has been one of the factors, which impede the acceptance of certain innovations in Mali. Consequently, agricultural production has declined over the past year. The situation was mainly attributed to inadequate establishment of credit services. Where these services existed, poor farmers were marginalized. This worrying situation has led government and certain NGOs, including SG2000, to promote alternative rural institutions. It is based on the co-operative approach initiated and managed by and for farmers themselves. SG2000, in collaboration with the Ministry of Agriculture, established farmers' rural savings and Loan Banks (usually called CREPs) in 1997. Their purpose was to encourage savings and provide credit for those who are in need. After six years of implementation, many studies have been carried out to evaluate the CREPs' performance in terms of benefit/cost.

Nevertheless, little has been done to find out the perceived impact of the credit given on the farmers; therefore, the objectives of the study were to:

1. describe farmers' demographic characteristics in terms of: Sex, Age, Education, Land size, Family size, Occupation, Crop size.
2. establish the level of production of the beneficiaries of loans.
3. examine the level of income of the beneficiaries of loans
4. determine the performances of the CREPs as perceived by beneficiaries in terms of loan given loan recovery, level of saving of members.
5. determine the nature and strength of relationship among variables of the study.
6. determine the social impact of rural credit and savings on the living standard of farmers in terms of: education, health, nutrition, clothing, and employ situation.

5.3 The Research Hypotheses

The hypotheses formulated and tested were on whether rural credit has an impact on the income and output of the beneficiaries. Also tested were hypotheses on whether rural credit has had an impact on the level of savings mobilization and loan of the beneficiaries, and whether cereal farmers with access to rural credit were better off in terms of welfare than before CREP.

5.4 The Study Area

The study was conducted in the Central Region of Mali. The Region covers an area of 3,800square kilometres and divided into eight districts for administrative purposes. The population of the Region is about 800,000 inhabitants (census, 1980). The

main ethnic group is the Bambara. There is however other settler ethnic groups like Foulani, Mossi, Marka. The population of the Region are mostly illiterate and the majority earn their livelihood from agriculture.

5.5 Methodology and Data Analysis

The study was conducted in two districts of Koulikoro region of Mali. Two CREPs were selected: Niamabougou and Soundougouba. A descriptive-correlation survey research design was used for the study. Stratified random sampling was used to select farmers. Data were collected from fifty-eight male and twenty-nine female farmers out of 385 CREPs members, using interview schedules.

Descriptive statistics, t-test, correlations and multiple regressions were used for data analysis. Differences were tested at an Alpha level of 0.05. Chi-square tests were carried out to find out whether the differences between before CREP output/income and after CREP output/income were statistically significant.

5.6 Summary of the Findings

i. Gender and Age

The CREP recipients were made up of 75.3 percent males and 24.7 percent females.

The age of members interviewed ranged between 21 and 70 years. The proportion of young members representing 31.2 percent within the ages of 21 and 40 years. Few members (10.4 percent) were between 61 and 70 years old. This indicates that the members aged between 21 and 50 years old represent an asset for agricultural production in the two areas. All the members were married.

ii. Educational Background

The majority of farmers interviewed were illiterate. They represented 53.2 percent of members sampled. Those who had completed primary and junior secondary schools represented 9.1 percent and 7.8 percent respectively. However, 28.6 percent of the respondents attended adult education classes. This demonstrated that illiteracy is predominant in the rural areas.

iii. Family and land size

The average family size of the respondents interviewed was 7, and 86 percent of the selected population interviewed had a family ranging from between 5 and 10. The average land size cultivated ranged from 0.5ha to 20ha depending on which area and crop was being cultivated. In the rice cultivation area, the land size ranged from 0.5ha to 5ha, as against 0.5ha to 20ha in the sorghum and millet cultivation area. The study also shows 29.9 percent of the respondent cultivated not more than 1ha. Most of the farmers in this group were women. This mean that women who cultivated small land size could be limited in savings mobilisation and therefore also have limited access to credit.

iv. The level of Production

The results showed that 15.6 percent of the respondents had improved their production after CREP from 1000kg to 1500kg against 7.8 percent before CREP. Also 10.4 percent of the farmers had increased their production from 4tons to 5tons.

The difference between the two periods is statistically significant. The difference in production is small in the sorghum and millet cultivation area, but significant in the

rice cultivation area. One reason that can be deduced for this is that rural credit was too small to affect any considerable increase in production. Another reason is that only a few of the CREP members had other sources of income to support their efforts and even if they had, these sources were not better than the CREP credit in terms of size.

v. The Level of Income

The results showed that before CREP, 43 percent of the respondents had income levels from 0 to 25000F CFA as against 5 percent after CREPs involvement. Also the results indicated that the income levels increased after CREP from 150,000 to 175,000F CFA and from 175,000F CFA to 200,000F CFA. These results were confirmed in table 21 where 91 percent of farmers indicated that their level of income was good after CREP. This positive impact in incomes increased ($SD = .4394$ Mean = 1.064) and manifested itself in the development of the other forms of cultivation and of the introduction of obatampa quality maize.

5.7 Performance of the CREP as perceived by the beneficiaries in terms of loans given, loan recovery, level of saving, frequency of saving, Level of Savings Mobilization

The results showed that more than half of the respondents (82 percent) perceived the level of their savings to be between low to average (Mean value = 2.18; $SD = .89$). The results also show that 94.8 percent of farmers estimated the interest rate for savings account from between low and average. 87.0 percent of the members with a mean value of 4.09 $SD = .99$, were satisfied with the condition of security granted to their savings.

For a good management 94.8 percent opined that it was good as against 1.3 percent of farmers who thought otherwise.

It is important to remark that the majority of the CREPs' members preferred to save using current accounts. This practice could cause some problems of availability of funds, since savings constitute the main source of capital for credit.

Level of Loan Recovery

The results indicated that the level of loan recovery was good even though the level of loan given was perceived to be low.

Frequency of Saving

The results show that 61 members of CREPs' representing 79.2% have yearly savings. This low frequency of saving is the cause of the weakness of the level of saving.

Level of Loan given

When asked whether the loans received were adequate, 26 respondents representing 33.8% indicated that the loan given was low while 46.6 percent estimated it to be good.

5.8 Performance of the CREP as perceived by the beneficiary in terms of access to credit, level of interest rate, level of satisfaction of collateral requested

Generally, members perceived their level of access to credit to be good in terms of proportion, 85.7 percent of members found access to credit good as against 7.8% who found it to be weak.

Members also expressed their satisfaction as moderate for the interest rate charged with a mean value of 3.21. With regard to the collateral or group joint liability asked by the CREP, 81.8% of the members were satisfied as against 9.1% who were not. With respect to training, 74.8 of borrowers had received training. Most of them, 94.8 percent, found it to be useful and relevant to their output.

5.9 The perceived impact of rural credit on the living standard of farmers in terms of; education, health, nutrition and clothing

The farmers were able to afford the welfare items - education, nutrition, health, clothing more promptly than before CREP. Eighty-seven percent of the farmers were able to take care of the health problems as against 13.0 percent. Also more than 90.9 percent of the respondents were able to feed and to pay school fees of their children better after CREP than before.

Concerning their social status 96 percent of the respondents believed that there was improvement as against 4% who thought it remained the same. The social impact of the CREP is also seen in the direct participation of efforts at community development. About 78 percent as against 21 percent of the respondents were of the opinion that the CREP had made a direct contribution towards community development.

Pertaining to the impact, the results (of gender perception of level of saving, level of access to credit, level of present output compared to past one and level of social living condition standard) show that all the variables were statistically significant. There was a different perception of meaning between males and females.

There was a statistically significant difference between males and females pertaining to the level of savings mobilization. Men perceived their level of mobilization

to be average, whilst women found it to be poor. There was also the significant difference between males and females with respect to the level of access to credit services. The same significant difference was perceived in the level of production as a result of land tenure system, which is unfavourable to women and also due to credit given. Some women in both CREPs perceived their access to credit services to be quite good.

There was a significant difference with regard to the level of the present output and financial situation, compared to the situation before CREPs involvement.

5.10 Relationship among the variables of the study

Pearson correlation co-efficient was used to describe the strength and direction of the linear relationship between different variables.

The results indicated that, age had negative correlation with level of education ($r = -.315$) and with production ($r = -.015$). This negative correlations may suggest that older people may tend to be less educated and therefore less innovative with respect to adoption of new technologies and consequently less productive.

There was positive correlation between level of saving and level of education ($r = .331^{**}$). Thus farmers with higher levels of education tended to save more.

It was observed that a significant positive relationship existed between age and family size and credit given and land size ($r = .475^{**}$). This positive relationship would demonstrate that farmers have the opinion that people with large area of land will produce more.

5.11 CONCLUSIONS

From the results of the study, some definite conclusions could be drawn.

1. The productive age of CREPs' members was between 21 to 50 years.
2. The study has shown that many people in the target groups for the CREP (especially women) have been marginalized.
3. The large majority of the CREPs' members were illiterate. They represented 81.8 percent of members sampled.
4. The average family size of the members was 7.0, and 85.7 percent of the members had a family size ranging from 5 to 10.
5. The average land size cultivated ranged from 0.5ha to 20ha.
6. The majority of members were engaged in Agricultural production (57.7 percent)
7. Among the population sampled, 49.4 percent had in the past a habit to save money. A large proportion among them used to save in the informal bank (association or 'susu').
8. Sixty-one members of the CREPs' representing 79.2 percent save their money yearly. This low frequency of saving is the cause of the weakness of the level of saving
9. The majority of the CREPs' members (94.0 percent) were having access to the credit even though the level of credit given was low, and 60 percent had serious difficulties to pay back (sorghum cultivation area)
10. The results indicated that CREP credit had had a good impact on the production and income of the beneficiaries.
11. The study also showed that, few members of the CREP misapply some of their credit in consumption activities. The main reason given for this misapplication of credit was

that it helped them to meet some urgent demands. Thus it appears that credit misapplication may continue as long as elementary needs remain unsatisfied.

12. An important means for improving the developmental needs of rural people is the use of credit. The results showed that the farmers' livelihoods improved as they were able to afford welfare items, such as education, nutrition, health, move promptly than before CREP.
13. Positive and significant relationship were observed between the level of CREP impact and the following variables: land size, level of production, level of income and service.
14. The best predictors of the level of CREPs impact were social condition standards, level of income, level of production, credit services and deposit mobilization and services.
15. The study showed that the different CREPs did not have any contact with other financial institutions.

Finally, the impact of the CREPs can be seen from two points of view:

1. The impact of the activities of SG 2000.
2. The impact of the activities of CREPs.

It must be noted that the creation of CREPs was as a result of the activities of SG 2000. The perceived impact of their activities has been largely positive. This positive impact manifests itself in the development of other forms of cultivation such as rice and vegetables (onions, cabbages, tomatoes, French beans). It can also be seen in the

introduction of Obatampa Quality Protein Maize (QPM). Obatampa has provided food security, especially in areas where rice is mainly grown.

With regard to the perceived impact of the CREPs themselves, the results are inconclusive. In the rice growing areas, the CREPs have helped empower women, especially in vegetable cultivation, small scale business, and immunization of children against diseases. This is in spite of the fact that in these areas, access to credit facilities is very much limited.

In the dry areas, where sorghum and millet are mostly grown, the impact of the CREPs cannot be said to be significant, in terms of increased productivity and in terms of increased purchasing power. Even then, it must be stated that the presence of the CREPs has had a positive effect in the organisation and development of the villages concerned.

5.12 RECOMMENDATIONS

Based on the findings and conclusions of the research, the following recommendations can be made to help to improve the effectiveness and the impact of the CREP so as to benefit rural producers.

1. The existing CREP should encourage more membership and participation of women in the CREP.
2. The CREP must have effective relationship and co-operation with other credit institutions for improved supervision. This could save the CREPs, which have become distressed because of management problems.
3. The CREP should mount effective monitoring and training programmes for members because of the low accessibility of certain groups of people and their low level of education. This will raise people's awareness concerning CREP operations and the benefits the people can derive from becoming part of the CREP.
4. It is recommended that the CREP effectiveness need to be improved and sustained. Therefore, appropriate measures should be carried out in order to increase savings mobilisation to increase credit services of the CREPs.
5. The CREP should promote the cereal bank creation which can support the level of saving mobilisation.
6. For sustainability of the CREP it is necessary to increase the financial asset of the CREP. This should be done through external resources to complement savings.
7. Improve the long-term institutional capacity of the CREPs by ensuring:

- Strong management team capable of communicating the mission of the CREP and translating its objective into action.
 - Motivated and skilled staff with the ability to effectively execute and continuously refine and improve the operational methodology of the CREPs.
8. Maintain the infrastructure and equipment of the CREPs, to avoid deterioration and collapse of the CREPs office.

5.13 Areas for further Research

1. Similar study should be conducted in other CREPs in the country in order to improve or strengthen the existing results.
2. Determine the level of national and international financial and technical collaboration between CREPs and other institutions.
3. If the rural Banks are to have the desired impact, then there is the need to research into the credit lending operations of all the rural banks to know the general problems so that they could be tackled together.

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