

UNIVERSITY FOR DEVELOPMENT STUDIES, TAMALE

THE IMPACT OF MICROFINANCE SCHEMES ON DRY SEASON
FARMERS: A CASE STUDY OF DRY SEASON FARMERS IN THE
BAWKU MUNICIPALITY

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A THESIS SUBMITTED TO SCHOOL OF BUSINESS AND LAW,
DEPARTMENT OF BANKING AND FINANCE, UNIVERSITY FOR
DEVELOPMENT STUDIES, IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE AWARD OF THE MASTER OF ARTS
DEGREE IN BUSINESS PLANNING AND MICRO FINANCE
MANAGEMENT

DECEMBER, 2013

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DECLARATION

I ALI SAANI ABDUL- RAHAMAN hereby declare that this thesis work is the outcome of my research, carried out under the supervision of Dr. Daniel Bagah over the period of 24 months (June, 2011 – June, 2013). With the exception of the references made to work of others which have been duly acknowledged, the entire work is from my independent research.

I therefore wish to declare that this thesis is original and has never been previously presented to any institution for any award.

ALI SAANI ABDUL-RAHAMAN

.....

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by the University for Development studies.

Principal Supervisor's

Signature:..........Date.....23-12-2013

Dr. Daniel Bagah



ABSTRACT

The impact microfinance schemes have on dry season farmers was carried out in the Bawku Municipality. The objective was to obtain information on the impact of these credit schemes on the livelihood of beneficiary dry season farmers. Purposive and simple random sampling techniques were used to obtain data which were then analysed using Special Package for Social Scientists (SPSS). Also Secondary data from micro-finance institutions were used. The study made in-depth research on the kind of services dry season farmers in the Bawku Municipality benefits from the microcredit schemes operating in the area and the impact these products have on the livelihood of these farmers. The study realised that despite the visible increment in advancement of credit to dry season farmers, there were minor operational lapses: the loans given to the farmers were inadequate to start and run any viable farming activity. Lack of formal education, time, improved technology and ready market for products, which often run down rural enterprises, still persisted thereby hindering the farmer's current productivity relative to their evident potentials. This notwithstanding, it came out from the research that dry season farmers who benefited from micro-credit are able to improve on their dry season farm activities and had increase their productivity tremendously. This has resulted in a significant improvement in their livelihood and those of their households as a whole. It is therefore recommended that the amount of credit advanced to dry season farmers be increased and skill training be made part of the credit scheme to enable the farmer fully benefit from the facility. It is also recommended that the interest on the credit should be reduced and the



process of acquiring the credit made farmer friendly to attract more farmers to the scheme.



ACKNOWLEDGEMENT

This study owes much to other people. Thus, I thank the various writers whose work supplemented this study. I am most grateful to my supervisor, Dr. Daniel Bagah for his constructive criticisms and guidance throughout the study. To my family, I will say big thanks for the support you offered me.

I would also acknowledge the personnel of Ministry of Food and Agriculture, as well as Agricultural Development Bank (ADB), Bawku for taking time off their busy schedule to attend to my questionnaire.

I am especially most grateful to Mr Elias Abanga (MOFA, Bawku Municipality), for his immense assistance during the data collection process.

My thanks also go to Zuri Organic Vegetables Farmers Association (ZOVFA), especially Mr Hamadu Osman for assisting me to have contact with many farmer groups for the collection of data. To the dry season farmers in Bawku Municipality, I owe them a special debt of gratitude for making their rich farming experiences available for this work.

I commend my parents, Abdul-Rahaman Issah, Rahamata Issifu, brothers and sisters, and Issifu Barikisu (my dear wife) for their moral and financial support throughout my studies.

Finally, to the staff of Faculty of Education, Law and Business Studies, more especially, Mr Nkuah, I say bravo. Nevertheless, all errors of omissions and commission found in this thesis are entirely mine.



DEDICATION

This thesis is solely dedicated to my mother for her motherly support throughout the course of my education, to my lovely wife Mrs. Barikisu Issifu for her immeasurable support and to my son and daughter.



TABLE OF CONTENTS

DECLARATION	i
ABSTRACT	ii
ACKNOWLEDGEMENT	iv
DEDICATION	v
TABLE OF CONTENTS	vi
LIST OF ABBREVIATIONS	x
LIST OF TABLES	xii
LIST OF FIGURES	xiii
CHAPTER ONE: INTRODUCTION AND PERSPECTIVE OF THE STUDY	
1.1 Background to the Study.....	1
1.2 The Problem Statement.....	8
1.3 Research Questions.....	8
1.4 Objectives of the Study.....	9
1.5 Significance of the Study.....	9
1.6 Organization of the Study.....	11
1.7 Limitations of the Study.....	12
1.8 Conclusion.....	13



CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction.....	15
2.2 Brief History of Microfinance in Ghana	16
2.3 Microfinance in Various Dimensions	17
2.4 Microfinance and Agriculture	18
2.5 Microfinance and Poverty Reduction	20
2.6 Sustainability of Microcredit	23
2.7 Conclusion.....	26

CHAPTER THREE: METHODOLOGY

3.1 Introduction.....	28
3.2 Research Approach	29
3.3 Research Process.....	31
3.4 Research Area... ..	32
3.5 Sampling Size	34
3.6 Sampling Technique	37
3.7 Methods of Data Collection.....	38
3.7.1 Primary Sources of Data	40
3.7.2 Interview.....	40
3.7.3 Questionnaires	43

3.7.4 Secondary Sources of Data.....	44
3.7.5 Locating the Needed Secondary Data	45
3.7.6 Data Analysis.....	46
3.7.7 Conclusions.....	46

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.1 Introduction	48
4.2 Age Distribution	48
4.3 Gender Sensitivity of Dry Season Farming	50
4.4 Marital Status	53
4.5 Education and Work	55
4.6 Economic Condition	57
4.6.1 Economic Activity	58
4.6.2 Source of Start-Up Capital	60
4.6.3 Size of the Loan Received By the Farmers.....	61
4.6.4 Interest Rate and Period of Repayment Arrangements	62
4.7 Impact of Microcredit on Dry Season Farming.....	63
4.7.1 Kind Of Microfinance Services Benefited By Beneficiary Dry Season Farmers.....	63
4.7.2 Factors Influencing Access to Credit By Dry Season Farmers.....	64

4.8 Effect of Micro Credit on Livelihoods of Dry Season Farmers.....	65
4.8.1 General Perceptions of Dry Season Farmers of Improvements in Their Livelihoods.....	66
4.8.2 Impact of the Micro Credit Facility on Farmers' Income.....	69
4.8.3 Sustainability of Micro-Credit to Dry Season Farmers.....	70
4.9 Conclusion.....	71
CHAPTER: FIVE: UMMARY, CONCLUSION AND RECOMMENDATIONS	
5.1 Introduction.....	72
5.2 Summary of Findings of The Study	72
5.3 Conclusion	74
5.4 Recommendations.....	74
5.5 Suggested Areas for Further Research	75
REFERENCES.....	76
APPENDIX I.....	85
APPENDIX II.....	89

LIST OF ACRONYMS AND ABBREVIATIONS

ADB	Agricultural Development Bank
DFID	Department for International Development
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GNA	Ghana News Agency
IFAD	International Fund for Agricultural Development
MASLOG	Microfinance and Small Loans Centre
MDGs	Millennium Development Goals
MFIs	Micro-Finance Institutions
MoFA	Ministry of Food and Agriculture
NGOs	Non-governmental Organisations
RoG	Republic of Ghana
SPSS	Special Package for Social Scientists
SLF	Sustainable Livelihoods Framework
USAID	United State Agency for International Development
USD	United State Dollar
ZOVFA	Zuuri Organic Vegetables Farmers Association
UNEP	United Nations Environment Programme



UNCTAD

United Nations Conference on Trade and Development



LIST OF TABLES

Table Title	Page
1.1: Dry season production figures in 2009 in Bawku Municipality	2
4.1: Age Distribution of Respondents.....	49
4.2: Educational Background of Respondents.....	56
4.3: Economic Activity of Respondents.....	58
4.4: Source of Start-Up/ Credit Capital.....	60
4.5: Size of the Loan Received By the Farmers.....	61
4.6: Kind of Services Benefited By Dry Season Farmers.....	63
4.7: Perception of Dry Season Farmers of Their Livelihood Improvement.....	67
4.8: Improvement in the Farmers Income Before and After Benefiting Credit Facility.....	69



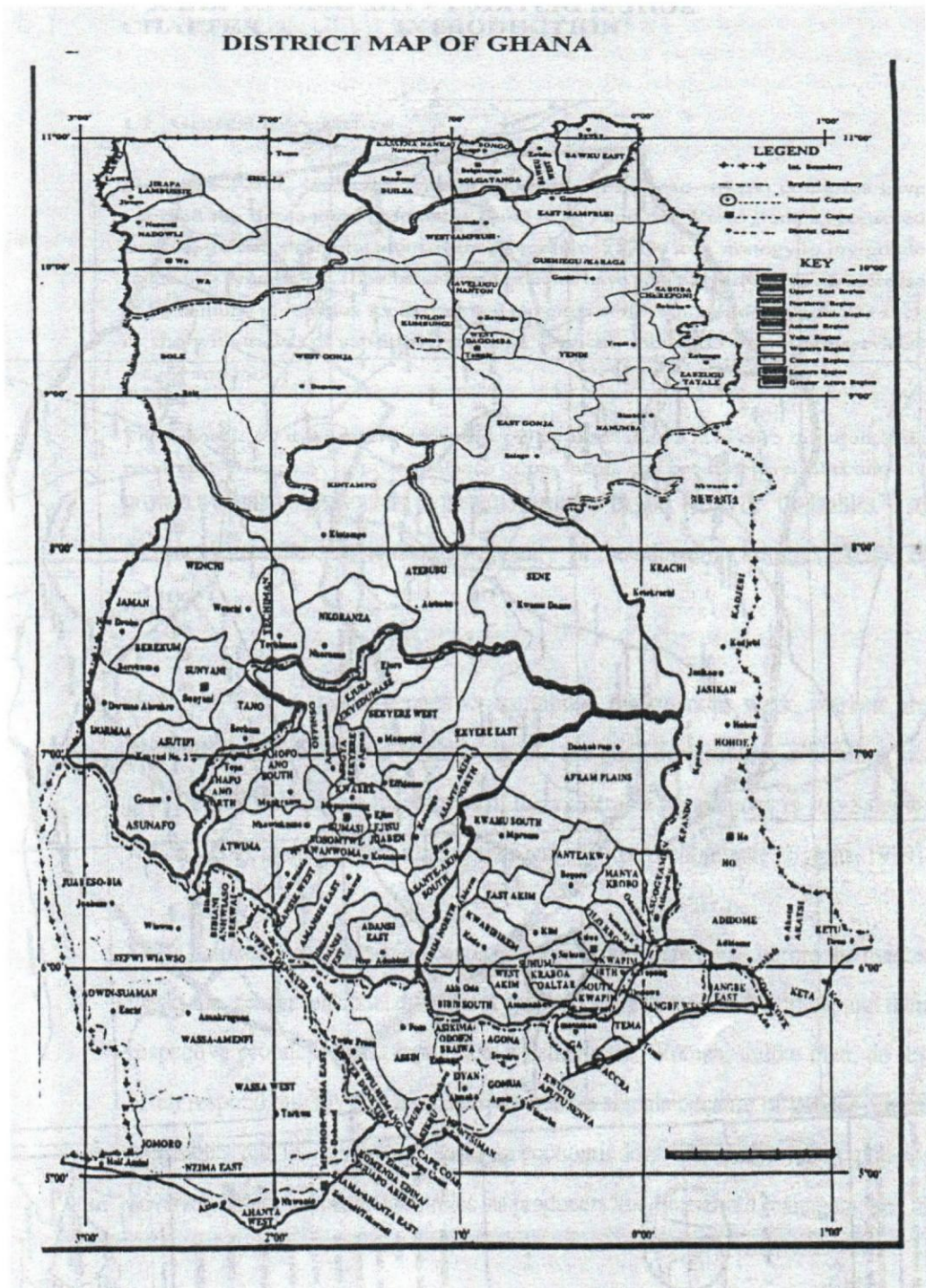
LIST OF FIGURES

Figure	Page
3.1: Phases/Stages of the Research.....	31
3.2: Dry Season Farmers	34
4.1: Gender Distribution of Respondents.....	51
4.2: Marital Status of Respondents.....	54
4.3: Onion Cultivation in the Study Area.....	59

MAPS.

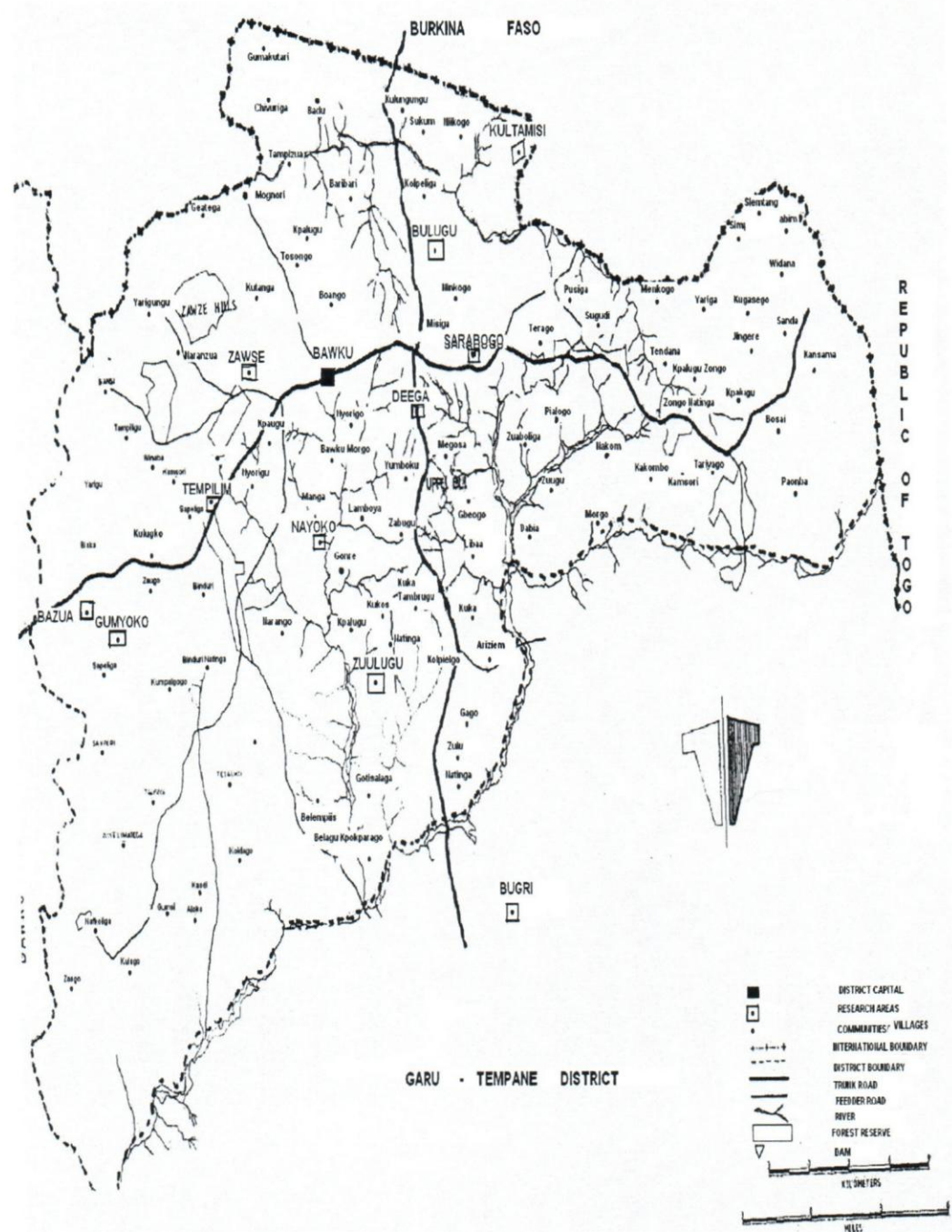
1. District Map of Ghana.....	xiv
2. Bawku Municipal Map.....	xv





Source: Bawku Municipal Assembly (2012)

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CHAPTER ONE

INTRODUCTION AND PERSPECTIVE OF THE STUDY

1.1 Background of the Study

Ghana has a total area of about 240 000 km², of which the Upper East Region (UER) covers about 8 800 (3.7 %) in the North-East corner, (Bawku Municipal profile, 2011). The total population with annual growth rate of 2.8 % has been estimated at 24.7 million in 2010, of which an estimated 1.1 million or 1.15 million in 2010 live in UER. Population density averages 102/km², with considerable regional variations. The UER's mean population density is 117 people/km² and in rural areas is about 100 people/km² (PHC, 2010). UER is predominantly rural (87 %), (IFAD, 2006).

The climate is characterized by one rainy season from May/June to September/October. The mean annual rainfall during this period is between 800 mm and 1.100 mm. The rainfall is erratic and spatially in duration. There is a long spell of dry season from November to mid February, characterized by cold, dry and dusty harmattan winds. Temperatures during this period can be as low as 14 degrees centigrade at night, but can go to more than 35 degrees centigrade during the daytime (modern Ghana.com, Bawku Municipal profile, 2011). The unreliable rainfall patterns in the area, which has given rise to perennial drought, poverty and hunger is hampering the development of the area. The development of small-scale irrigation dams is therefore, central to such an agricultural policy. It should take advantage of the widespread technical know-how in irrigation and the network of valleys and streams spread all over the north, (Caesar Abagali, GNA, 2002). The total potential of irrigable land in Ghana is put at 500,000 hectares with the current area developed for irrigation estimated at 11,000



hectares. This means that as a country, after 50 years of independence, Ghana has been able to develop only 0.02 % of its irrigable (Ghanadot, Jan 20, 2011).

The Bawku Municipality has a comparative advantage in dry season agriculture as the White Volta and Valley Bottoms make available land for irrigated farming. In addition to this, there exist about fourteen (14) small-scale dams. Apart from the irrigable land area provided by the small-scale dams, there exist a potential for water pump irrigation along the banks of the White Volta.

Table 1.1: Dry Season Vegetable Production Figures in 2009 in Bawku Municipality (MOFA, Bawku)

CROP	AREA/Ha	YEILD (Tons/Ha)
	2009	2009
Tomato	32	9.4
Onion	198	10.0
Leafy vegetables	23.5	2.0
Okra	5.7	3.0
Pepper	11.2	3.0
Garden egg	0.66	5.2

Source: Bawku Municipal Profile (2012)

Compared to the irrigation potential of the area, the production figures are low. This is evident as the region depends on import of vegetables from neighbouring countries like Burkina Faso to satisfy her domestic demand.

The world has entered the 'urban millennium' as Kofi Annan, former UN Secretary General, stated. Taking Africa as an example, its population will almost triple by 2050 and this will be primarily in the urban and peri-urban areas. The projection is that by





2015 there would be 25 countries in sub-Saharan Africa with higher urban than rural populations; by 2030 this would be already 41 countries (UN-Habitat, 2001). Already today, about 44 % of the population in the West African sub region lives in urban areas (UN Population Division, 2004), compared to only 4 % in 1920. The same 44 % applies to Ghana, and this number will rise rapidly as some of Ghana's peri-urban areas have annual growth rates of between 6 to 9 % (Ghana Statistical Service, 2002). This means that by that time, the food need of the country will also increase tremendously that the country will not be able to meet, relying on only rain fed agriculture.

More than 200,000 urban dwellers eat vegetables daily on Accra's streets and in canteens and restaurants (Emmanuel et al. 2006). Depending on crop and season, between 60 and 100 % of the consumed leafy vegetables are produced within or close to the respective cities mostly on irrigated open spaces (Mbaye and Moustier, 2000; Drechsel et al., 2006; Smith, 2002). This indicates that vegetable production could be an important means of attaining a balanced local food supply. Apart from increasing food security through a direct supplement of households' food, irrigation production in developing countries can also increase employment and income, which in turn, will enable people to purchase other foods to improve their diet or increase their general food security. Scoones (1996) argued that in semi-arid areas there is potentially no better way to reduce rural vulnerability and ensure the viability of people's livelihoods than to enhance natural capital and the productive base. Protecting the system against drought requires investment in water management, and it is irrigation and the water storage provided by small dams or enhanced recharge of aquifers that can reduce the vulnerability of rural communities to periods of drought.



For landless labourers, increased cropping intensity has the greatest impact on employment. Chambers (1988) cites several empirical studies in different countries that show that irrigation systems directly raise employment, by increasing both days worked per hectare and days worked during a cropping season, as well.

Agricultural development is the foundation for economic development and the agricultural sector is undoubtedly the prime area of concentration for economic progress. An estimated 70 % of the world's poor rely on agriculture for all or some of their household income. Farmers face a number of risks to their livelihoods, including unpredictable weather and crop price variation. These risks may also affect how they choose to borrow and invest to improve their business. Despite, the importance of this sector and the fact that 71.2 % of Ghanaian households are engaged in agriculture, most of these farmers are wallowing in abject poverty. In consideration of the importance of agriculture to the Ghanaian economy, various Governments have made efforts to develop the agricultural sector in order to improve the living standard of Ghanaian farmers. Irrigated agriculture development has been given high priority by Government of Ghana for some years. The Ministry of Food and Agriculture is taking measures to boost dry season farming in the Upper East Region, so as to ensure food security and put an end to the perennial food shortages in the area, (Ghanaweb, 29-08-2009). Such priority has been reiterated in the Medium-Term Agricultural Development Plan (1991 - 2000), which also specifies the strategy to be applied for sustainable irrigation agriculture. It includes: reduction of operating costs, completion of the development of existing irrigation schemes, focus on small-scale (less than 100 ha) and micro-scale (a few ha) irrigation schemes, giving priority to schemes, mainly rice, with water control in seasonally inundated areas and valley bottoms, favouring management of small-scale



irrigation schemes by the farmers themselves through the establishment of Cooperative Societies or Farmers Associations, and promoting expansion of rice growing areas and intensification to meet increasing local demand.

These interventions did not help the farmers much as majority of the farmers are still inundated in poverty and rely on inefficient implements to carry out their farming operations. This vision necessitates the need for the transformation of the traditional subsistence agriculture, characterized by the use of crude implements like, hoes and cutlasses. Most of the farmers therefore resort to credit to acquire improve farm implements, improved seed and other inputs necessary for the change. However the farmers are left to their fate as the agricultural sector continue to receive little funding. This is reiterated by Mr. Alhassan Andani, General Manager of Stanbic Bank cited in the Ghanaian chronicle (02 September, 2010) when he said "Agriculture contributes to about 33.5 % of Ghana's GDP and employs about 65 % of the country's workforce yet this all important sector is the most troubled in the country". Access to timely credit for small holder farmers who constitute the majority in this all important enterprise has therefore become the bane of that sector.

In recent years, Ghana has emerged as a leading country in the Western and Central Africa region. It has developed its economy on a scale that could enable it to meet the Millennium Development Goals (MDGs) before the 2015 deadline (IFAD, 2007). It also has a smooth and peaceful political transition since 2008, and has created a political and policy environment conducive to economic and social progress and poverty reduction.

The Ghanaian economy has grown at an average annual rate of 4.8 % over the past two decades and growth had reached 7.3 % by 2008 (2008 GDP). The agriculture sector,



which contributed 33.3 % of GDP in 2011, remains the country's major engine of economic growth. Rapid economic progress has all but halved national poverty rates, which have fallen from approximately 50 % in 1991 to 28.5 % in 2011 (GDP, 2011). In the last decade poverty rates dropped by 8.6 % in urban areas and by 10.4 % in rural ones. Ghana's growth and poverty reduction rates are probably the best that have been achieved throughout sub-Saharan Africa in the past 15 years (IFAD, 2007). Although there has been a substantial overall decline in the incidence of poverty in Ghana, poverty still has a firm grip on rural areas, especially in the north. There is a wide disparity in income between people living in the drought-prone northern plains, and those living in the south, where there are two growing seasons and greater economic opportunities. The poorest parts of Ghana are the savannah regions of the north (the Northern, Upper East and Upper West regions), where chronic food insecurity is widespread and livelihoods are more vulnerable.

Poor rural people have limited access to basic social services, safe water, roads that are accessible year round, and electricity and telephone services. Poverty is most severe among food crop farmers, who are mainly traditional small-scale producers. About six in ten small-scale farmers are poor, and many are women. According to the Government's poverty reduction strategy paper, low productivity and poorly functioning markets for agricultural outputs are among the main causes of rural poverty. Small-scale farmers lack the technologies and inputs, such as fertilizer and improved seed that would increase yields. Population pressure leads to shorter fallow periods or even continuous cultivation in the densely inhabited Upper East and Upper West regions, causing soil erosion and loss of fertility. Land degradation poses a long-term threat to farmers' livelihoods and incomes. Only a small proportion of farmers have access to irrigation.



According to MoFA the total area under formal irrigation amounted to only 11 000 hectares in 2002 whereas 500 000 hectares have irrigation potential. Land ownership and land security are regulated by complex systems that vary widely. Many farmers lack rural infrastructure and equipment for storing, processing and marketing their products.

In order to overcome their vulnerability and food insecurity, poor rural populations need help in sustainably increasing their incomes. Good opportunities exist to link farmers to markets and to modernize agriculture. Microfinance and microcredit are both tools recognized world over to play an important role in making farming a profitable business through access to financial services, farm inputs and linkages to agro processors and traders.

Over the past three decades, the various governments in Ghana have put constant efforts in promotion and development of modern irrigation scheme, as a way to increase food production and meet an ever increasing demand. Despite all the investment put into development of large irrigation schemes, the overall performance of most of the latter have been under expectations. This study therefore seeks to find out the impact of microfinance on dry season farming activities in the Bawku Municipality and how the microfinance services has help farmers in the area to overcome the above emphasized difficulties in farming. The research will also look at the sustainability of the credit schemes in the area. The research methods employed are qualitative and quantitative methods, using tools like questionnaire, in-depth interviews and focus group discussions to collect data in order to assess the level at which microfinance and microcredit benefited the microcredit clients as against the non-microcredit beneficiaries for a specified period.

1.2 Problem Statement

In many developing countries, improving agricultural performance is seen as a critical component of sustained poverty reduction. This view is supported by the fact that most impoverished people still live in rural areas and derive their livelihoods from agricultural activities (World Bank, 2008).

The microfinance movement is largely motivated by a desire to expand financial services to small households in low-income countries. An extensive literature exists on mechanisms for making unsecured microloans (Kritikos and Vigenina, 2005) that emphasizes joint liability within cooperative savings and lending groups, as well as dynamic incentives for increasing loans based on previous payback performance. However, there is very little literature on how access to microfinance by dry season farmers and its impact on the farming activities of the farmers. This research is targeted at bridging that gap by researching into how microfinance impact on the agrarian activities of dry season gardeners farmers in the Bawku Municipality of the Upper-East Region of Ghana.

1.3 Research Questions

On the premise of the preceding sections, the following research questions are formulated:

1. What are the components of credit services microfinance institutions offer to dry season farmers in Bawku Municipality?
2. What factors influence access to micro-credit services in the study area?



3. What impact has micro-credit on the livelihoods of dry season farmers?
4. Is micro-credit scheme for dry season farmers in the Bawku Municipality sustainable?

1.4 Objectives of the Study

The main objective of the study is to assess the impact of microfinance on dry season farming and the extent to which the benefits are sustainable.

The specific objectives are:

1. To determine the kind of microfinance services provided for dry season farmers.
2. To ascertain the factors that influences the extent of access to credit by dry season farmers.
3. To assess the sustainability of micro-credit to dry season farmers in the study area.
4. To make recommendations on how to improve upon microfinance services to dry season farmers.

1.5 Significance of the Study

The relevance and importance of production and consumption linkages is supported by a number of empirical studies. These tend to show that at the income levels relevant for most of the countries of Africa and Asia, multiplier effects are of the order of 1.3 to 1.9, that is a 1 % increase in agricultural output gives a 0.3 to 0.9 % increase in non-agricultural output (Thirtle *et al.*, 2001). Also, most of these studies show that at least 75 % of these effects arise through consumption linkages (Thirtle *et al.*, 2001). Evidence





for these effects is widespread, well documented and relatively uncontroversial. The FAO states that in developing countries irrigation can increase yields for most crops by 100 to 400 %, whilst also allowing farmers to reap the economic benefit of growing higher-value cash crops. Higher, less risky and more continuous levels of rural employment and income, for both farm families and landless labourers, can result from the higher cropping intensities, higher yields and more intensive and higher value cultivation techniques of irrigated agriculture compared to rain fed agriculture (FAO 1996).

Dry season agriculture can play a central and dynamic role in the improvement of rural livelihoods, but is often subject to criticisms of inefficiency in water use, high capital and recurrent costs, lack of sustainability, and association with inequity in the distribution of both land and water. Dry season agriculture is an effective, but blunt, instrument for reducing rural poverty, and research is needed on the best means to identify the factors that hinder growth and sustainability of dry season farming to help sustain productivity and widen poverty alleviation gains. The importance of dry season agriculture to rural livelihoods is highlighted by the fact that irrigated farmland provides 43 % of global cereals production and 60 % of the grain production in developing countries (IWMI 2000). Of the near doubling of world grain production that took place between 1966 and 1990, irrigated land (working synergistically with high-yielding seed varieties and fertilizer) was responsible for 92 % of the total production. Dry season farming (irrigation) is also the key to developing high-value cash crops, and, by helping guarantee consistent production, it stimulates agro-industry and creates significant rural employment (World Bank 1997).



The research will come out with findings that will advance the knowledge of the public by coming out with information on contribution of microfinance services in the development of dry season agriculture. The study also intends to produce a document that will serve as a reference material for microfinance and microcredit institutions as well as policy makers when formulating policy for dry season farming. It will also serve as a guide for farmers in the study in particular assess the effect of microfinance on their agricultural activities. It will also be used as a reference material for researchers interested in microfinance and microcredit related issues.

1.6 The Organization of the Study

The study report will be organized into five main chapters. The first chapter will include the introductory and perspective of the study which will be made up of the background of the study, problem statement, research questions, and objectives of the study, justification of the study and the organization of the report. The second chapter will present the review of relevant literature on dry season agriculture. These include the brief history of microfinance in Ghana, microfinance in various dimensions, and microfinance and agriculture. The third chapter will take care of methodology which discusses the data collection procedure and description of the study area as well as the scope and limitation of the study. The fourth chapter will be made up of the presentation and discussion of the empirical results obtained from the study, and finally the fifth chapter will contain the summary, conclusions and recommendations of the study and suggested areas for future research.

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1.7 Limitations of the Study

One major problem faced was the difficulties in getting the respondents to be interviewed. This was due to the fact that the respondents were busy on farm work, since the research coincided with the dry season. The most suitable time was therefore in the evenings after they have returned from their farms. This did not even solve the problem since most of them were always busy preparing evening meals after they have returned from the farm. This calls for rescheduling of interviews. Some too were not just willing to disclose their own-account, which they considered as the farmer's secret. Other farmers also did not wish to be interviewed due to their previous bitter experiences. Most of the respondents were illiterates hence, the research questionnaire had to be read and translated as well to them.

One limitation that must not be lost sight of is time constraint. The research student in adapting to the convenience of the farmers used an unusual longer period of more than six months to carry out the research. This had made it impossible for the researcher to go according to the university's academic calendar.

None of the three institutions I visited was able to make available to me materials and documentations which had links with disbursement of funds to dry season farmers. Banks for instance, are considered as private institutions, and therefore their documents are treated confidential and should not be disclose to outsiders. That might have led to their inability to make available to me materials and documents related to the disbursement of funds to dry season farmers.

Notwithstanding the above limitations however, it did not in any way create doubts about the credibility of the field materials presented.





There are still a number of problems with the design as far as internal and external validities are concerned. We have suggested a multiple design approach to combat some of the issues that may arise from a more simplistic methodology. The absence of randomized control groups continues to be a problem, though that is handled by using non-participants as an additional control in the design. Furthermore, history presents a problem in that we plan to sample the clients at a specific point in time but circumstances occurring prior to the research may impact the results.

We suggest a retrospective country level analysis to control for such factors. Instrumentation can also be a factor and thus the survey (questionnaires) has been carefully planned out and making any changes after the first set is administered is avoided in order to ensuring data consistency.

Maturation and attrition would continue to pose problems for this design however. Since the data is analyzed over time, it would be very difficult to replace the respondents accurately. This is why we would need to use a large sample in the beginning so as to ensure that both problems can be accurately handled. Furthermore, a large ample size up-front would also allow us to handle the potential disadvantages of using a multistage random sampling technique.

1.6 Conclusion

The Bawku Municipality is one of the areas situated in the savanna zones of the country. It has a long period of dry season as well as a vast flat arable land suitable for farming activities. The numerous small dams available in the area make it potentially viable for dry season farming.

However the area still depends on her neighbours like Burkina Faso and Niger satisfy its food needs especially in the dry season.

It is envisaged that the gap in food production can be closed if concerted effort is made to encourage dry season farming in the area. This can be achieved if dry season farmers in the area are supported and equipped with finance and other agricultural logistics.

This study therefore assesses the extent of microfinance assistance dry season farmers in the area get, how sustainable is the assistance and how it can be improved upon.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Microfinance is a general term that refers to the provision of financial services for the poor who conventionally have been excluded from the formal banking sector. Microfinance services include credit, savings, and insurance. Microfinance is hailed as a tool for poverty alleviation because access to financial services assists poor households in meeting their basic financial needs, protects against risks, and develops social and economic empowerment. It is argued that financial services for the poor can help them to turn their savings into sums large enough to satisfy a wide range of business, consumptions, personal, social, and asset-building needs.

The UNEP-UNCTAD study on Organic Agriculture and Food Security in Africa cited by Katya Jenkins (Microfinance Focus, July 20, 2011) reports, “the conventional wisdom is that, in order to double food supply, efforts need to be redoubled in modernized agriculture;” however, “the great technological progress in the past half-century has not led to major reductions in hunger and poverty in developing countries.” Though in the developed countries Industrial farming has led to global yield increase in food but this is not the case in all corners of the world especially in Africa. Microfinance is a reliable tool to closing this gap through supporting small farmers that can contribute to the total endogenous agricultural production of their respective countries. Unfortunately, many financial organizations are curbing their agricultural portfolios due to the risks they impose.





2.2 Brief History of Microfinance in Ghana

In the 1960s the objective was to promote agricultural development by modernizing agriculture. The most common approach involved was direct government intervention via state-owned development banks and direct donor intervention in credit markets with favorable terms and conditions like soft interest rates or lenient guarantees. However, this system was costly and unsustainable, due to poor repayment, and ultimately did not have the desired effect on the development of agriculture production (Meyer, 2007).

The government-led credit did not achieve their goal hence in the 1980 a renewed approach to rural and agricultural finance was adopted in the country. State-owned development banks closed, financial sectors were liberalized and microfinance evolved. Based on an approach that encourages financial intermediation, the new rural finance paradigm redefined the roles of the various actors involved in providing financial services, especially governments. Public subsidies were redirected towards creating new microfinance institutions (MFIs) like Medium and Small Loans Company (MASLOC) that were supposed to achieve financial sustainability thanks to cost-covering interest rates.

Despite the great hopes associated with the strong growth of the microfinance sector, it soon became clear that the supply of microfinance for agricultural activities was marginal at best and poorly adapted. At the same time, with the liberalization of the financial sector, commercial banks did not pick up the slack of former government-led interventions in rural areas; many banks actually closed their rural branches (Zeller, 2003). Finance for agricultural activities became even rarer.

2.3 Microfinance in Various Dimensions

The overall purpose for the selected literature is to evaluate the effectiveness of microfinance in various dimensions. Loosely stated, the goal of microfinance is to reduce poverty, however the mechanism by which microfinance reduces poverty is important. Amin, S., Rai, A. S., & Topa, G. (2003), focus their article on the ability of microfinance to reach the poor and vulnerable. They argued that microfinance is only serving people slightly above or below the poverty line. However the really poor and destitute are being systematically excluded. Their research concentrated on the poor ignoring the impact on other sectors like rural agriculture which is the preoccupation of the poor. That being said, however, the approach taken by Amin et al. (2003) is quite strong in that it seeks to figure out if the model is making a more than marginal impact on poverty. By contrast, Copestake, James. Bhalotra, Sonia, Johnson and Susan (2001), analyze the impacts of microfinance on institution and individual wellbeing. Copestake specifically centered his study on business performance and household income to establish a link between the availability of microfinance and overall wellbeing of the poor. Evans and Timothy (1999) approach the microfinance question at a slightly different angle however. They seek to explain nonparticipation in the microfinance revolution, stating that while microfinance is used as a viable tool in fighting poverty, more than 75 % of the poor individuals choose not to participate for various reasons. Their work did deliberate much on the factors that account for this poor participation. Kabeer (2001) provides a meta-analysis of microfinance and focuses on women empowerment, intending to show why various studies conflict in their conclusions as to the impact of microfinance on women empowerment. Finally, Park (2001) evaluates the





actual microfinance programs in China using 3 key measures targeting, sustainability and overall impact. Park's survey is the most relevant as far as this research is concerned since they chose to focus on the overall impacts of microfinance, as opposed to the minute aspects of the financing model.

2.4 Microfinance and Agriculture

The agricultural sector is characterized by a number of specificities that make it difficult, costly and risky to finance Chalmers (2005). The high systemic, economic, social and co-variant risks associated with agriculture combined with its seasonality, low profitability and relatively "specialized" nature often lead to low returns. The low profitability of the sector and the fact that the sector is made of the most poor of society makes it particularly difficult to borrow at interest rates charged by microfinance institution, while widespread poverty in most countries makes households particularly vulnerable to risks. Recent research and accumulated empirical evidence supports the renewed understanding that the central driver of poverty reduction is economic growth which agriculture is one of the corner stone especially in developing countries. Therefore, it is critical to support the productive activities of the rural poor, given the structure of developing economies (high proportion of GDP and employment in agriculture) Dollar and Kraay (2000).

Lack of significant advances in financial services for agriculture has led to a renewed interest in the issue in recent years. Nourse (2001) reviews the context and rise of microfinance products and argues there is a need for savings and insurance services for the poor and not just credit products. He goes on to argue that MFIs need to provide tailored lending services for the poor instead of rigid loan products. Supporting this



latter assertion of Nourse (2001) developed a model of small construction management contractors and microfinance institutions (MFIs) in developing countries that provides a tailored lending structure for microenterprise contractors. Similarly, Woller (2002), Cohen (2000), and Dunn (2002) argue that MFIs need to be more client-focused, including offering a mix of financial products tailored to the varied needs and wants of poor consumers. The most recent World Development Report (2010) focuses on agriculture indicates that agricultural development is coming back to center-stage after years of neglect. This attest to the fact agriculture is not given the required attention in developing nations like Ghana as far as agricultural financing is concerned. This calls for deliberate effort to correct this by taking advantage of the wide spread micro-finance institutions throughout the country. According to Otero (1999) “the aim of microfinance is not just about providing capital to the poor to combat poverty on an individual level also has a role at an institutional”, this means microfinance as an institution delivers financial services to the poor and low income group like dry season farmers. This comes in small loans packages, microcredit, insurance and other financial services. Similarly, Littlefield and Rosenberg (2004), argues that the poor are generally excluded from the financial services sector of the economy, so microfinance institutions have emerged to address this market failure. By addressing these gaps in the market, microfinance institutes can become part of the formal financial system of a country and so can access capital market, allowing them to dramatically increase the number of poor people they can reach Otoro (1999). These research studies centered their arguments on the poor. They however failed to recognize the linked that exist between poverty and sustainable agriculture. To fill this gap, Feder et al. (1990), Sial and Carter (1996), and Carter (1989) estimate the effects of agricultural credit by applying an endogenous switching



regression model in order to account for the heterogeneity among borrowers and non-borrowers or credit-constrained and non-constrained households. These studies, with the exception of Carter (1989), found that the credit factor has significantly positive effects on agricultural production in China, Pakistan, and Vietnam. Carter (1989), however, they found that the effect of credit support on small farm production is weak in Nicaragua. This confirms the facts that, the very poor who are largely small scale farmers are inadequately served by microfinance programs.

The endogenous switching regressions model employed by Carter, however, does not account for farmer specific unobserved heterogeneity, which is expected to correlate strongly with the loan amount.

In recent past, renowned scholars such as Hashemi, Littlefield and Murdugh (2003) have applauded the critical role microfinance play in achieving the Millennium Development Goals (MDG.). In the same vein, Simanowitz and Brody (2004) say, “microcredit is a key strategy in reaching MDG’s and in building global financial systems that meet the needs of the most poor people”.

2.5 Microfinance and Poverty Reduction

The Ministry of Food and Agriculture in taking measures to boost dry season farming in the Upper East Region, so as to ensure food security and put an end to the perennial food shortages in the area admonished that farmers be encouraged and guided to form groups so that they would be collectively guided and given support in the form of technical advice, improved seed and other credit facilities that would enable them increase their yield. (GNA Bolgatanga, Aug. 29, 2010). The above points buttress the positive correlation between microfinance, agriculture and sustainable poverty reduction.



However, some scholars remain skeptical and pessimistic about the role of micro-credit in poverty reduction and agricultural development. They argue that while applauding the vital role micro-credit play in poverty reduction, care should be taken about its downsides. Hulme and Mosley (1996), conclude that “most contemporary schemes are less effective than they might be”. These scholars believe that, micro-credit is not a stop panacea for poverty alleviation and in some cases it even makes the poor people poorer or worse-off.

In the US AID conference “Paving the way to Rural Finance,” Zeller (2003) identified three motives for the increased interest of donors in agricultural and rural finance. First, the agricultural sector remains the most important economic sector, especially for poor people, in many development countries. Secondly, improved financial markets accelerate rural and agricultural growth and lead to increased economic growth and reduced poverty. Finally, there is a great deal of optimism surrounding the idea that donors can learn from past failures and current successes to launch a new wave of rural and agricultural finance. In 1999, only around 20 % of rural households in the West African Economic and Monetary Union (UEMOA) had access to microfinance. It was noted that microfinance was nonetheless contributing to agricultural finance: in West Africa, one-third of microfinance’s annual portfolio was financing agriculture (25 billion Francs CFA in 1997) UEMOA study (1999). Servet and Morvant (2007) sought to establish the link between the contribution of rural agricultural sectors to the economy and financial inclusion relied on data from the FAO in its 2006 Report, citing Honohan (2006) who crossed financial inclusion data for each country with other variables such as the percentage of rural population, the contribution of agriculture to the GDP and the portion of the population working in agriculture. The result is a negative correlation



between access to financial services and other variables. This data indicates that financial inclusion is lower in countries where the economically active population working in agriculture is higher, and where agriculture represents a higher proportion of the GDP. To better understand the level of financial service access, not just households but also small, primarily informal enterprises, Honohan (2006), cited by Servet and Morvant (2007), analyzes the data collected by World Bank surveys on enterprises located in selected African countries. This analysis reveals that 41 % among them are credit constrained—they either requested credit and did not obtain it or did not request credit because they lacked the necessary guarantees. The author highlights that agricultural enterprises are nonetheless under-represented in the sample; and yet it is proven that this sector is much more constrained in their access to sources of finance Honohan (2006). In this context, we can legitimately estimate that more than four out of ten small enterprises in the agricultural sector in these African countries face credit constraints.

Trivelli and Vénéro (2007) conducted a country by country analysis to determine the part agricultural credit in the total credit accorded from 2004-2005. The authors observe that of the total amount of credit disbursed, only a small amount is used to finance agricultural activities (8 % of the total credit averaged over the 18 countries). In nearly every case, the percentage of agricultural credit (compared to total credit) is lower than the contribution of the agricultural sector to the national economy (10 % of GDP, on average).

In some countries, like Chile, the percentage of credit for agriculture is low (4.6 %). Nonetheless, considering the degree of financial penetration. This represents a



portfolio of more than 3.2 billion dollars for this sector which employs less than 20 % of the economically active population. Conversely, in the case of Paraguay, 28 % of all credit is dedicated to agriculture, but since the overall volume of credit is small, this represents only 431.2 million dollars (while the sector employs nearly 40% of the economically active populations). Agricultural credit per inhabitant is highest in Chile (1,479 USD), Argentina (458 USD) and Panama (424 USD). The countries where this ratio is lowest are Dominican Republic (49.30 USD) and Guatemala (44.50 USD). Generally speaking, there is consensus that supply is still insufficient, despite innovations in terms in agricultural finance. However, as we will see, these innovations have yet to be widely disseminated. One approach to rural and agricultural finance uses the financial sector as an entry point and emphasizes the important role of financial institutions for facilitating access to a wide range of services. There are a number of unresolved issues surrounding this approach, particularly in terms of governance, which itself implies issues of institutional type and methodological approaches, size and geographic expansion, and linkages with urban finance. Finding answers to these issues will help determine the success factors for rural finance.

It can be concluded that the development of rural financial systems will demand systemic innovation: finding a way to combine the strength of local institutions in terms of borrower information and transactions with diversified portfolios and the economies of scale of national organizations.

2.6 Sustainability of Microcredit

Various researchers have argued that in democratic societies, small farmers have a right to a participatory role and full ownership of microfinance organizations including



planning, management, and decision-making (Weitz, 1982; Wehnert and Shakya, 2003). The basis of the argument is that farmers have access to local knowledge, which is unknown to official experts. The supporters of this school of thought have argued that microfinance institutions should not be run by public sector organizations; it should rather be handed over to small farmers in order to generate a sense of ownership among small farmers (Weitz, 1982; Shah, 1999; Sharma and Nepal, 1997) and to attain institutional sustainability of microfinance institutions (MFIs).

From a banker's perspective, the term 'sustainability' in microfinance refers to 'the ability of a microfinance institution to develop a methodology that ensures loans successfully reach the poor while covering all of its costs without subsidy' Unitus (2005). For the farmer's sustainability is more utility-focused and directly connected to their lives and livelihood, the level of benefit, income, and economic survival of the family. The farmer perspective is that the ability of a local institution to abolish local indebtedness, share cropping and bondage labour primarily leads the institution towards institutional sustainability.

The literature shows that millions of the poorest and most vulnerable small farmers and workers in South-Asia are bonded to their formal or informal sector employers as they try to repay loans Daru et al. (2005). The results of the study conducted by Rondinella (2005) in India clearly show how access to guided institutional credit can lead to increases in household income, savings, and diversification of income generating activities.

A harsh aspect of poverty is that income is often irregular and undependable. The poor use to build assets such as buying land as security. Farmer's participants in microcredit



programs often experience important self-empowerment. However; microcredit has proven to be quite expensive due to the high nature of interest rates and the attendant effects of sustainability. Poor people borrow from informal moneylenders and save with informal collectors. They receive loans and grants from charities. They buy insurance from state-owned companies. They receive funds transfers through formal or informal remittances networks. Ensuring financial services to poor people is best done by expanding the number of financial institutions available to them, as well as by strengthening the capacity of those institutions.

Microfinance is considered as a tool for socio-economic development, and can clearly be distinguished from charity. Families that are destitute or so poor are unlikely to be able to generate the cash flow required to repay a loan. Women are mostly targeted in microfinance products probably because they are more vulnerable and more populated than men in terms of small scale enterprises, and also may be because there is striking evidence that more women are unlikely to default in microcredit products and loans.

Some optimists have asserted, without offering credible evidence, that microfinance has the power to single-handedly defeat poverty. In addition, research on the actual effectiveness of microfinance as a tool for economic development remains slim, in part owing to the difficulty in monitoring and measuring this impact and sustainability.

Many of the services of microcredit are in fact loans to people with existing business, and not to those seeking to establish new businesses. Many of those receiving microcredit also used the loans to supplement the family income. According to Professor Karlan (2011) microcredit is not necessarily bad and can generate some positive benefits, despite some lenders charging interest rate between 40 %-60 %, it isn't the panacea that it purported to be. He advocated that rather than focusing strictly on



microcredit, also giving citizens in poor countries access to rudimentary and cheap savings accounts.

Despite all the merits of microfinance in poverty reduction, it has been criticized for the high rates of interest charged to borrowers; annual rates charged to clientele are higher and also include local inflation and bad debt expenses of microfinance institutions.

Studies by Parker and Aryeetey provide empirical evidence to show that between 24 % and 52 % of entrepreneurs in agricultural sector in Ghana mentioned credit as a major constraint to expanding their businesses. Additionally, the commercial banking system, which is comprised of 23 major banks, reaches only about 5 % of households and captures 40 % of money supply.

Odell (2010) refers to other studies by Karlan and Zinman (2011) which found little evidence to support microfinance having a significant impact on poverty reduction. However, she also reports that recent empirical evidence using household data indicates that access to basic financial services such as saving; money transfers and credit can make a substantial positive difference in poor people's lives.

Therefore, there is room to expand the microfinance sector in Ghana, especially in the agriculture sector.

2.7 Conclusion

Microfinance is the term that has come to refer generally to such informal and formal arrangements offering financial services to the poor. Microfinance has existed, although mostly in the shadows and unseen by casual observers, since the rise of formal financial systems, and indeed probably predates them. It has only been within the last four decades, however, that serious global efforts have been made to formalize financial

service provision to the poor. This process began in earnest around the early to mid-1980s and has since gathered an impressive momentum.

It must be emphasized too that the animating motivation behind the microfinance movement was poverty alleviation. Not only that, but microfinance offered the potential to alleviate poverty while paying for itself and perhaps even turning a profit—"doing well by doing good." This potential, perhaps more than anything, accounts for the emergence of microfinance onto the global stage.

Scholarly interest in microfinance has lagged behind industry development. Before 1997, academic journals published only an occasional article on microfinance, but since that time, academic journals have published hundreds of peer-reviewed articles on the topic. Nonetheless, microfinance has yet to break into finance journals.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The purpose of this chapter is to present the philosophical assumptions underpinning this research, as well as to introduce the research strategy and the empirical techniques applied. The chapter defines the scope and limitations of the research design and situate the research amongst existing research traditions in microfinance. The methodology is regarded as offering the research principles which are related closely to a distinct paradigm translated clearly and accurately down to guidelines on acceptable research practices, Sarantakos (1998). People conduct research for many reasons. Some may want to satisfy their curiosity (how is a plane manufacture?). Others may use it for constructive decision purpose (should I undertake a degree course?). Others may also use it to impact a change in to society (what can be done to eliminate negative cultural practices that are against women right in the society?). Yet still some people may conduct research for monetary gains (conducting research for an organization). Neuman (2003) summarized the relevance of research by stating that the findings from a research gives a better informed, less biased decisions than the guessing, hunches, intuition, and personal experience that were previously used. The research methodology is an indispensable component of any study and provides the framework upon which the whole process is based (Brown,1996). The research methodology should therefore be meticulously carried out to arrive at a concise, valid and reliable data in order to achieve the research goals and objectives. This section will provide detailed explanation of the



research approach and process, method of data collection, sampling procedure, sampling size and method, sampling techniques, background of the study area, and data analysis.

3.2 Research Approach

Studies has indicated that research can be conducted using the quantitative approach or the qualitative approach. Some have also argued that the use of both approaches complementarily is possible. Strauss and Corbin (1990), Osuala (2005), Tsumasi (2001) and Brown (1996) agreed that there are two distinct approaches (Quantitative and Qualitative) that exist but the most important difference is the way in which the data is treated in each case. Generally quantitative data and data reports are in the form of numbers, facts and figures are fairly concise, consequently quantitative data reports can be brief and to the point. In addition, an organization's information system often contains a good deal of quantitative information that can be used for performance measurement; for example, service utilization and cost information may already be collected. Conclusions drawn from quantitative data are limited by parameters of the data.

On the other hand qualitative data is more explanatory and descriptive (Sarandakos, 1998). In qualitative approach the researcher makes knowledge claims based primarily on constructive perspectives. "Thus the analytic inductive social sciences argue that the quantitative researcher looks through a narrow lens at a specified set of variables while the qualitative researcher looks through a wider lens, searching for patterns of interrelationships between a previously unspecified set of concept" Bonye (2007). Thus





qualitative research contextualizes questions that otherwise would lack the background of the population being affected, it intrinsically provides more detailed information about a subject than quantitative research, that often ignores important factors about the subject in favor of the pursuit of numbers. Qualitative data is extremely varied in nature. It includes virtually any information that can be captured that is not numerical in nature. It includes: In-depth Interviews (to probe the ideas of the interviewees about the phenomenon of interest), direct observation (include everything from field research where one lives in another context or culture for a period of time to photographs that illustrate some aspect of the phenomenon), and written documents (in the form news papers, magazines, books, websites, memos, transcripts of conversations, annual reports, and so on). Qualitative researchers can be easily criticized for leaving the reader "in the dark" when it comes to describing the method-creation process, Ronald- Jones (1995). He explains further that qualitative researchers are often woeful in applying their abilities in presentations to get their research findings across.

Harries (1995) say that it takes two studies to present one in qualitative research. This buttress the fact that it requires a lot of inputs to get qualitative research presented.

Johnson et al. (2007) stated that the mixed approach of research utilizes aspects of both quantitative and qualitative approaches for broad purposes of breadth and depth analysis. Mixed approach can be done in two ways; the mixed method research, where the researcher uses the quantitative paradigm for one phase of the research study and the qualitative paradigm for another phase of the study and the mixed model research that entails the use of both quantitative and qualitative approaches within a stage of the study or across two or more stages. The mixed approach is preferred in this research because it is universal and approaches the research questions from a wider perspective. The mixed

approach also combines characteristics of the two main approaches without totally ignoring the other.

3.3 Research Process

The research process is used to structure the research work. It also shows how the major aspects of the research work together to address the research question. Brown (1991) concluded that it provides a framework for designing a systematic study that addresses the study goals, objectives and questions. Therefore for any research study, the choice of appropriate research process is important in arriving at a valid, reliable findings and conclusions. There are many types of research designs such as the randomized design, the factorial designs with or without repeated measures, the Latin square design, the choice of the appropriate design is dictated by a number of considerations such as the number of subjects available for the study and the hypothesis to be tested, Opoku (2005).

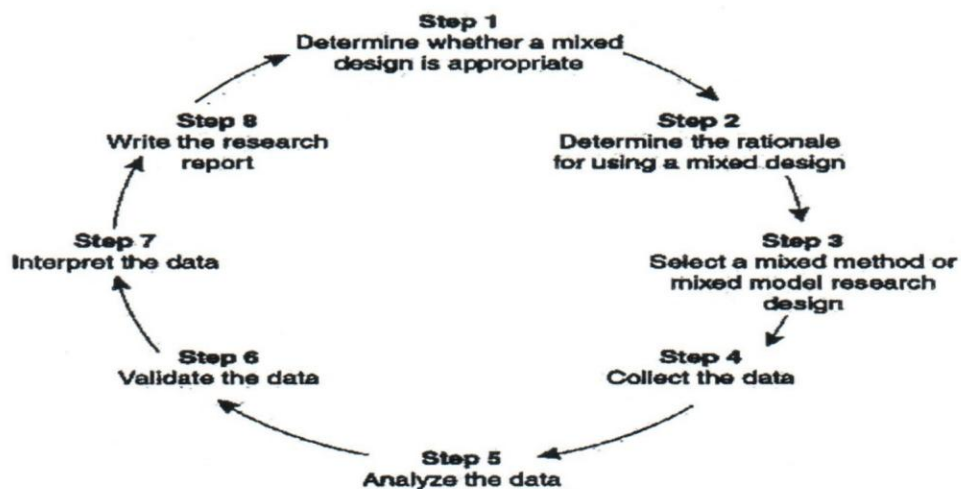


Figure 3.1: Phases/Stages of the Research

Source: Researcher's Design (2012)





3.4 Research Area

Bawku Municipality is one of the nine local administrative divisions in the Upper East Region of Ghana. It is located approximately between latitudes $11^{\circ} 11'$ and $10^{\circ} 40'$ North and longitude $0^{\circ} 18'$ W and $0^{\circ} 6'$ E in the North-Eastern corner of the Region. The municipality has a total land area of about 1,215.05 sq km (Ministry Of Food And Agriculture, Bawku Municipal). It shares boundaries with Burkina Faso, the Republic of Togo, Bawku West District and Garu – Tempane District to the North, East, West and the South respectively.

The estimated total population of Bawku Municipality is 205,849 (Ghana Statistical Service, 2000). Its population density is 169 persons per square kilometer. The population growth rate of the Municipality is 1.1 %. The population of the Municipality constitutes about 20 % of the Upper East Region's population and 0.99 % of the Nation's population and 80 % rural.

The vegetation of the area is mainly of the Sahel Savanna type consisting of open Savannah with fire swept grassland separating deciduous trees among which may be seen a few broad-leaved and fire-leached tree species. As with the whole of the Upper East Region, Bawku Municipality is part of the interior continental climatic zone of the country characterized by pronounced dry and wet seasons. The two seasons are influenced by two oscillating air masses. First is the warm, dusty and dry harmattan air mass which blows in the north -easterly direction across the whole municipality from the Sahara Desert. During the period of its influence (late November – early March) rainfall is entirely absent, vapour pressure is very low (less than 10 mb) and relative humidity rarely exceeds 20 % during the day but may rise to 60 % during the nights and early

mornings. Temperatures are usually modest at this time of the year by tropical standards ($26^{\circ}\text{C} - 28^{\circ}\text{C}$).

The rainy season begins in May to October with a total rainfall amounting to an average of 800mm per annum. Characteristically, large quantities of rainwater are normally lost through evapotranspiration from open water surfaces. Estimated volume of 1.55mm to 1.65 mm rainwater is lost per annum.

Agriculture is the dominant income and expenditure level of household occupation for the people of the municipality, accounting for about 62 % of the total employment. The major crops grown are millet, sorghum, maize, rice, groundnuts, leafy vegetables, pepper, watermelon, and onion. Farm sizes range between one and two hectares as a result of high population density. Yields are very low as compared to other parts of the country due to poor soils, unreliable rainfall and basic farming practices in the area. Most farmers therefore face greater food insecurity for the greater part of the year.

Cash crops in the municipality are onions, tomatoes and soya beans. Tomatoes and onions are cultivated in the dry season, however, onion is referred to by the residents as the “cocoa of Bawku Municipality”.

Even though there are few dams and dugouts which are being used for dry season gardening, the municipality is basically dependent on rain-fed agriculture. Farmers also dig into the sand of dry riverbeds to get water. There are also on-going projects for the rehabilitation of dams and construction of new dams. The problems militating against agricultural development in the municipality is the short and erratic rainfall pattern marred by dry spells and peak seasonal floods among others.





However, the White Volta and Valley Bottoms make available land for irrigated farming. In addition to this, there exist about fourteen (14) small-scale dams. Apart from the irrigable land area provided by the small-scale dams, there exist a potential for water pump irrigation along the banks of the White Volta.

With the municipality's abundant potentials in dry season agriculture, it could increase her agricultural output if conscious measures are adopted to tackle the bottle necks of the dry season farmers



Figure 3.2: Dry Season Farmers

Source: Field Survey (2012)

3.5 Sampling Size

The question of how large a sample must be to be adequate is not a simple one. The adequacy of the sample size depends on factors like the nature of the population involved, the type of sampling design, and degree of precision desired. Clayton (1997)



and Creswell (2003) addressed the issue of the appropriate number of participants in qualitative research with a range of 15 to 25 participants expected to provide thematic saturation. However, using a sample that is too large is a waste of resources and a small sample size may not be representative enough and this may affect the validity of the research.

The major function of sampling is to obtain external validity. It also serve the practical purpose of making possible the study of problems which otherwise could not be undertaken due to prohibitions of cost, time, personnel or scope (Osuala, 2005).

The critical figure called sample size is gotten in some cases through logical estimates and in other cases through statistical computations (Sarandakos, 2005). Therefore this research work took after the steps of estimate and consequently estimated a sample size of 263 in total, of which 3 was drawn purposively from key informants which were microfinance institutions, 130 drawn from the dry season farmers in the study area, whilst the rest of the 130 are non-beneficiary dry season farmers in the study area as a control.

The farmers selected for this study are those who rare livestock, grow onion, tomato and other vegetables. The data collection process required pilot surveys in order to construct the sampling frames and draw various samples. Four pilot surveys were therefore conducted for this purpose. In the first pilot survey, estimates for the populations of growers of onion located in the villages of Binduri, and pusiga of Bawku East were obtained from the Agricultural Extension Agents. Proportional random sampling procedure was adopted to select a sample of forty (40 out of 192) growers of onion (around 20 %). In the second pilot survey, estimates for the populations of the growers of tomato located in the villages of Bazua, Binguri, Zaago, Naakwum, and Pusiga, were



obtained with the help of Agricultural Extension Agents. Again, proportional random sampling procedure was adopted to select a sample of forty (40 out of 200) growers of pepper (around 20 %). In the third pilot survey, estimates for the populations of livestock keepers located in the villages of Tamde, Kardi, Pulmakwum-Pusiga and Yalgu-Bazua were obtained with the help of Agricultural Extension Agents. Proportional random sampling procedure was adopted to select a sample of thirty (30 out of 140) livestock keepers (around 20 %). The size of the sample for each farmer was chosen to be the same for comparison purposes. Finally 20 farmers of other vegetables like okra, cabbage, etc were randomly selected to make up a total of 130 respondents.

Assisting Enumerators who were very proficient in the local language were selected and trained so that they could interpret the questionnaires to the farmers. Before the final questionnaires were administered, questionnaire testing was conducted on five respondents from each category. The testing revealed some weaknesses in the structure of some of the questions in the original questionnaire. The questionnaire was therefore modified accordingly and was administered. Information was collected on value of output, physical quantities of inputs, human capital variables, institutional variables and socio-economic variables. There was a follow up to confirm some of the responses provided by the respondents.

This sample size was considered reliable and representative enough because of the labour and cost involved in collecting the data. The simple random method was used to draw the individual samples.

3.6 Sampling Technique

Sampling is taking any portion of a population or universe as a representative of that population or universe (Osuala, 2005). The representative taken represents the parameters or characteristics of the whole population. The rationale is to make generalization or to draw conclusions or inferences based on the study of the samples about parameters of population from which the samples are taken (Yin, 2003).

Quantitative researchers tend to use a type of sampling based on theories of probability from mathematics. Qualitative researchers focus less on sample's representatives or on detailed techniques for drawing a probable sample, instead they focus on how the sample or small collection cases, units, or activities illuminates social life.

Generally, sampling methods are categorized into probability sampling: one in which each sample has the equal chance of being chosen normally gotten from the sampling frame and non probability sampling: where units are chosen not based on equal chances but based on purpose. A sample may involve a mixture of both probability and purposive sampling (Osuala, 2005). Both probability sampling and non probability sampling will be employed in this research.

Under the probability sampling technique, simple random and stratified sampling techniques were applied because the population characteristics of the study area are heterogeneous and dissimilar. For the farmers, a multi-stage random sampling technique was utilized. The population for this analysis is all beneficiary farmers of microfinance and microcredit, with the first stage being the randomly selected clients groups, and clients of micro-credit and microfinance institutions with equal probability within the district (regardless of farm size). This allowed me to generalize the results to the





aggregate level and form a basis of comparison to the country level indicators. The reason for selecting just microfinance clients is that as a greater number of people do not benefit from microfinance services, the probability of randomly selecting a microfinance client from an area drops dramatically. Since we plan to sample clients regardless of their locality, we reached out to areas where the probability of sampling a microfinance client is higher. Since we are sampling from the rural areas alone, there is a concern regarding the generalization of the data, especially in comparison with the country level variables. However, since microfinance is theoretically concentrated in areas with high levels of poverty, this may not be an issue. The anticipated difficulties that encountered our sampling techniques is biasness of the interview. Some of the questionnaires was not returned or properly completed. With regards to focus group method, it requires some skills for its moderation in order to avoid.

3.7 Methods of Data Collection

The search for answers to research questions calls for collection of data. Data are facts, figures and other relevant materials, past and present, serving as bases for study and analysis.

The data needed for a social science research is broadly classified into data pertaining to human beings, data relating to organizations, and data pertaining to territorial areas. The data served as the bases or raw materials for the analysis. Without an analysis of factual data, no specific inferences can be drawn on the questions under study. Inferences based on imagination or guesswork cannot provide correct answers to research questions. The relevance, adequacy and reliability of data determine the quality of the findings of a study.



In this research both qualitative and quantitative research methods are employed. This permits a flexible and iterative approach. During the data gathering, the choice and design of methods was constantly modified, based on an ongoing analysis. This allows investigation of important new issues and questions as they arise, and allows the drop of unproductive areas of research from the original research plan. Basically, quantitative method is compatible with this study because it allows the research problem to be conducted in very specific and set terms (Frankfort-Nachmias & Nachmias, 1992). Besides, quantitative research plainly and distinctively specifies both the independent and the dependent variables under investigation (Matveev, 2002). It also follows resolutely the original set of research goals, arriving at more objective conclusions, testing hypotheses, determining the issues of causality and eliminates or minimises subjectivity of judgment. Furthermore, this method allows for longitudinal measures of subsequent performance of research subjects (Matveev, 2002). Finally, it provides the attainment of high levels of reliability of gathered data due to controlled observations, mass surveys, or other form of research manipulations (Balsley, 1970). This study is based on surveys and employed statistical treatment, which is basically quantitative in approach.

On the other hand, qualitative research is multi-method in focus, involving an interpretative, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret phenomena in terms of the meanings people bring to them. Accordingly, qualitative researchers deploy a wide range of interconnected methods, hoping always to get a better fix on the subject matter at hand. The reasoning process used in qualitative research involves perceptually putting pieces together to make wholes. From this



process, meaning is produced. However, because perception varies with the individual, many different meanings are possible.

With this particular study, both documentary secondary data (in the form of articles from books, journals, magazines, and newspapers that are generally about agriculture and credit), and survey-based secondary data is utilised. Moreover, primary research was conducted using anonymous questionnaires that were sent to selected beneficiaries. Focus group discussions with selected financial institutions were used to supplement the results of the questionnaires. The questionnaires were used to collect quantitative data and the interviews were used to provide qualitative insights into the data collected.

3.7.1 Primary Sources of Data

This technique of data collection was employed through the use of open-ended semi-structured interview guide, focus group discussion, direct observation and informal discussions. The purpose of these techniques was to allow probing to ascertain the impact of the micro-credits to dry season agriculture in the study area. This also allowed open discussion, which enabled me, obtained information about dry season activities in the study area. This might not have come up if I had used closed questionnaire. Furthermore, the high rate of illiteracy among my respondents calls for the need for the open ended semi-structured interview guide

3.7.2 Interview

Interviewing is one of the major methods of data collection. It may be defined as two-way systematic conversation between an investigator and an informant, initiated for obtaining information relevant to a specific study. Johnson (2000) described the



interview, including its analysis, as an engaged conversation between two people. In the interview, the researcher puts him or herself in the participant's situation to try and understand that person's point of view (Gadamer, 1989). The researcher needs to listen and pay constant attention to the participants as they are responding, repeatedly attempting to understand the meaning of what is being said and how the person has shaped his or her perspective. In this way, interviewing is more than 'collecting data'. Interviewing allows the researcher and the participant to connect in a profound way, reducing the distance between them. The distance is further reduced as the researcher analyses the text, effectively carrying out a conversation with the text of the interview. To be able to understand the perspective of the participant as clearly as possible, it is important for the researcher to be open and inquisitive in both the process of interviewing as well as analysis (Gadamer, 1989).

It involves not only conversation, but also learning from the respondents' gestures, facial expressions and pauses, and his environment. Interviewing requires face-to-face contact or contact over telephone and calls for interviewing skills. It is done by using a structured schedule or an unstructured guide.

The research strategy used semi-structured interviews as well as informal conversational interviews conducted with a purposive sample from each of the represented occupational domains. All the interviews were conducted telephonically, recorded, and transcribed to ensure accuracy of participant responses (Kvale, 1996). Kvale defined a qualitative interview as, "An interview, whose purpose is to gather description of the life-world of the interviewee with respect to the interpretation of meaning of the described phenomena". Phenomenological interviews can be very lengthy and the use of semi-structured questions (Appendix A) can assist in developing a

structure for content analysis to promote generalization of the findings (Cassell & Symon, 2004). "The qualitative research interview is ideally suited to examining topics in which different levels of meaning need to be explored.

Interview is often superior to other data-gathering methods. People are usually more willing to talk than to write. Once rapport is established, even confidential information may be obtained. It permits probing into the context and reasons for answers to questions.

Interview can add flesh to statistical information. It enables the investigator to grasp the behavioural context of the data furnished by the respondents. It permits the investigator to seek clarifications and brings to the forefront those questions, that, for one reason or another, respondents do not want to answer. Disadvantages include impractical when large samples are involved time consuming and expensive (Leedy and Ormrod, 2001).

The following interview guide is adopted in the research to conduct the interviews:

- ❖ Preparation.
- ❖ Introduction
- ❖ Developing rapport
- ❖ Carrying the interview forward
- ❖ Recording the interview, and
- ❖ Closing the interview



3.7.3 Questionnaires

Questionnaire was chosen as one of the data collection instrument. A questionnaire is a printed self-report form designed to elicit information that can be obtained through the written responses of the subjects. The information obtained through a questionnaire is similar to that obtained by an interview, but the questions tend to have less depth (Burns and Grove, 1993).

Data was collected with the aid of questionnaires to evaluate the impact of microcredit on the farming activities of dry season farmers in the study area. Questionnaires were decided on due to the high response rate of questionnaires as respondents have the opportunity to answer the questionnaires at times ideal to them. Questionnaires also require less time and energy to administer and they offer the possibility of anonymity as well as less biasness as they are presented in consistent manner. However, there is a question of validity and accuracy about questionnaires (Burns and Grove, 1993). The respondent may not reflect their true opinion but might answer what they think will please the researcher, and valuable information may be lost as answers are usually brief. To fill this gap, the researcher also employed structured purposive interview to solicit detail information from the respondents. The questionnaires consisted mostly of closed-ended questions and a few open-ended questions, as these provide more diverse detail. In the open-ended questions, the respondents were required to respond in writing, whereas the closed-ended had options which were determined by the researcher (Burns and Grove, 1993). Open-ended questions were included to allow respondents to respond to questions in their own words and provide more details. The closed-ended questions are



also easy to administer and to analyze. They are also more efficient as respondents can answer more closed-ended questions than open-ended questions in a given time.

The questionnaires were in English. For those who could not read and write in English, the researcher interpreted and wrote their answers for them. The questionnaires consist of two section A and B. section A aimed at gaining demographic data such as age, level of education, etc and section B which aimed at determining the knowledge and view of farmers on credit and its impacts on their farming activities. A separate questionnaire was also designed for selected microcredit institutions in the study area to collect data concerning their operations and its impact on the beneficiary clients in the study area.

3.7.4 Secondary Sources of Data

It is the analysis of data or information that was either gathered by someone else (e.g., researchers, institutions, other NGOs, etc.) or for some other purpose than the one currently being considered, or often a combination of the two (Cnossen, 1997). The secondary data gathered for this research is mainly on Agricultural variables and practices (rainfall, crops, soil types, and uses, irrigation, etc.), that were sourced from relevant institutions like MoFA, ADB, newspapers, research works, etc. the researcher resorted to secondary data as an a cost-effective way of gaining a broad understanding of research questions. Secondary data are also helpful in designing subsequent primary research and, as well, can provide a baseline with which to compare your primary data collection results. Therefore, it is always wise to begin any research activity with a review of the secondary data (Novak, 1996). However, because official statistics are often “characterized by unreliability, data gaps, over-aggregation, inaccuracies, mutual





inconsistencies, and lack of timely reporting” (Gill, 1993), it is important to critically analyze official statistics for accuracy and validity. This is due to the following factors:

Because the data were collected by other researchers, and they decide what to collect and what to omit, all of the information desired may not be available (Israel, 1993).

Much of the data available are only indirect measures of problems that exist in countries and regions. Secondary data can not reveal individual or group values, beliefs, or reasons that may be underlying current trends.

This notwithstanding secondary data if available can be secured quickly and cheaply and wider geographical area and longer reference period may be covered without much cost. Thus the use of secondary data extends the researcher's space and time reach. The use of secondary data also broadens the database from which scientific generalizations can be made thus enables a researcher to verify the findings based on primary data.

3.7.5 Locating the Needed Secondary Data

Accordingly, finding relevant secondary data involves two interlinked stages. The first stage is identifying the availability of the data that a researcher is looking for as secondary data, while the second stage is finding the precise data that is needed for the study. (Saunders et al, 2003)

For this study, the researcher was able to establish that the pertinent data needed for the fulfilment of this research's objectives were available through the literature review previously conducted. Because of the review, the researcher was able to gather the full citation references to the sources of the needed data. Tertiary literature (like indexes and data archive catalogues) also helped especially those on-line indexes and catalogues of Universities, organisations and Governments.

After determining the availability of the data, the next step for the researcher was to locate them. As a result, the researcher had gone to several libraries within the researcher's vicinity in order to locate the books, journals and magazines that were needed. More importantly, the researcher utilised the Internet research to gather more information pertaining to the impact of microfinance on dry season farming activities. Through the Internet, the researcher was able to gather the websites of these organisations that had the pertinent secondary data needed.

3.8 Data Analysis

I will not only rely solely on the information from the various responses from the varied sectors but, also the statistical publications from international organizations and Ghana Microfinance Institutions (GAMFIN). I propose to make a thorough analysis of the official and unofficial data received. To this end, I will use the SPSS software to do the quantitative and the qualitative analysis.

3.9 Conclusion

The study utilized human participants and hence a lot of primary data was gathered and used. The privacy as well as the security of the participants was assured by the consideration of significant issues like consent, confidentiality and data protection.

In the conduct of the research, the survey forms and interview methods were drafted in a very clear and concise manner to prevent conflicts among respondents. People who participated in the research were given an ample time to respond to the questions posed on them to avoid errors and inaccuracies in their answers. The respondents were given a waiver regarding the confidentiality of their identity and the information that they did



not wish to disclose. The respondents' cooperation was eagerly sought after, and they were assured that the data gathered from them would be treated with the strictest confidence, so that they would be more open. This was done with the hope that this would promote trust between the researcher and the respondents to yield elaborate and authentic data. The research also source for secondary information from a wider area like existing thesis, magazines, journals and news papers to expand and enrich the scope of the research findings.

The techniques employed for the data collection was effective for the kind of research conditions in hand hence the deliverables of the data collection tools were achieved.



CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter entails a presentation and analysis of data collected from the study area, Bawku Municipal. It begins with a presentation of the general characteristics of rural farmers who are engaged in dry season farming activities, with support from NGOs and government line agencies. With this approach, I looked at farming activities of these farmers, their product and the problems they encounter and the services offered these rural farmers. I further looked at how much is given to them as credit, and the impact of the micro-credit on their livelihood.

4.2 Age Distribution

The age of a farmer has a great influence on her/his ability to partake in economic activities and, of course, chances of benefiting from the ongoing micro-credit in the study area. The age of the respondent is very important because it gives an idea of the different age groups that are benefiting from micro-credit in the municipality.

The age of the respondent is also a factor which influences the choice of activity of these farmers. Economic activity such as onion cultivation is associated with age, because it requires a lot of physical activities especially in the study area as most of the farming activities are not mechanized. According to the Irrigation Development Authority (2007), about 70 % of the dugouts in Ghana are located in the Upper East Region, and dugouts constitute over 80 % of the water storage systems in the Region. Dugouts



therefore form the most widely used water storage structures among farmers during the dry season in the Region.

Table 4.1: Age Distribution of Respondents

AGE	ABSOLUTE FIGURE	PERCENTAGE (%)
BELOW 15	0	0.0 %
16-20	0	0.0 %
21-30	10	3.8 %
31-40	62	23.8 %
41-50	84	32.3 %
ABOVE 50	104	40.0 %
TOTAL	260	100 %

Source: Field Survey (2012)

The data generated from the survey shows that 60 % of the respondents are within the age bracket of 20-50 years, which represent the economically active population. Most of the dry season farming activity involves the use of 'manpower', and that might have explained the reason why the active age group forms the majority. Perhaps, it could also be the period that these farmers' welfare needs are high, since that is the reproductive age group. The needs of their increasing families could also call for additional resources. It is also succinctly clear from the table that 40 % of the farmers are in the cohort of ages above 50, and none of them are within the age group of 15 - 20. One possible reason behind the encouraging numbers in the age group of 50 and above is that, most of them are family heads and hence could not migrate to the south for menial jobs during the dry season unlike the youth. It could also be explained by the fact that the elderly regards





farming as a noble job in the community unlike the young. The lack of formal retirement age in farming unlike the formal sector job may have enticed the aged to dry season farming. (Nung 1996, cited in Gilbert, 2006) noted that so far as the informal sector employment is concerned, it is not age but physical strength or weakness of one that determines the age of retirement. This goes to explain the reason why some farmers are above the retiring age but still engage in dry season farming. A remark by one of the elderly respondent when I asked why he still had to engaged in dry season farming at this old age, he said “do you expect me to chew grass? I have nobody to take care of me, and since I am still strong, then it is better to do something for myself instead of begging”. This seems to suggest that since there is no social security or guaranteed pension in the informal sector in the study area, the elderly in the sector are often forced to work as long as their health allow.

The studies has also indicated low level of participation of the youth in dry season farming as none of the sampled respondents are in the year bracket 20 and below. It is likely that the youth are shying from dry season farming due to lack of capital as well as their inability to get support from supporting agencies like NGOs for various reasons or because they are schooling. The seasonal and perishable nature of the products of dry season agriculture in the area coupled with the lack of support to deal with these problems compels majority of the youth to travel to the south to do menial job like porting, petty trading, etc which is regarded to be fast rewarding.

4.3 Gender Sensitivity of Dry Season Farming

Agricultural systems and the roles, rights, relations and responsibilities of men and women who farm, differ according to agro-ecological and cultural contexts. While



women play a critical role in agriculture in the developing world accounting for about 70-80 % of household food production in Sub-Saharan Africa, 65 % in Asia and 45 % in Latin America (World Bank, 1996), managing land, water and livestock resources, often in the absence of men, they are not always recognized as ‘farmers’. Social norms, institutional arrangements and the growing liberalization of agricultural marketing systems (Baden, 1998) have an impact on gender-based disparities.

In most developing countries women’s lack of access to land rights whether as private property (inheritance), usufruct rights on common property resources or direct purchase/lease from the market, has an impact on their livelihood strategies, food security and social status (Agarwal, 1994). Independent or joint land tenure for women can provide them with access to collateral for bank loans (agricultural credit) in their own names or access to agricultural extension services and information systems which are typically targeted to men. But land reforms in several countries, while important for the poor and landless, have generally targeted male household heads, excluding women from legal tenure, which in turn, affects their claims to water for irrigation and their participation in community institutions (Deere and Leon, 1998).

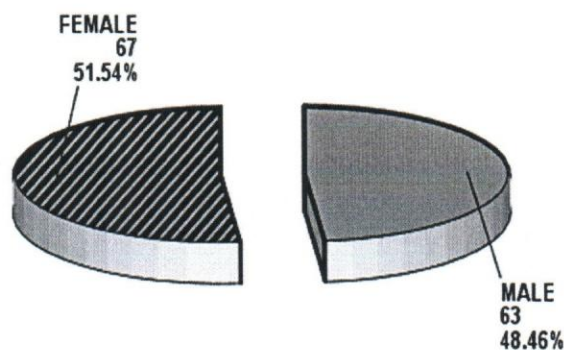


Figure 4.1: Gender Distribution of Respondents

Source: Field Survey(2012)



The story is not farfetched in the study area. The survey data revealed that 52 % of the respondents are males as against 48 % females. This supports the fact that women though play a major role in agriculture in Sub-Saharan Africa, they have less access and control over household incomes and agriculture resources. Available statistics (Ghana statistical service, 2000) indicates that the proportion of male to female population in the Bawku Municipality stands as 99,762 (48 %) males to 106,089 (52 %) females. That 48 % of the respondents are women is a negative outcome. This could be explained by the fact that the actual percentage of women engaged in dry season farming may be more than that of the men but the cultural settings of the study area may relegate the women to the background as they are not encouraged to own properties on their own but rather work under their male family heads. Another factor that could account for the outcome is the fact that many of the women, may be discouraged in engaging in dry season farming for the very fact that dry season farming activities especially in the study area are laborious and strenuous.

However, while women may share similar irrigation related needs on family plots sufficient water for growing one or more crops a year, there may be differences of opinion regarding the timing and timeliness of water delivery (Zwarteveen, 1997). Women often have to balance other household tasks along with irrigation and usually find it difficult to irrigate at night, particularly if they are single women, because of social norms defining mobility and security concerns. Female-headed households usually have to hire (male) labour to help with irrigation or depend on social networks of family and friends during the peak season.

4.4 Marital Status

Marriage is a social institution. It re-organizes society, leading to the formation of kinship ties and membership in descent groups. In other words, marriage leads to the creation of new and entrenchment of old social relationships. When a man and a woman are joined in marriage, their respective families become affine automatically. It is therefore an institution through which kinship ties are both established and extended (Nukunya, 1992). In the Bawku traditional area, women do not own productive resources like land. It is only men who have primary ownership of land. Women only have secondary ownership of land through marriage. Manuh (1998) argued that, "it is as mothers that women secure claims in their marital homes and to their husband's assets". This implies that there are intra-household differences in resource use and control between men and women in Bawku. Despite the inhibitions associated with the cultural system, as actors capable of processing social experiences and devising coping strategies, women marry to increase access to productive resources. They are knowledgeable and capable, no matter whatever uncertainty or constraint they might find themselves in. This means that, no matter the situation these women find themselves, exercise some kind of 'power', leverage or room to manoeuvre.



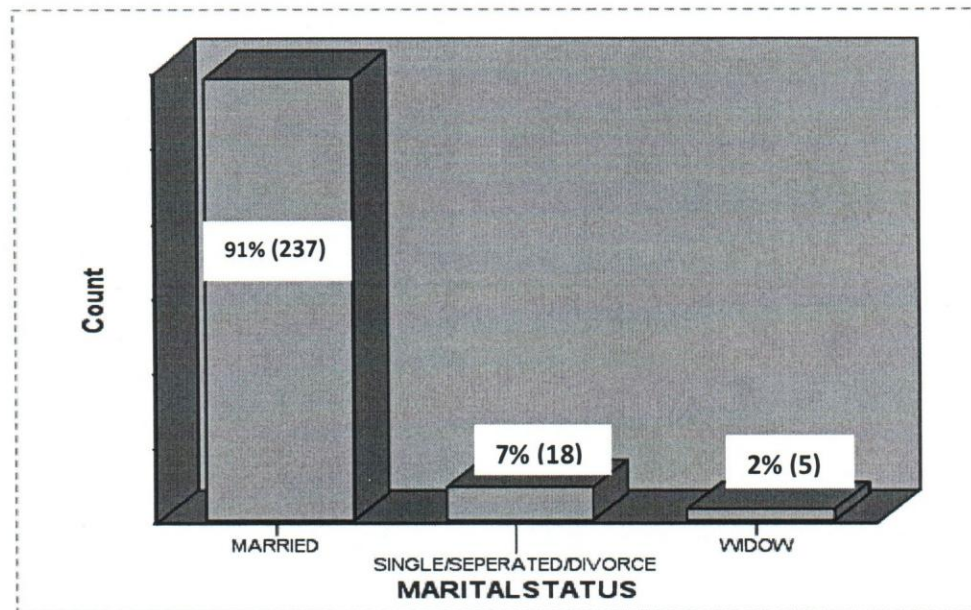


Figure 4.2: Marital Status of Respondents

Source: Field Survey (2012)

From the data trend in figure 2, 7 % of the respondents are single and 91 % were married and still with their husbands. Meanwhile, 2 % of them were widows. Marriage in the study area is a social institution and highly cherished for social, economic and sociological reasons. So girls who get to the age of 20 are mostly required to marry in order to fulfill their reproductive roles. In this cultural community, the unmarried are often shunned, making marriage looks as if it is compulsory. Those who are still young, at times, remarry and this further buttresses the reason for the high incidence of married persons in the dry season farming activities.

The table suggests that widows come last in terms of numbers, after married women who are into farming activities. The least involvement of widows in dry season farming activities is as a result of them rarely getting support from family members, especially

those without grown-up children. Most of the widows are also in a life stage that is considered too old for a strenuous activity like dry season farming.

The low involvement of the singles and the widowed reinforces their plight of being denied cultivable land and other resources to invest in farming. "Who is my husband to secure me land", remarked a widow. This explanation agrees with Lloyd and Gage-Brandon (1993) who in their study reported that, the divorced and widowed were more disadvantaged and marginalized than others. This could further be attributed to women's ability in claiming secondary ownership to productive resources of their husbands when married.

4.5 Education and Work

Education affords the individual the opportunity to access formal, government or white colour jobs. It equips the individual with the skills to read, write, record, receive training and seek information. The mentioned skills are very necessary when seeking a formal job. The formal sector is regulated and it has assured public pension. Admission into the sector depends on one's skills and qualification. On the contrary, those without education had to be content with employment offered by the informal sector.

The informal sector covers a wide range of enterprises including dry season farming, petty trading, and street merchants. In comparison with the formal sector, the informal sector enterprises are very small, labour intensive and make up apparently a large proportion of the poor (Macdonald, 1999). It is survival oriented labour-intensive operations with fluid avenues for entry and exit. The family remains the locus of activity and trust. Women in the informal do not benefit from minimum wage and social security and have to provide for their own and family health needs (Manuh, 1998). Workers in



the informal sector often hold multiple jobs in different sectors to minimize risk. This goes to confirm long's (1989) assertion that actors are capable when even under restricted situations, in formulating decisions and act upon them. Lastly, the informal sector has no public pension, so one could engage in the sector till he/she is weak and could no longer work. The educational level of a farmer is highly correlated to his or her ability to easily adopt innovative agricultural practices to increase his/her productivity.

Table 4.2: Educational Background of Respondents

STATUS	ABSOLUTE VALUE	PERCENT
NO FORMAL EDUCATION	208	80.0
PRIMARY UNCOMPLETED	30	11.5
SECONDARY COMPLETED	22	8.5
TOTAL	260	100.0

Source: Field Survey(2012)

It is quite clear from the above table that, the informal sector mostly employs people without recourse to their educational background. It can be seen that 80 % percent of respondents have no formal education, 11.5 % percent have education up to the primary school level and 8.5 % of them had education up to secondary. The low educational status associated with dry season farmers in Bawku could be attributed to perception in the area that farming as a job is preserved for the uneducated.

4.6 Economic Condition

Agriculture clearly remains an importance source of 40 % or more of the livelihood of the majority of the rural population, and in particular the rural poor. Also, a substantial proportion of non-farm income must be linked to agriculture. No other activity consistently offers the same degree of importance.

Thus the notion of agriculture as the 'engine of growth' for the rural economy cannot be dismissed. As noted above, the linkages from irrigation development may expand the non-farm labour market as well as providing rural households with opportunities for livelihood diversification. Diversification is a key feature of livelihood strategies. Many rural households may therefore have complex livelihood strategies that cross the simple boundaries of hunting and gathering, farming, labouring, being an entrepreneur and being a consumer. They may engage in all of these activities, farming a small plot and selling some of the product, purchasing agricultural products and other commodities on the market, and collecting wild resources. For such households, the in-farm output, prices, employment, wages and natural resources that may arise from irrigation development may have complex effects.



4.6.1 Economic activity

Table 4.3: Economic Activity of Respondents

ACTIVITY	FREQUENCY	PERCENT
ONION FARMING	218	83.9
TOMATO FARMING	22	8.5
ANIMAL RARING	10	3.8
OTHER VEGETABLES FARMING	10	3.8
TOTAL	260	100

Source: Field Survey(2012)

The outcome of the survey indicates that the major dry season farming activity involved by the respondents is related to vegetable cultivation with very few involving in dry season animal rearing. The survey reveals that 83.8 % of the respondents are into onion cultivation, 12.3 % are into the cultivation of other vegetable crops and only 3.8 % rear animals as an activity in the dry season. This is mainly due to the fact that the major dry season farming activity in the area is irrigation agriculture of which onion cultivation dominates due to the suitable climatic conditions for onion cultivation in the area

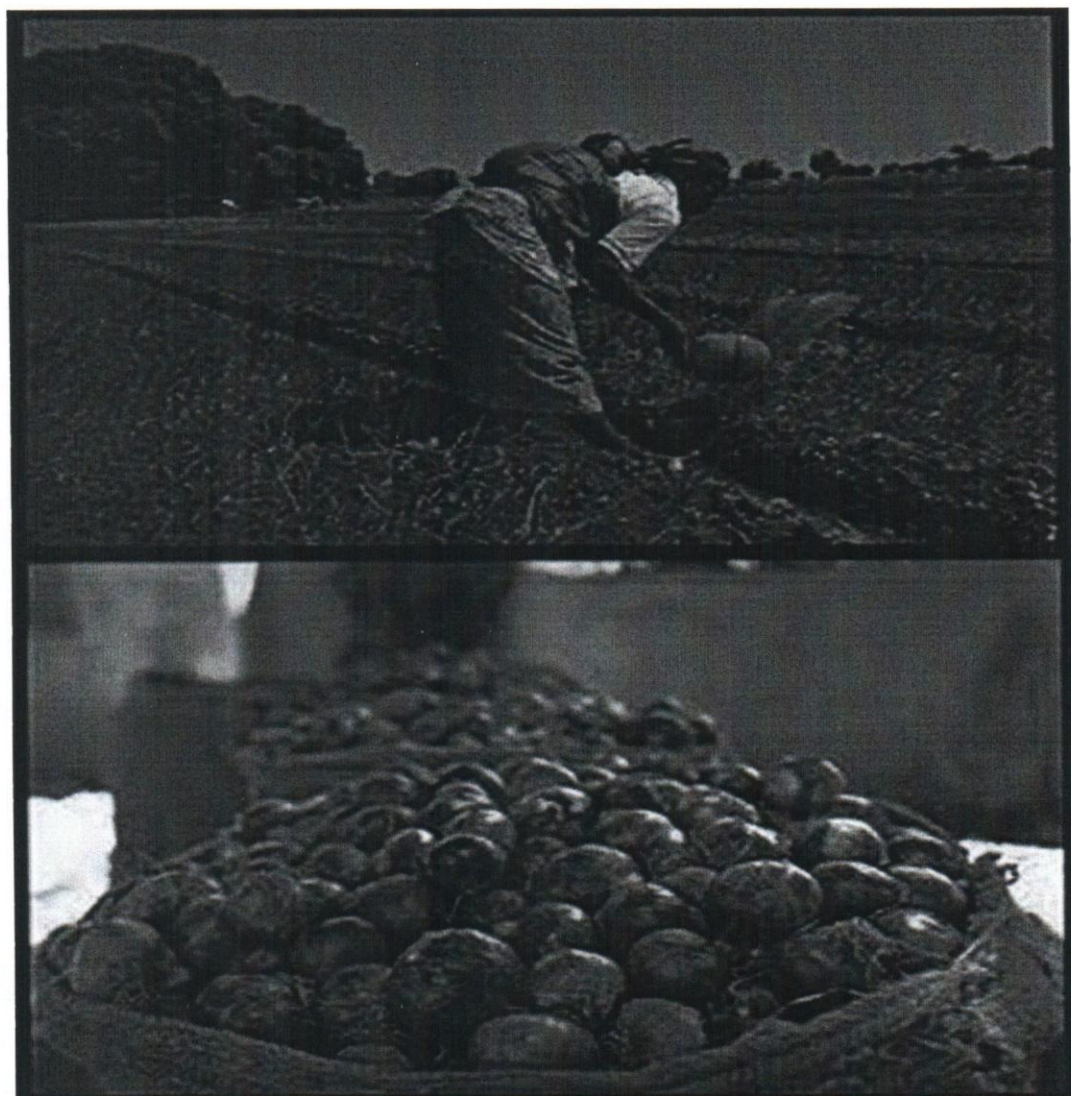


Figure 4.3: Onion Cultivation in the Study Area

Source: Field Survey (2012)

4.6.2 Source of Start-Up Capital

Table 4.4: Source of Start-Up/ Credit Capital

SOURCE OF CREDIT	SOURCE OF START-UP CAPITAL		
	PERSONAL SOURCE/ LOAN	GIFT FROM FAMILY	GIFT FROM FRIENDS/PHILANTHROPISTS'
BANK OR FINANCIAL INSTITUTION	0	10	0
NGO/OTHER ORGANIZATION	220	20	0
MONEY LENDERS	10	0	0

Source: Field Survey(2012)

As to the source of start-up capital 230 of the 260 respondents representing 88.5 % source their capital from personal savings and loan to start up their farms while 30 (11.5 %) respondents had their start-up capital from the family as indicated on the table above. The survey also revealed that out of the 260 respondents interviewed, only 20 (7.6 %) had credit (financial assistance) from banks and money lenders together. The remaining 240 (93.4 %) respondents had their credit from NGOs. This buttress the fact that majority of the banks are not interested in transacting business with farmers in the sub-Saharan Africa due to the risky nature of farming especially peasant farming. Most of the banks still concentrate on urban and peri-urban areas that are easy to serve. Many of the respondents could not acquire bank credit due to the fact that they do not own any asset, which could serve as collateral security to guarantee their loans.

This affirms the fact that, Bank penetration rates in agricultural regions of Africa and South-Asia is barely over 5-6 % (Bachelier, 2007). This gap has created a potential for



microfinance in developing countries to play this role, given its advantage in terms of proximity to the client and its frequent interaction with their clients.

4.6.3 Size of the Loan Received By the Beneficiary Farmers.

Table 4.5: Size of the Loan Received By the Farmers

AMOUNT RECEIVED	FREQUENCY	PERCENT	VALID PERCENT
Below 100 (GH¢)	92	70.8	70.8
100-200(GH¢)	18	13.8	13.8
401-500(GH¢)	20	15.4	15.4
TOTAL	130	100.0	100.0

Source: Field Survey (2012)

From the study, the percentage distribution of the amount of money received as loans by farmers revealed that 92 farmers had received loans less than 100 Ghana cedis, 18 of them took between 100 to 200 Ghana cedis and 20 reported receiving 400-500 Ghana cedis from micro-credit institutions. The farmers indicated that one could only qualify to get assistance or credit through group formation.

An individual could therefore not obtain credit from the financial institutions without being a member of a farmer's group. The group serves the purpose of a collateral security; the groups are liable for any loan facility obtained from the institution. Moreover, any individual beneficiary who defaults in paying back her loan is harassed by her colleagues to pay. For a group's member's ability to pay back what she/he has taken guarantees the others the opportunity to access the next tranche of loan. A member who fails to pay may face the risk of assets seizure by her colleagues.



4.6.4 Interest Rate and Period of Repayment Arrangements

According to credit officers of MOFA, ADB and ZOVFA (NGOs in the study area), the loan given out to the farmers attract a simple interest rate of 16-25 %. This means when you are given 100 Ghana cedis at a simple interest of 16-25 %, then you finally end up by paying between 116 Ghana cedis to 125 Ghana cedis. This will be spread over twelve months for them, to enable the farmers pay off which majority of the respondents (80 %) said they find very easy to pay. When the loans are given out to the farmers, they are allowed to begin paying back the loan after they had harvested their crops. This, the farmers said was enough a time for them to be able to pay back the loan coupled with the weekly compulsory savings that they are doing. "This compulsory saving is really very helpful to some of us anyway, because it is given back to us after sometime to enable us buy certain valuable assets", one respondent remarked.

The credit officer of Agricultural Development Bank (ADB) in the Bawku municipal also mentioned that the interest rate for credit given out was 16.75 % p.a. Meanwhile, beneficiaries were both male and female. Group formation was also a pre-requisite for loan acquisition. The loan facility also ranges from 200-400(GH¢). This loan scheme has run into problems because it is more or less like a revolving fund, and unfortunately those who benefited initially have not been able to pay it back. Some of the beneficiaries described the loans facility as 'chop money', since it was just woefully inadequate to support any viable economic venture. However, some of the farmers blame their inability to repay the loan on the persistent chieftaincy conflict in the Bawku Municipality which they said always occur in the dry season, the time of their farming activities.





4.7 Impact of Microcredit on Dry Season Farming

4.7.1 Kind Of Microfinance Services Benefited By Beneficiary Dry Season Farmers

Most MFIs have a social mission that they see as more basic than their financial objective, or at least co-equal with it. Microfinance has been successful in opening economic opportunities for the poor, increasing access to resources and contributing to their confidence and wellbeing (Khadker, 1998). In the study area variety of services is offered to the beneficiary farmers. The survey indicated that beneficiary farmers benefited from products like credit, training to increase their productive capacity and entrepreneurial skills, farm inputs and many others. This is depicted on the table below.

Table 4.6: Kind of Services Benefited By Dry Season Farmers

KIND OF SERVICE	NO. OF RESPONDENTS	PERCENTAGE
LOANS	130	100
PROVISION OF FARM INPUTS	10	7.7
ENTREPRENEURIAL TRAINING	50	38.5
PROVISION OF BREEDING STOCK	5	3.85
PRODUCTION RELATED TRAINING	120	92.4

Source: Field Survey (2012)

From the survey it is identified that the farmers benefited from a variety of products and services from the micro-credit institutions operating in the area in addition to the credit. Majority of the farmers had production related training (training in new ways of farming) as an aspect of the credit scheme in the study area. 120 of the beneficiary

farmers representing 92.4% benefited from this service. This conforms to the fact that credit institutions as part of the credit schemes equip beneficiaries with the needed skills in their business to increase their success rate and hence the repayment rate. The survey also reveals that the farmers also benefited in services like entrepreneurial training, provision of farm inputs and breeding stock for livestock production.

4.7.2 Factors Influencing Access to Credit By Dry Season Farmers

The factors that influence the extent to which dry season farmers are able to access credit from credit institution were first identified. The influences of the identified factors on the extent of access to credit by farmers were estimated. The factors influencing access to credit by dry season farmers were identified from the survey as age of respondents, formal education, awareness about the credit facility by farmers, membership of farmer association and savings.

As expected, age of respondents met the a priori expectation of positive relationship with access to credit. This conforms to the findings of Benito and Mumtaz (2006) that age is a significant credit constraint, this study find it to be a significant factor though none of the four key institutions interviewed (MOFA Bawku municipality, ZOVFA, BESSFA rural bank and ADB) mentioned age as a considering factor for advancing credit to farmer in the area. It is obvious from the survey that age is a factor because all the 130 beneficiary respondents interviewed are adults with ages above twenty years.

Also, formal education attainment conformed to the a priori expectation and was found to be significant. This finding regarding formal education is consistent with the findings of Akudugu (2009) that formal schooling significantly influences participation in formal



credit schemes. The knowledge of credit sources available to farmers also met the deductive expectation of positive relationship with probability of access to credit from the rural banks by women farmers but was found not to be significant.

The perception of farmers regarding bureaucratic procedures of acquiring credit are negatively influencing their probability of access to credit from the rural banks and was found to be a significant limiting factor. This finding of negative influence of application procedures is consistent with the findings of Nathan *et al.* (2004) and Johnson (2004) as in Akudugu (2009) that cumbersome application procedures deter people especially illiterates from applying for credit from formal sources. Membership to farmers associations is one the factors stated by all the four institutions interviewed as a factors given the most priority before a loan is advanced to a farmer. This conforms to the finding that all the beneficiary dry season farmers belong to farmer associations. This implies that when dry season farmers join farmer's associations, then their probability of access to credit will be increased. This finding is consistent with Kah *et al.* (2005) that formation of economic associations helps improve access to credit since there is a joint guarantee by association members. In addition, savings made with the rural banks by dry season farmers positively relates to their probability of access to credit. This finding of the positive and significant effect of savings on access to credit is supported by that of Akram *et al.* (2008) that savings form a basic requirement of credit access in many formal financial institutions.

4.8 Effect of Micro Credit on Livelihoods of Dry Season Farmers

To assess the effect of access to micro credit from the financial institutions and NGOs on the livelihoods of beneficiary dry season farmers, first their perceptions of



improvements in their livelihoods are assessed. Secondly, the effect of credit from rural banks on the income earnings of beneficiary dry season farmers is estimated using the results from the survey.

The use of income as the main measure of improvement in livelihoods is supported by Armendariz and Morduch (2005) as in Akudugu (2009) who in related studies on the impact of microfinance used income changes as the main measure and estimated the effects using the linear regression model. According to them, the most immediate measure that comes to play when studying impact of microfinance is that it may make households wealthier leading to an “income effect” that should push up total consumption levels, increased demand for children’s education and health as well as leisure, *ceteris paribus*.

4.8.1 General Perceptions of Dry Season Farmers of Improvements in Their Livelihoods.

To assess the general perception of beneficiary and non-beneficiary dry season farmers of improvement in their livelihoods, the five main livelihood indicators within the DfID SLF were used. These include increased income earnings from dry season farming activities; improved access to health care for family; improved access to quality education for children; improved food security for household; and sustainable natural resource use including best farming practices. Respondents were made to indicate whether for a given livelihood indicator, their status have worsen over the period of 2010 to 2012, no change recorded or improvement recorded. The following sub-sections give the detail discussions.



The perceptions of beneficiary and non-beneficiary farmers of improvement in their livelihoods were assessed and the results presented in Table 4.7.

Table 4.7: Perception of Dry Season Farmers of Their Livelihood Improvement

PERCEPTION OF IMPROVEMENT	INCOME EARNING	ACCESS TO HEALTH CARE	ACCESS TO QUALITY EDUCATION	FOOD SECURITY
<u>WORSEN:</u>				
Beneficiary	15 %	10 %	7 %	20 %
Non-beneficiary	25 %	15 %	10 %	33 %
<u>SAME:</u>				
Beneficiary	20 %	30 %	15 %	14 %
Non-beneficiary	30 %	35 %	38 %	27 %
<u>IMPROVED:</u>				
Beneficiary	65 %	60 %	78 %	66 %
Non-beneficiary	45 %	50 %	52 %	40 %

Source: Field Survey (2012)

From the results shown in Table 4.7, about 65 % of the beneficiary farmers recorded improvement in their income earnings over the period (2010 to 2012). However, 20 % of them did not record any improvement in their income earnings whilst 15 percent of them recorded decreased income earnings. On the other hand, 45 % of the non-beneficiary dry season farmers interviewed recorded improvement in their income earnings over the period (2010 to 2012). However, 30 % of them did not record any improvement in their income earnings whilst 25 % of them recorded decline income earnings. Since a good number of dry season farmers (65 % of beneficiaries and 45 % of non- beneficiaries)



recorded improvement in their income earnings, it can be concluded that there have been general improvement in their income earnings over the period.

Also, 60 % of the beneficiary farmers interviewed recorded some improvement in their access to quality health care. This finding is consistent with Al-Hassan and Bambangi (2006) that farmers who access credit have better access to Medicare. While 30 % of the beneficiary dry season farmers did not record any improvement in their access to health care, 10 % of them actually recorded some decrease in their access to quality health care. On the other hand, 60 % of the non-beneficiary dry season farmers included in the study recorded improvement in their access to quality health care, 30 % of them did not record any improvement in their access to health care whilst 10 % of them actually recorded some worsening in their access to quality health care. Giving the percentages of beneficiary farmers (60 %) and non-beneficiary women farmers (50 %) recording improvement in their access to health care, it is concluded that there has been general improvement in their access to health care over the period. The general improvement in access to health care recorded could be attributed to the implementation of government policies such as the National Health Insurance Scheme (NHIS) and the improvement of community health care by the ministry of health.

Similarly, 78 % of the beneficiary women farmers interviewed recorded improved access to education. Contrary to that however, 15 % of them did not experience any change in access to education with 7 % of them reporting worsening access to education. On the other hand, whereas 52 % percent of the non-beneficiary women farmers reported improved access to education, 38 % of them did not experience any change in access to education with 10 % of them reporting worsening access to education. This outcome indicates that there is a far improvement generally in access to quality



education by both beneficiary dry season farmer and non-beneficiary farmers. This can be attributed largely to prudent educational policies adopted in recent years like the Capitation Grand, the School Feeding Programme and Free and Compulsory Universal Basic Education (FCUBE) in the study area.

The results of the survey also indicated 66 % percent of beneficiary farmer had their food security situation improved as against only 44 % percent of non-beneficiary farmers. This could be attributed to the credit assistance the beneficiary farmers had from the financial institutions.

4.8.2 Impact of the Micro Credit Facility on Farmers' Income

Table 4.8: Improvement in the Farmers Income Before and After Benefiting Credit Facility

DIFFERENCE	BEFORE				AFTER			
	BENEFICIARY		NON-BENEFICIARY		BENEFICIARY		NON-BENEFICIARY	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
LITTLE	118	90.8	100	77	50	38.5	104	80.08
MUCH	12	9.2	30	23	47	36.2	25	19.25
VERY MUCH	0	0	0	0	18	13.8	1	0.77
GREAT	0	0	0	0	15	11.5	0	0
TOTAL	130	100	130	100	130	100	130	100

Source: Field Survey (2012)

Table 4.8 indicates that there was a great improvement in the farmers' income after they benefited the credit facility compared with when they had not benefited. From the outcome of the survey, 90.8 % of the farmers indicate that they had just little





improvement in their income before they benefited any credit facility, while 38.5 % of the farmers had little improvement in their income after accessing credit and 9.2 % of the farmers had much increase in income before they had credit compared with 36.2 % who had much improvement in their income after accessing credit facilities. None of the farmers indicates that they had very much or great increase in income before they had micro-credit. The result show that 13.8 % and 11.5 % of respondents indicated they had very much and great improvement in their income after accessing credit respectively. The situation of the non-beneficiaries remains almost the same before and after the credit facility. This is the case as 77 % of the non-beneficiary respondents said they had improvement in their income before and after this percentage increase to 80 %. This result implies that the micro-credit had a positive impact economically on the farmers' income.

4.8.3 Sustainability of Micro-Credit to Dry Season Farmers

Results from the study indicated that beneficiaries realized significant improvement in their dry season farming activities and would like the credit facility to continue. The rate of interest was 23 % and higher than the stated bank's interest of 16.8 %. The beneficiaries added that the credits facilities from the banks attracted a higher administrative cost (the cost they incurred before accessing the loan) to the bank, charged based on compound interest on the loan disbursed. Majority of the beneficiaries were not pleased with this trend, 53 % of the beneficiaries described it as highly unacceptable while 47 % of them said it was okay.

These findings show a serious threat to the future of the dry-season credit scheme unless the banks moves fast to correct farmers' perceptions or reduce the interest charge. This

notwithstanding, if care is put in place to ensure that the facility is directed to those who really need it, and that they access it on time and in sufficient quantities, the future is still bright.

4.9 Conclusion

The data collected from the field is analyze using simple tables and charts. The data is ran on a computer programme SPSS (Special Package for Social Scientists) to generate the percentage tables and charts. The analyses is base on the general characteristics of rural farmers who are engaged in dry season farming activities, the support they get from NGOs and government line agencies, their farming activities, the product and the problems they encounter and finally the impact of the micro-credit on their livelihood.

Simple comparative analyses are employed to study the correlation of the findings to the research goals. There is ample evidence to support the positive impact of microfinance on poverty reduction. Microfinance is an instrument that, under the right conditions, fits the needs of a broad range of the population—including the poorest—those in the bottom half of people living below the poverty line. While there will be people in this group who will not be suited for microfinance because of mental illness, etc., the exclusion of this small percentage of the population will likely not be a limiting operational issue for MFIs.

Empirical indications are that the poorest can benefit from microfinance from both an economic and social well-being point-of-view, and that this can be done without jeopardizing the financial sustainability of the MFI. While there are many biases presented in the literature against extending microfinance to the poorest, there is little empirical evidence to support this position.



CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The main objective of the study is to access the impact of micro-credit on dry season farming and the extent to which the benefits are sustainable in the Bawku Municipality of Ghana. The first specific objective is to find out the kind of microfinance services provided for dry season farmers and this is achieve through categorization and descriptive writing. The second specific objective is to ascertain the factors that influence the extent of access to credit by dry season farmers and this is achieve by ratio analysis and recording the of the kind of micro-credit facility offered to the dry season farmer and the facilities they benefited. The third specific objective is to assess the sustainability of micro-credit to dry season farmers in the study area and this is achieve using simple percentage analysis. Recommendations and suggestions are offered in the conclusion for the improvement of micro-finance services to dry season farmers in the study area.

5.2 Summary of Findings of the Study

The result of the study shows that micro-credit had positive impact on dry season farming. Most of the farmers indicate that micro-credit has enabled them to cater for their children, buy inputs, built houses, buy motorcycles to ease transportation of their farm inputs and produce. It was realized that the average income of participating farmers rises from GH¢100.00 to GH¢400.00 after participating in the programme.



It was released that this impact affected most of the farmers that are into onion farming in the dry season in all the communities in the study area. They specifically stated that the facility that equipped them with new effective techniques in storing the harvested onion for better marked prices in the lean season as very helpful.

This shows that Micro-finance is of optimum benefit to the dry season farmers in terms of improvement in their income and standard of living. However, despite the enormous benefit of the programme, problems such as small amount of credit facilities, time wasting in processing of credit facilities, delayed in the provision of credit facilities, and high amount of equity contribution were recorded. These problems threaten the sustainability of the programme in the study area.

It is worth mentioning that NGOs have played a significant role in the development of agriculture in the study area. They play a more leading role in ensuring equitable socio-cultural and economic development of the dry season farmers. NGOs are perceived as the outside actors who work in the interest of the poor. In the absence of the state, they have played a vital role in the provision of basic essential services such as water, health and education to the poor Narayan (2000).

Poverty reduction is a concept which was first promoted by these NGOs, and they do this by making available to the poor micro-credit for their income generating activities. In the study area, the farmer's involvement in the credit schemes enables them to develop savings behaviour and business skills. This may be due to the fact that, savings is a component part of the credit. They are encouraged by the credit officers to pay back the loan collected and save as well weekly. These weekly savings are given back to them after considerable number of savings, for them to use in buying valuable assets for



themselves. They are compelled to save because it is the loan conditionality. Many farmers would not have saved if it had not been a condition

5.3 Conclusion

This research looks at various micro-credit services dry season farmers benefited from credit institutions and its impact on the farmers living conditions. The study uses survey method to obtain primary data. The results of the survey show that the dry season farmers had several services as part of the credit package. These services are mainly in the form of skill training and provision of agricultural inputs. These services afforded the farmer the opportunity to be able to apply the credit they acquire into productive use. This has culminated in an improvement in the livelihood of the dry season farmers in the study area. This notwithstanding, the study found that the micro-credit facility covered only minute proportion of the dry season farmers, hence its contribution to their income and standard of living cannot be said to be significantly different generally.

The volume of the credit has been so small that it did not make it possible for some beneficiaries to generate enough to pay back.

5.4 Recommendations

Based on the findings from this study, the following recommendations are made, that adequate steps should be taken for the improvement of service delivery practices in the micro-finance programme in the study area.

The amount of credit facilities provided should be increased so as to increase productivity.

The processes involved before securing the credit facilities need to be reduced.



Time for repayment of credit facilities should be extended to more than one year.

Micro credit schemes should consider supporting dry season farmers to acquire skills and facilities to properly store their produce to avoid the low prices they receive for their produce due to seasonal glut.

Government should evolve policies that will facilitate availabilities of farm inputs and subsidy on those inputs for dry season farmers.

5.5 Suggested Areas for Further Research

Given the outcome and limitations of this study, the following areas are suggested for future research:

1. The effect of land ownership and land security on dry season agriculture.
2. The impact of inadequate storage skills and facilities on dry season farming in the Bawku Municipality.
3. The role of the private sector in linking dry season farmers to markets.



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APPENDIX I

Thesis Topic: Microfinance and Agricultural Production: A Study of Dry Season Farming in the Bawku Municipal of Ghana.

PROPOSED QUESTIONNAIRE

The purpose of this survey is to assess the impact of microfinance on dry season agriculture in the Bawku Municipality. It is in partial fulfillment of an MA (Business Planning and Microfinance) course at the University for the Development Studies. It is purely an academic exercise and your views and responses will be treated with utmost confidentiality. Please take time off your busy schedule and respond to the following;

PART A

Demographic Questionnaires

1.
Community.....
.....
2. Name of
Respondent.....
.....
3. Gender ☐ Male ☐ Female
4. Age at last birthday (in years)
☐ Below 15 ☐ 16 – 20 ☐ 21-30 ☐ 31-40 ☐ 41-50
☐ Above 50
5. Level of education
☐ No Formal education ☐ Secondary Completed
☐ Primary Uncompleted ☐ University and Other Post Secondary Completed
☐ Primary Completed
6. Marital Status
☐ Married
☐ Single/Separated/Divorce
☐ Widow

PART B

Economic Condition

7. What economic activity do you engage in?.....
8. What are the sources of your startup capital?
☐ Personal Resources /loan



- ☐ Gift from parents /siblings
☐ Gift from friends/philanthropists

9. Have you attained any credit from any microfinance institution?

- ☐ Yes ☐ No

10. Kindly indicate the source of micro credit for your business

- (a) ☐ Bank or Financial Institution
☐ NGO/Other Organization
☐ Money Lender

(b) Please provide

name.....

...

PART C

Loan Details

11. Under what conditions were you granted the loan

- ☐ Based on weekly saving
☐ Initial Deposit
☐ Member of Group
☐ No condition

12. What was the size of the loan in (GH¢)

- ☐ Below 100 ☐ 201 – 400 ☐ Above 500
☐ 100 – 200 ☐ 401- 500

13. Have you been able to repay the loan?

- ☐ Yes ☐ No

14.(a). If yes, how easily?

- ☐ Very difficult ☐ Some –what difficult ☐ Neither difficult nor easy
☐ Some – what easy ☐ Very easy

(b). If No, Kindly give reasons

.....

15. Do you pay interest?..... If yes, at what rate?.....

PART D

Change in Turnover of Agriculture Production beforeand After Credit Support.

15. What is your monthly average turnover?

- ☐ 0 – 1 ☐ 101 – 200 ☐ 201 – 300 ☐ 301 – 400 ☐ Above 400

16. Business strength – Is your business better now after the loan, than before the loan

- ☐ Yes ☐ No

17. In what way is your business better?

- ☐ Increase in average weekly sales

- ☐ Expansion of office/market space
☐ No answer

18. (a) What was your monthly savings before the loan?4DS

- ☐ 0 – 100
☐ 101 – 200
☐ 201 – 300
☐ Above 300

(b) What was your monthly savings after the loan?

- ☐ 0 – 100 ☐ 101 – 200 ☐ 201 – 300 ☐ Above 300

19. What is the value of stocks/capital you have added before between the previous year and now?

- ☐ 0 – 10 ☐ 100 – 200 ☐ 201 – 400 ☐ 401 – 500
☐ Above 500

20. (a) What is your average monthly expenditure Before loan?

- ☐ Less than 100 ☐ 301 – 400 ☐ 101 – 200 ☐ 201 – 300
☐ Above 400

(b) After the Loan (2010)

- ☐ Less than 100 ☐ 301 – 400 ☐ 101 – 200 ☐ 201 – 300
☐ Above 400

21. What is your level of participation in social activities?

(a) Before the loan?

- ☐ Low
☐ Average
☐ High
☐ Very high

(b) After Loan?

- ☐ Low
☐ Average
☐ High
☐ Very high

22. What assets did you have before and after the Loan?

(a) Before

- ☐ Television
☐ Fridge
☐ Radio
☐ Piece of Land
☐ Roofing Sheet
☐ Other - List

(b) After

- ☐ Television
☐ Fridge
☐ Radio
☐ Piece of king Utensils
☐ Roofing Sheet
☐ Other – List

23. What in your opinion are the challenges you face in accessing micro credit from the micro finance institution?



- ☐ Attitude of micro finance staff
- ☐ Condition for attaining loan – Collateral
- ☐ Fear of being indebted
- ☐ Attitude of family members
- ☐ Difficulty in forming group.

24. In what ways would access to micro credit improve your business?

- ☐ Purchase and sales of variety of goods for more profit
- ☐ Production of more goods
- ☐ Purchase goods in bulk to reduce cost
- ☐ No response

25. What other assistance do you receive from the microfinance institutions

.....
.....

(b). How beneficial is this

assistance.....

.....
.....

26. Can you say that the credit given to you has resulted in improvement in your life and your family as a whole? Explain your answer.

.....
.....
.....

27. Is there any other thing you want this researcher to know about?

.....
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.....

APPENDIX II

MICROFINANCE AND AGRICULTURAL PRODUCTION: A STUDY OF DRY SEASON FARMING IN THE BAWKU MUNICIPAL OF GHANA.

Research Guide for Government agencies and Non-Governmental Organizations.

Note: Skip questions which are not applicable.

1. When was this organization established in the Bawku Municipal?.....
.....
.....
2. What are your goals or aims in Bawku Municipal?.....
.....
3. Why are you located in the Bawku Municipal?.....
.....
.....
4. What criteria are used in the selection of clients for assistance?.....
.....
5. Do you usually give preference to a type of Income Generating Activities (IGA)?.....
- 6a. How do you reach out to your dry season farm clients?.....
.....
.....
- 6b. How much do you give to these farmers?.....
7. Did they need to have guarantors or collateral security before they are granted credit?.....
- 8a. Do they pay back the credit received?.....
- 8b. If yes, how long does it take them to start paying back the loans?.....
- 9a. Do they pay back with interest?.....
- 9b. If yes, what is the rate of interest?.....
- 10a. Do you organize training for the farmers about how to manage the credit?.....





- 10b. If yes, when, that is, is it before/after the credit has been received?.....
- 11a. What is the purpose of the training scheme?.....
-
-
- 11b. Do the farmers view the training beneficial Explain.....
-
-
-
- 12a. Do you involve the farmers in decision-making, and how?.....
-
-
-
- 12b. At what stages are they involved?.....
-
-
13. Why do you give credit to only farmers?.....
-
-
- 14a. Are there other organizations in the district working on farmers issues?.....
- 14b. If yes, do you collaborate with them? Explain your answer.....
-
-
-
-
15. What are the problems confronting these farmers who are into dry season farming?.....
-
-
-
16. Do you think the credit is able to boost dry season agriculture? If yes, how?.....
-
-
-
-
17. Can you tell if your involvement in giving credit to these farmers have resulted in improvements in the farmer's life and Bawku Municipality as a whole? Explain.....
-



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18a. Do you encounter problems in your activities?.....

.....

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18b. What efforts are you making in order to overcome the problems identified in
18a.

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