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Filière
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THEME:
DETERMINANTS OF ACCESS TO FINANCE FOR ENTRPRENEURSHIP IN THE AGRICULTURAL SECTOR IN CAMEROON

A dissertation submitted in partial fulfillment of the requirements
for the
award of DIPET II

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Sous la direction de
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SUMMARY

To my parents.

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ABSTRACT

Due to the strongly dominated sector, by entrepreneurial farmers, agricultural, the lack of financing remains the main obstacle and yet the banks - the main providers of finance would be the least providers of finance to farmers despite the adequacy equity and the ability to lend to smallholder farmers at a lower price. The regression results indicate that 39% of farmers were credit users. In other words, a unit increase in the bank account and other sources of income is likely to increase access to credit for smallholder farmers. Education, profession and group membership are important but have negative effects on access to credit for smallholder farmers, A unitary increase in education, profession and membership to group should reduce sorting credit for smallholders, Therefore study recommends that government and other policymakers should ensure that older farmers receive adult literacy while older farmers receive formal education. Being educated will also help farmers to not only limit themselves to farming, but also find other jobs as alternative sources of income that will allow them easy access to credit. Stakeholders, policy makers, farmers and even students will use this study to find out exactly what influences entrepreneurial farmers' access to credit and to find out more about small farmers in Cameroon. Stakeholders, policy makers, farmers and even students will use this study to know exactly what influences entrepreneurial farmers access to credit and to know more about smallholder farmers in Cameroon.

Keywords: entrepreneurs, small holder farmers, agriculture, finance

RÉSUMÉ :

En raison du secteur fortement dominé, par les agriculteurs entrepreneurs, l'agriculture, le manque de financement reste le principal obstacle et pourtant les banques - les principaux bailleurs de fonds seraient les moins bailleurs de fonds aux agriculteurs malgré l'adéquation des fonds propres et la capacité de prêter aux petits agriculteurs à un prix inférieur. Les résultats de la régression indiquent que 39% des agriculteurs étaient des utilisateurs de crédit. En d'autres termes, une augmentation unitaire du compte bancaire et d'autres sources de revenus est susceptible d'améliorer l'accès au crédit pour les petits agriculteurs. L'éducation, la profession et l'appartenance à un groupe sont importants mais ont des effets négatifs sur l'accès au crédit pour les petits agriculteurs. Une augmentation unitaire de l'éducation, de la profession et de l'appartenance à un groupe devrait réduire le crédit de tri pour les petits exploitants. Par conséquent, l'étude recommande que le gouvernement et les autres les agriculteurs reçoivent une alphabétisation des adultes tandis que les agriculteurs plus âgés reçoivent une éducation formelle. Être éduqué aidera également les agriculteurs non seulement à se limiter à l'agriculture, mais aussi à trouver d'autres emplois comme sources alternatives de revenus qui leur permettront d'accéder facilement au crédit. Les parties prenantes, les décideurs, les agriculteurs et même les étudiants utiliseront cette étude pour découvrir exactement ce qui influence l'accès des agriculteurs entrepreneurs au crédit et pour en savoir plus sur les petits agriculteurs au Cameroun. Les parties prenantes, les décideurs, les agriculteurs et même les étudiants utiliseront cette étude pour savoir exactement ce qui influence l'accès des agriculteurs entrepreneurs au crédit et en savoir plus sur les petits agriculteurs camerounais.

Mots clés: entrepreneurs, petits exploitants Agricole, agriculture, financement.

ABBREVIATIONS LIST

AGRI: Alliance for a Green Revolution in Africa

ATM: Automated Teller Machine

CAADP: Comprehensive African Agricultural Development Program

IRAD: Central Agricultural Research Institute

ETI: Ethical Trading Initiative

IMF: International Monetary Fund

MINFI: Ministry of finance

MFIs: Microfinance Institutions

MINADER: Ministry of Agriculture and Rural Development

CAMCULL: Cameroon Cooperative Credit Union League Limited

USAID: United States Agency for International Development

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INTRODUCTION

1.1 Background Information

According to recent data, the global population growth by 2050 is projected to increase dramatically. As a result of this, population growth will increase demand for food. Due to increased food demand, it will be impossible to meet this requirement without strengthening the agricultural sector. The banking sector in developing countries gives less credit to the agricultural sector and its development (World Bank Group, 2015). This is the case, although in the developing countries such as Kenya and Ghana, the distribution of agriculture in general GDP is quite large. The brier for not lending to developing countries is not the lack of liquidity in the banking sector, but the lack of willingness to make the development of the agricultural sector this fact makes investment in agriculture limited by both participants, both farmers and agricultural companies (World Bank Group, 2015).. These agricultural loans, which are available in developing countries tend to be informal and of a short duration, which is directly related to long term investments. These informal financial loans only partially cover the needs of farmers and small agricultural businesses, and usually of high interest (World Bank Group, 2015).

Agriculture is the first and most thriven occupation of mankind. Rubenstein (2003) defined agriculture as "the deliberate effort to modify a portion of the earth's surface through the cultivation of crops and the raising of livestock for sustenance or economic gain" these two definitions underline the social importance of agriculture and especially its economic importance for man and his activities. Rubenstein's definition traces the two main types of agriculture which are; for subsistence, which is mostly for private consumption practiced at a low scale, and commercial agriculture which involves huge capital amount, time, machinery to enable large outputs for commercialization and exportation.

In Cameroon agriculture involves about 70% of the economically active population and accounts for as much as 80% of the primary sector contribution to GDP. It also provides 1/3 of foreign exchange earnings and 15% of budgetary resources. Richly endowed with its agricultural diversified products, Cameroon has ideal conditions to ensure its food security and consequently

achieve more agricultural export. The production is divided between food and cash crops making Cameroon Central Africa's 'breadbasket'. As regards export crops, Cameroon ranks 5th in world cocoa and 8th in coffee production though these sectors are currently at a declining phase. Other export crops include cotton, banana, palm oil, sugar, rubber and tea. It also characterized by animal husbandry among the major activities in Cameroon's economy. Due to natural and human factors, this activity is carried out in different ways throughout the national territory mainly using crude and traditional methods. The major agro-industrial companies in the country include; the Cameroon Development Corporation (CDC) which is the largest single employer after the state with 25000 employees and is the highest exporter of cash crops. Other companies include the Cameroon Rubber company (HEVECAM), the Cotton Development Company (SODECOTON) based in Garoua, Cameroon Sugar Company (SOSUCAM), Cameroon Oil palm Company (SOCAPALM) and many others. The relatively low production in the agricultural sector has been attributed to some factors which are natural, socio-cultural, and socio-cultural factors (www.minder.cm).

The train of economic growth is on track. Its trail follows the path of green gold. Agriculture is becoming one of the key mainstays of our national economy. In the ministry of agriculture and rural development, , they continue to focus on their mandate: preparing, planning and implementing Government programmes relating to agriculture and rural development, as well as, supervising, which is necessary to protect various value chains in all crop sub-sector; promoting food self-sufficiency, inter alia, and moreover on the search of ways to make of agriculture a real economy. According to The **National Institute of Statistics** (Institut national de la statistique, INS, 2016), the main sources of credit to entrepreneurs are friends, relatives, formal banks, micro-finance institutions (MFIs), welfare associations, moneylenders and personal savings. Despite efforts from the public and private sector to enhance provision of financial support to the SMEs, the SMEs have persistently faced barriers in accessing funds for investments.

Access to finance is critical for the growth of the agricultural sector. The shift from subsistence to commercial agricultural production requires funds. However, in developing economies where agriculture is a source of livelihood for 86% of rural people (International Finance Corporation (IFC), 2013); financing for investments in agriculture is scarce even for large investors. Financial institutions are reluctant to accept the risk prevalent in the agricultural sector. Consequently, although the Cameroon's state is now making effort to attract investments for

agriculture, it also created in June 2011, an agricultural bank with a capital of FCFA 10 billion which have been fully released as at today, known as the Cameroon Rural financial Corporation (CARFIC) which is still not in operation, this sector of the economy is still lagging compared to relative importance in the growth of the Cameroon economy. Because of the above and if it's true that the development of agricultural holdings remains dependent on the existing financing scheme, it then becomes necessary to understand the financing mechanism of the Cameroonian agricultural sector (www.minder.cm).

Although there are studies done on factors that determine access to credit in other countries like Bosnia and Herzegovina (Chivakul and Chen, 2008), Vietnam (Nguyen, 2007), Nigeria (Etonihu et al., 2013), Ethiopia (Auma and Mensah, 2014), Kenya (Kiplimo et al), and Uganda (Mpuga, 2010), their findings may not apply to Cameroon. Unlike Cameroon, these countries have agricultural credit programs supported by the government for smallholder/rural farmers to access credit; Kenya (Agricultural Finance Corporation), Nigeria (Agricultural credit guarantee scheme and Agricultural credit support scheme), Ghana (Agricultural Development Bank), Uganda (Bank of Uganda).Difficulties in accessing finance are among the major obstacles that businesses face on a daily basis. Making the best investment decisions and the best choice of financing options are essential assets for the sustainable profitability of a business. Supporting businesses in the search for timely financing requires, among other things, better knowledge of the problems they face on a daily basis. And as Muller P., Faure A. and Gerbaux F. said in 1989, "what matters when you" settle "as operator, entrepreneur or mayor is learning to make decisions, because in all cases, the heart of entrepreneurial activity is centered around the need to make the right decision at the right time. " In addition, and as ARZANO of the Institut du Développement in Marseille insists, insists that small businesses seeking funding must abide by certain rules: "Obviously, a minimum of management rules the contractor. He has nothing to lose in this choice, but rather everything to gain. For example, he will have to learn what the assets, the liabilities, the income statement, the financing table or even working capital are. He will also have to learn to keep regular accounts of the company, to have the reflex; thus, should he not make any expenditure without obtaining the issue of a supporting document indicating the name of the beneficiary of the settlement "Can these supposedly basic rules be respected by rural micro-entrepreneurs? And if they cannot, how do they

get access to finance? Can non-compliance with these rules be one of the causes Difficulties in funding micro entrepreneurs? These are the preliminary questions that motivated the choice of research topic.

Many initiatives have been taken by the Cameroonian Government and development partners to finance private initiatives in rural areas. Most of them ended in failure. The search for relevant and effective strategies for the financing of micro rural enterprises remains a relevant question for development in Cameroon and it is in a favorable national macroeconomic and political context that the present reflection aims to analyze the determinants of the factors that pave the way to a suitable access to finance especially in the agricultural sector.

1.2 Problem Statement

An important trend in entrepreneurship research is an increased interest in a more contex-tualized understanding of entrepreneurship. Zahra (2007, p. 445), for instance, argued that ‘‘greater care and creativity in contextualizing our research can enrich future scholarship in the field,’’ while Welter (2011, p. 165) suggested that entrepreneurship is better understood in its historical, temporal, spatial, institutional, and social contexts as these both provide oppor-tunities and set the boundaries for entrepreneurship. The calls from these and other scholars (e.g., Gartner, 1985; Zahra & Wright, 2011; Watson, 2013) for more research that deliberately takes context into account have recently prompted studies on the role of different institutional, national, and organizational contexts for entrepreneurship. We now know that context influences the available range of opportunities, activities and outcomes and recent studies provide a foundation for theory building and testing regarding where and under what circumstances entrepreneurship takes place (Stam, 2016; Welter & Gartner, 2016). Thus, there is an emerging understanding that context is both an asset and liability and that contextual factors that influence entrepreneurship may in turn be influenced by entrepreneurial actions (Welter, 2011).

Although an increasing number of entrepreneurship studies take context seriously, there are also important contexts that have received limited attention. One such context is sector. The sector, or more narrowly the industry, is often included as a control variable in empirical studies, but

entrepreneurship researchers rarely embrace the sector as the main contextual feature in entrepreneurship studies (Shane, 2007). This is a notable limitation since, as DeMassis, Kotlar, Kellermanns, and Wright (2016, p. 1) argue, to survive and prosper firms and individuals need to interact in numerous ways with the peers and competitors, customers, regulators and other stakeholders that constitute their sector, but the underlying mechanisms through which the sector context shapes entrepreneurship ‘‘remain largely undertheorized and little understood.’’ To address this limitation and to contribute to a better contextual understanding of entrepreneurship within a relevant sector, we focus on the agriculture sector.

Agriculture is among the world’s largest sectors, employing over one billion people and accounting for 3% of global GDP (FAO, 2016). Decades of policy reform, agricultural restructuring, and the growth of vertical integration within the food and agri-business indus-tries have reshaped the sector into larger farm units, but small family-owned farms have proven resilient (Alsos et al., 2011; Hendrickson et al., 2014; Moreno-Perez et al., 2011). The sector is now typified both by the persistence of owner-operated farms and by strategic-ally sophisticated approaches to markets and supply-chain relationships that are increasingly adopted by farmers (McElwee & Bosworth, 2010).

Our purpose is to appraise the main themes within agricultural entrepreneurship research and to identify the key contextual aspects of this sector through which entrepreneurship scholars can learn more about entrepreneurship in context. We systematically review published research that has explored entrepreneurship in the agricultural sector, outline sug-gestions for how scholars can focus their future research in this sector and give contributions to the mainstream entrepreneurship literature.

The review shows that mainstream entrepreneurship research has largely overlooked the agricultural sector. This is curious because while complex market regulatory mechanisms mask the need for individual enterprise and innovation, farmers, using their entrepreneurial skills to engage in market-based activities, demonstrate a capacity for disposition toward opportunity recognition and business growth (Carter, 1999; Alsos et al., 2011; Grande, 2011). The focus of the

few entrepreneurship scholars who have considered the agriculture sector runs parallel to a separate body of work by agricultural economists and rural sociologists. The latter work has provided specialized insights into the traditional operations of the sector but lacks the theoretical framing necessary to generate a broader conceptual under-standing of entrepreneurship in the sector. To date, there has been little cross-over between these two parallel research streams and their separation, rooted in distinctive theoretical origins and empirical approaches, has constrained interdisciplinary collaboration.

Our systematic literature review links these parallel research streams by highlighting main themes and considering key contextual dimensions apparent within the agriculture sector, including the role of identity in entrepreneurial actions in farming; the entrepreneurial capacity of farm families in developing and pursuing opportunities; and the ways in which institutional context both inhibits and enables entrepreneurial engagement. Highlighting how the key contextual dimensions of the agricultural sector can illuminate some of the less well-understood aspects of entrepreneurship theory and practice through future research, we also contribute to the literature on contextualizing entrepreneurship and, in particular, the sector context.

Agricultural finance in Cameroon

Financing is the action of financing a project, an organization or a company whereas to finance is providing capital to ...For Deprez and Duvant (1995), "the development of a company cannot be envisaged only by studying its needs and its financing".

"Today, more than ever, investment, whether industrial, commercial or financial, constitutes without context one of the essential drivers of economic development" (de La CHAPELLE, 2007).

The company has two types of needs: capital and operating needs in terms of working capital. Fixed asset requirements include intangible fixed assets (purchase of goodwill, lease rights, licenses, patents, etc.), tangible fixed assets (purchase of land, buildings, technical installations, equipment, expenditure on fittings and fixtures ...) and financial fixed assets (equity investments in a company).

Operating requirements correspond to expenses relating to the acquisition of stocks, the manufacture and the marketing of products or services and which are necessary:

• - Energy expenses, rents, insurance, transport, taxes, personnel costs;

• - Storage costs;

• - Financial charges and miscellaneous charges;

• - Payment deadlines to be granted to customers (DEPREZ and DUVANT, 1995).

These are the needs that require funding understood as the set of resources to meet the needs of the business. These resources can be obtained from:

• - Partners in the form of constitution or increase of capital and deposits in current account

• - Third parties in the form of loans or financing of purchases by supplier credits;

• - From the company itself by allocating part of its profits to the planned investments: it is self-financing (Deprez and Duvant, 1995).

The financing of rural entrepreneurship is therefore concerned with the origin of the resources mobilized by rural entrepreneurs to meet their capital and operating needs. These needs vary from business to business, as some have more capital needs, while others have only or more operating needs. The origin of resources can also vary from one company to another, because some can be financed with equity while others benefit rather from credits which can be obtained from family or circle of friends, tontines, EMF, banks or loan sharks.

Difficulties in accessing finance are one of the most frequently cited factors among the constraints that block entrepreneurs in developing countries and limit the dimensions of their activities. Without recognized legal status and rarely having title deeds, entrepreneurs and informal sector businesses cannot borrow at reasonable costs because they do not have access to traditional capital markets. The only option to raise capital is most often to resort to lenders who operate outside the

legal system, charge usurious rates and can only lend minimal amounts in relation to the growth needs of companies.

Adequate credit availability of credit is primordial in the enhancement of production in the agricultural sector and promoting adaptation of modern farming technologies. Banks in Cameroon generally hold excess reserves and large levels of unutilised liquidity, low capitalisation and the ratio of non-performing loans has greatly increased. However, the formal financial sector is reluctant to lend to agribusinesses, including upstream primary production, because of perceived high risk of the sector. Agribusiness operators on the other hand also perceive formal credit as inaccessible due to rigid terms and conditions. The demand side and supply side credit constraints have resulted in a yawning financial gap within the formal credit market in Cameroon. Increasingly therefore, many agribusiness entrepreneurs usually resort to informal sources of credit to finance their businesses. Unfortunately, these informal sources of credit come as unreliable, costly, inefficient and very expensive. This presents a challenge due to the fact that, the country may not achieve its projected economic goals. These characteristics have rendered the banking sector inefficient in their performance as lenders to the general public especially to the agricultural sector. Nevertheless, banks have been encouraged to direct a higher proportion of credit towards that sector. Despite the huge investments provided by the government through agricultural forums such as the agro pastoral show, and funding schemes to small and large scale agriculture.it has been observed that, the Cameroon banking sector lend a much smaller share of their loan portfolios to agriculture compared to agriculture's share of GDP. This thereby limits investment in this sector; consequently, the level of agricultural output will be low. This thereby portrays a lack of willingness from banks to extend credit to this sector of activity. Even when available, these credits tend to be informal and short term in nature which can only cover agribusiness needs partially at very high cost. This may be accompanied with the fact that credit to agricultural businesses involve high transaction costs, higher perception of non-repayment due to risky nature of the business and finally, financial institutions lack knowledge on the credit management of agricultural clients. Other numerous problems hindering agricultural financing include; diversion of loans meant for

agricultural projects into frivolous activities which may not engender growth, lack of "strong political will" by the government of the day to solve problems facing modern agriculture.

Farm credit could be obtained from either the formal sources which are the Money Deposit Banks and government owned institutions, or the informal sources which are the self-help-group, money lenders, cooperatives and non-governmental organizations (NGOs). However, Aryeetey (1997) stated that the informal rural financial sources in Africa perform better than the formal sources because they have adapted to the high-risk environment. He further advised that the formal sector should learn from the informal institutions. Subsequently, the cooperatives and NGOs which are formalized informal sources of credit in both rural and urban sectors are being considered as more credible sources to both farmers and small-scale enterprises. Nevertheless, these informal institutions do not seem to be fulfilling this obligation as evidence still abounds that farmers are still in dire need of adequate capital (Oni, 1999).

Credit provision is one of the principal components of rural development, which helps to attain rapid and sustainable growth of agriculture. Rural credit is a temporary substitute for personal savings, which catalyses the process of agricultural production and productivity. To boost agricultural production and productivity, farmers have to use improved agricultural technologies. However, the adoption of modern technologies is relatively expensive and small farmers cannot afford to self-finance their ventures. As a result, the utilization of agricultural technologies is very low.

There are various financial problems militating against agricultural production in Cameroon which the study intends to seek adequate solutions. Given the crucial role of credit in enhancing the competitiveness of agribusinesses, especially in value adding activities, It is on this background that this study seeks to establish the determinants of access by agricultural entrepreneurs to finance in Cameroon.

The commercial loans given out to agricultural entrepreneurs could be influenced by a series of elements grouped into two whole characteristics of which we have the socio-demographic and socio-cultural factors, these elements thereby initiate the specific research questions that follows;

1 What is the socio-demographic elements influencing the access to finance in the agricultural sector in Cameroon?
2 What are the socio-cultural elements influencing access to finance in the agricultural sector in Cameroon?
3 Who can have credit and who cannot have?

1.3 Interest of the Study

Theoretical interest

Our purpose is to appraise the main themes within agricultural entrepreneurship research and to identify the key contextual aspects of this This sector through which entrepreneurship scholars can learn more about entrepreneurship, outline suggestions for how scholars can focus their future research in this sector and give contributions to the mainstream entrepreneurship literature.

Practical Interest

The research explored factors that affect farmers' access to credit, focusing on factors such as age, gender, education, The aim of this research is therefore to explore the current credit assessment process to understand the factors and characteristics that are used to assess credit applications, and to identify other factors and characteristics that could improve the degree of accuracy with which these loans can be gotten by those concerned. Such information can be used to improve the accuracy of the instruments used to award credit to applicants.

1.4 Objectives

1.4.1 General Objective

This study is aimed at analyzing the determinants of access to credit/finance by agricultural entrepreneurs in Cameroon.

1.4.2 Specific Objectives

The specific objectives of the study are:

1.4.2.1 To identify the socio- demographic factors that determine access to finance by agricultural entrepreneurs in the informal sector.

1.4.2.2 To identify the socio-cultural factors that determine access to finance by agricultural entrepreneurs in the informal sector.

1.4.2.3 To identify those who have access to finance and those who don't have access to finance

1.5 Hypothesis

On the basis of the assertions made, we formulate the following hypothesis;

Our main hypothesis in this study is to analyze the factors that influence access to finance in the agricultural sector in Cameroon, from which we develop the 2 supporting hypothesis which are;

Hypothesis1: Access to finance by agricultural entrepreneurs in the formal sector is significantly determined by socio-cultural factors.

Hypothesis2: All agricultural entrepreneurs have access to finance.

1.6 Significance of the Study

Access to credit has assumed a critical part in supporting smallholder agriculturists to enhance their production and expectations for everyday lives (Farats and Sao, 2015). Enhanced rural credit money related framework is in this manner vital in accomplishing pro-poor development strategy and lessening poverty among the rural people. This research aimed to contribute to the debate on determinants of access to credit finances. In addition, the study has also contributed to the pool of literature on the role of credit in increasing agricultural productivity as a pathway out of chronic rural poverty and household food security in Cameroon.

The lack of capital and the absence of attractive investment opportunities are considered to be important reasons behind inadequate economic development in many developing countries (Mpuga, 2010). This is why an attempt is made in most developing countries to encourage, through development policy measures, capital formation as well as the supply of financial means in the form of credit through official financial institutions.

1.7 Structure of the study

The rest of the study is organized as follows: Chapter 1 provides a review on Entrepreneurship in

the Agricultural Sect and concept of rural Credit, concept of Smallholder Farmer, credit access for agricultural productivity, review of rural credit market mechanisms, financial inclusion in Cameroon, as well as empirical review of possible determinants of demand for and access to Finance. Chapter 2 presents the related theories and empirical studies in relation to this research, chapter 1 and 2 will make up the first part of the study. Chapter 3 presents the methodology which includes the conceptual framework, empirical methods, the study area, data collection procedure and research design. Chapter 4 describes the results and discussion conclusion and recommendation of the study, which make up the second part of the study.

1.8 Research methodology

The study adopted the survey research design. This design was adopted because it enabled the researcher obtain data about practices, situations at one point in time through questionnaires and interviews.

PART 1: RELATED CONCEPTUAL FRAMEWORK

Agriculture is the first and most thriven occupation of mankind. Rubenstein (2003) defined agriculture as “the deliberate effort to modify a portion of the earth’s surface through the cultivation of crops and the raising of livestock for sustenance or economic gain” these two definitions underline the social importance of agriculture and especially its economic importance for man and his activities.. In Cameroon agriculture involves about 70% of the economically active population and accounts for as much as 80% of the primary sector contribution to GDP. It also provides 1/3 of foreign exchange earnings and 15% of budgetary resources. This part will comprise of two main chapters in which the first will define the concepts on agricultural entrepreneurship and and concepts on accessing finance, while the second chapter bring about the related theories and empirical works in relation to the study.

CHAPTER 1: CONCEPTUAL APPROACH TO ENTREPRENEURSHIP IN THE AGRICULTURAL SECTOR AND FINANCING

INTRODUCTION

Entrepreneurship research is concerned with why, when, and how individuals identify and exploit opportunities (Shane & Venkataraman, 2000). Exploited opportunities that flow from entrepreneurship result in new offerings that drive the market process and may take the form of existing business growth, new ventures, or the creation of business activity within an existing firm (Davidsson, 2012). This micro-level focus implies the unit of analysis is at the individual, family, team, household, firm, or new activity level. I use this definition and focus to include studies from diverse scholarly fields that use different terminology to describe various aspects of the entrepreneurship research domain. This chapter will be subdivided in to 2 sections; section one focuses on the concept of entrepreneurship while section two focuses on the analyses of finance and its determinants.

SECTION I: Literature review on Entrepreneurship in the agricultural sector

1.1 Definition and Review Method

Several existing studies on entrepreneurship in the agricultural sector focus on the ability of farmers to generate new opportunities, organized either as new business ventures or as part of the existing business entity (Bryden et al., 1992). Scholars from both the entrepreneurship and the agricultural economics domains use the term diversification to describe a strategic and systemic move away from core activities to remain in and grow the business (McElwee & Robson, 2005). Distinctions are made between on-farm diversification (activity as part of the existing farm-based

business entity) and off-farm diversification (new business ventures out-side farming). Agricultural pluriactivity describes farmers' engagement in income-generating activities in addition to ''traditional'' agricultural production and is mirrored by the parallel concept of portfolio entrepreneurship, the simultaneous ownership of multiple businesses, studied within the entrepreneurship domain (Carter, 1998; Alsos & Carter, 2006). These are all examples of entrepreneurial phenomena included in our definition of entrepreneurship.

To identify a valid sample of articles dealing with entrepreneurship in the agricultural sector for the systematic literature review, I used criterion sampling based on keyword searches (Patton, 1990), following an approach used before by other entrepreneurship scholars (e.g., Gregoire et al., 2011; Shepherd et al., 2015). To find articles I used a wide number of search-keyword combinations, which makes sense from a linguistic perspective as scholars from different disciplines use different terms to describe similar phenomena. The search words included (rural) entrepreneur, innovation, new venture, diversify, multifunctional, or pluriactivity in combination with farming, household, or agriculture.

Poverty is first of all a rural phenomenon in Africa, because "the vast majority of the poor are found in rural areas where poverty is more generalized, more acute and more serious than in urban areas. Less educated and less healthy, the rural population also benefits from lower quality services and less employment opportunities, while being at the mercy of production based on natural resources. Thus, it is generally agreed that reducing poverty, and more particularly improving the well-being of the rural poor, is the major challenge facing African countries today. African leaders have repeatedly pointed out in several forums that this is their primary objective "(AfDB, 2002).

Rural development aims to eradicate poverty, ensure food security and reduce the growing income gap between rural and urban areas. This overall objective is frequently taken up by international donors.

The rural environment is characterized by the absence of certain services and infrastructures which are more the preserve of cities. Significant inequalities are thus observed between the cities and the countryside through employment opportunities, dependence on the primary sector, access to techniques and socio-economic infrastructure such as schools, health facilities., markets, means of

transport and communication.

At a critical stage of development, the Cameroonian authorities must avoid unbalanced economic growth linked to excessive urban development and rural impoverishment, leading to environmental, economic and social problems. That being said entrepreneurships generally in Africa bring along the notion of small and medium size enterprises, which we shall discuss subsequently.

- **Small and Medium Enterprises (SMEs)**

The development of small and medium sized enterprises (SMEs) has long been regarded as a seedbed for industrialization and therefore crucial for the achievement of broader developmental goals. The 1972 International Labour Organization (ILO) report confirmed that SMEs play a significant role in employment and wealth creation and as a result many countries have implemented various programs for encouraging growth of SMEs. It is worth noting that SMEs have become the "backbones" of most economies as they serve as seedbeds for entrepreneurship, create new jobs and provide innovation and technological development (Mullei, 2003).

Of importance to note is that there is no clear and universally accepted definition of SMEs. According to Ronge and Nyangito (2002), there are generally three main criteria that can be used in defining their activities. These are: definitions based on the number of employees engaged by the enterprises; the degree of legal formality that distinguishes the formal and informal sector enterprises and definitions based on the amount of capital and skills per worker. This proposal employs the definition of SMEs according to their number of employees, that is, SMEs are defined as those non-primary enterprises whether in the formal or informal sector that employ 1 – 50 persons. Firms that employ more than 50 persons are considered as large enterprises.

According to studies by OECD (2004), SMEs contribute to over 55% of gross domestic product (GDP) and over 65% of total employment in high-income countries, over 60% of GDP and over 70% of total employment in low-income countries, and over 95% of total employment and about 70% of GDP in middle-income countries. Nguyen et al (2004) further indicates that

SMEs generate more new jobs than large firms as they tend to introduce relevant innovative ideas, products and business methods. The SMEs tend to introduce business methods, products, and services that help restructure weak agricultural sectors or other uncompetitive transition economies, thereby absorbing labour that would otherwise drop into the ranks of the poor. This helps in the spread of the benefits of economic growth by engaging low-income groups in national development.

Migiro and Wallis (2006) indicated that in both developing and developed countries, SMEs play important roles in the process of industrialization and economic growth. In addition to increasing per capita income and output, SMEs create employment opportunities, enhance regional economic balance through industrial dispersal and generally promote effective resource utilization considered critical to engineering economic development and growth of any country.

- **SMEs in Cameroon**

Since independence, the significance of SMEs' activities has continued to grow and play a critical role in promoting growth in incomes and employment. Mullei and Bokea (1999) highlight that the economic space and opportunities created by the set of legislation and the subsequent slowdown in economic activity, especially beginning in the mid-1970s, the number of SMEs, continued to grow. This trend continued into the 1980s and early 1990s. In the latter period, the SME sector witnessed a bustling of activity and a dramatically renewed interest by both external agencies and the national government in informal sector activities, with a desire to intervene directly in this sector.

Small and Medium-sized Enterprises in Cameroon (SMEs) constitute the bulk of the country's enterprises. In fact, Law N ° 2010/010 of 13 April 2010 on the promotion of SMEs in Cameroon and other legal and institutional instruments paved the way for the sector with many such enterprises being created. With other accompanying measures for a level playing ground created, the SMEs, according to statistics from the Ministry of Small and Medium-sized Enterprises, Social Economy and Handicraft (MINPMEESA), constitute 95 per cent of Cameroon's enterprises. The sectors concerned are; transformation, agriculture and animal husbandry, general commerce, construction and public works and most recently Information and

Communication Technologies (ICTs). Going by the Research and Analysis Center on the Economic and Social Policies of Cameroon (CAMERCAP-PARC), 61,366 SMEs were created in Cameroon between 2010 and 2016, with 59,200 being local enterprises and 2,166 foreign. 72.24 per cent of the enterprises, according to CAMERCAP-PARC are inexistent on the taxation department database as at May 2016. According to the 2016 annual statistics of the Ministry of Small and Medium-sized Enterprises, Social Economy and Handicraft, Cameroon SMEs considered as the main engine for economic growth, contribute only 36 per cent to the Gross Domestic Product (GDP). "Imagine that SMEs contribute 50 per cent to GDP, we would already be an emerging country. So SMEs have to make an effort so that their contribution to the national economy can attain 50 per cent. The government expects SMEs to improve with all the accompanying structures at their disposal, "Minister Laurent Serge Etoundi Ngoa, stated in one of his interviews with the national bilingual daily newspaper, Cameroon Tribune. Cameroon SMEs have one fundamental problem, a short life span. A good chunk of the SMEs die naturally while still in the incubator stage. This, experts say, is as a result of poor or absence of market research as well as the good choice of area of specialty (niche). The Research and Analysis Center on the Economic and Social Policies of Cameroon (CAMERCAP-PARC) in its 2016 study show that 66.43 per cent of SMEs in the transformation sector, 46.84 per cent in Agriculture, 31.64 per cent in general commerce, 28.16 in Associations and training and 25.86 per cent of enterprises in the construction and public works sectors survive the hurdles. Despite huge potentials available, experts say Cameroon's SMEs are not very competitive. Their performance is therefore unmatched with their numerical strength. Désiré Makan, an expert in the sector posits that there is a need for a change of entrepreneurship mentality in the country. He points out lack of structuring, professionalism and engagement in networking as well as difficulty in accessing to financing as major hurdles to an efficient performance of the enterprises in Cameroon. The SMEs most often lack technical materials of production and thus unable to meet up with demand and competition with their foreign counterparts especially with the coming of the Economic Partnership Agreement with the European Union which went into effect last year. The management style of these SMEs, which are considered as family business also leaves much to be desired, coupled with lack of training and professional associations to guide actors. These difficulties including financial bottlenecks, lack of qualified staff, technical production materials amongst others which impede

performance have also been highlighted in the 2016 Statistical Year Book of the tutelage ministry.

Tadesse (2007) presents a comparison of the proportion that the SME sector contributes in terms of employment of the labour force in selected countries in Africa. Table 1.1 below illustrates this.

Table 1.1: SME Share of Employment in Africa

Table 1.

Country	Proportion (in %)
South Africa	21
Burundi	20
Cameroon	19
Ivory Coast	33
Kenya	38
Malawi	39
Tanzania	32
Zambia	37
Zimbabwe	15

Source: Ayyagari et al, 2007.

From the table above, it is evident that the SME sector contributes significantly towards employment in the various African countries. In comparison to the other countries, Cameroon lies second from bottom as the sector contribute at least 19% of the employment.

Regardless of an early recognition of the importance of SMEs in development and recommendation of various interventions by the Cameroon government to improve the sector, majority of the SMEs still find it difficult to graduate into large-scale enterprises, most especially with difficulty in accessing finance

1.2 Concept of Smallholder Farmer

Historical development and the associated culture of the banking system, underpin the problem of limited emphasis on the provision of collateral as a primary condition in lending, Subeyr M, Mutur(2017) . Banks have always adopted an adverse risk stance towards small firms, with an accompanying inability to focus on the income generating potential of the venture, when analyzing the likelihood of loan repayment, Okten C, Osili U (2004). Credit constraints can occur when banks increase collaterals for loans. As a result, banks charge low-interest rates for less risky businesses (big farmers) and high-interest rate for risky businesses (Smallholder farmers) Stiglitz J, Weiss A (1981). In a study to examine the empirical relationship between credit terms, credit accessibility and the performance of agricultural cooperatives in Rwanda by, Byaruhanga I (2013) revealed that there is an inverse relationship between credit terms, accessibility and the performance of agricultural cooperatives.

Lack of access to credit facilities is almost universally indicated as a key problem for small and micro enterprises. In most cases, even where credit is available mainly through banks, the entrepreneurs may lack freedom of choice because the banks' lending conditions may force the purchase of heavy, immovable equipment that can serve as collateral for the financial institution. Credit constraints operate in a variety of ways in Cameroon where undeveloped capital market forces farmers to rely on self-financing or borrowing from friends and relatives. Lack of access to long-term credit for micro, small and medium smallholder farmers forces them to rely on high-cost short term finance Wanjohi A, Mugure A(20018).

Hallberg (2002) singled out high risks associated with lending to smallholder farmers and

fixed costs associated with getting sound information about the borrower by financial institutions as the principal driving forces to the high cost of credit. High transaction costs do therefore not only increase the cost of borrowing but can also restrict access to external finance for some borrower groups. While transaction costs are restraining for all borrowers, there are arguments that they are even more constraining for small and micro enterprises.

According to Madafu E (2015), high transactions cost of borrowing emanating from these two sources discourage small farmers, artisans, entrepreneurs from availing themselves of formal credit. Here the market fails from the demand side. Lack of information, inadequate credit supply, high-interest rates and defaulting are also major factors hindering smallholder farmers' access to credit, Girabi F, Mwakaje A (2103). It has been estimated that only five percent of the farmers in Africa and about fifteen percent in Asia and Latin America have had access to formal credit; and on an average, across developing countries, five percent of the borrowers have received eighty percent of the credit Bali Swain R(2001). Access to affordable agricultural credit enables farmers, who constitute the majority of the population in most developing countries, to adopt new technology and take advantage of new economic opportunities to increase production and income Gyau A, Mbugua M, Oduol J (2016).

Works on the determinants of access to microcredits mostly looked at collateral security and in line with the performance of small and medium-sized enterprises.To more effectively facilitate smallholder farmer's access to microcredit, there is need to better understand and identify the major factors that affect smallholder farmers' accessibility to microcredit.

There are various attributes of smallholders, regardless of whether they control the land they cultivate or the products they harvest; they harvest generally little produce on moderately little pieces of land. They can grow commodities for export as their main source of income or as portion of an investment of subsistence income generating activities. They are for the most part less all well-equipped than commercial farmers. The expression "smallholders" is generally understood as smallholder farmers who cannot claim or solely manage the land they farm. They are typically thought to be a piece of the informal economy (may not be enlisted, have a tendency to be prohibited from parts of work law, need social security and have little records). They might be men or ladies. They may rely on family labor, however, may employ additional workers (ETI,

2005). In reality, both urban and rural consumers rely heavily on the productivity of their smallholders to fulfill their food needs. Small scale farming systems in the Western Highlands of Cameroon (WHC) are influenced by many factors. Understanding the determinants that influence the system is essential when targeting appropriate intervention strategies for improvement

SECTION II: financing in the agricultural sector

2.1 Development Finance Institutions

Development finance institution is a generic term used to refer to a range of alternative financial institutions including microfinance institutions, and revolving loan funds. DFIs are institutions established to provide thrust to economic development by providing medium and long-term finance, to both commercial enterprises and social dimension programs that can normally not be accessed from traditional banking institutions whose specialization is in short-term lending. In Cameroon, the establishment of DFIs was dictated by two fundamental factors as noted by the Cameroon Policy Analysis and Research Center these factors were the need for rapid development of the industrial, commercial and agricultural sectors and the lack of a financial sector that could play a developmental role that entailed medium and long-term lending. By financing development programs, they filled a gap that private sector banking and financial institutions were not able to cater for However, the DFIs were constrained by their ownership structure, financing strategies, regulatory framework, and their interaction with the other institutions. The World Bank and other international donor agencies declined to give any further concessionary funds to these institutions hence bringing most of their programs to a halt.
According to a news release from AGF, the inaccessibility of finance is a major obstacle to small business growth and development, with only 20% of African SMEs receiving a credit line from a financial institution.

- **Provision of Credit to SMEs**

According to AHOUISSOU (2011), the main sources of credit to SMEs are friends, relatives, formal banks, micro-finance institutions, welfare associations, moneylenders and personal savings. In a survey conducted on SMEs in 1995, at least 33% of the entrepreneurs surveyed

mentioned lack of capital as their principal problem, while only about 10% had ever received credit. In addition to this, the lending policies used by the main credit institutions in Kenya did not ensure efficient and profitable use of credit funds, especially by farmers, and result in a disparity between credit demand and supply. Despite the existence of a sophisticated financial system, it has not guaranteed the access to credit by small-scale enterprises. Few enterprises are able to provide the marketable collateral and guarantee requirements of commercial banks, with the result that SMEs lacking such requirements have not been able to obtain credit from banks. Although there is limited literature on the informal financial sector in the country, there is a consensus that it is an important source of finance to the SME sector considering in the formal credit market only a selected few qualify for the predetermined loan portfolios, in the informal market the diversified credit needs of borrowers are better satisfied.

The problems of formal financial institutions, especially security, loan processing, inadequate loans given, unclear procedures in loan disbursement and high interest rates, all underscore the importance of informal credit and the need to redesign the structures of the formal credit market to improve access to and the use of credit facilities by the SMEs.

- **Credit Access for Agricultural Productivity**

Agricultural credit is used to provide farmers in developing countries the resources they need in cases where their income is not sufficient. Most often, credit determines access to most of the resources on which smallholder farmers depend for agricultural production because of lack of adequate capital to access these resources. Local credit enables farmers to afford expensive agricultural technologies which boost agricultural production. Credit gives small-scale farmers the ability to invest in methods of improving their lands as well as exploit agricultural technologies to improve their farming. Some significant policies and research questions on the credit markets in developing countries are always framed with regards to how the availability of credit benefits a family's agricultural output, food security and other developmental aspects. The same questions are prevalent in both government and non-government programs for credit, since the financial benefits are critically compared to the financial cost of disbursing credit to these households. A family is said to get credit on the off chance that it has acquired from any source

of credit and did not get credit on the off chance that it cannot obtain from any source. Park et al contended that a family unit has access to a specific source of credit on the off chance that it can obtain from that source, in spite of the fact that for an assortment of reasons it might pick not to get credit. Credit allows farmers to meet the liquidity needs induced by the agricultural production cycle and thus to increase agricultural productivity. In the first case, some banks provide agricultural credit to households that are members of a clearly defined program. As a result, they cannot obtain agricultural credit from banks under the guise of a partnership agreement signed between the bank and the program coordinators. The absence of an agricultural bank as an intermediate solution to their difficulty in accessing credit is equally detrimental. The granting of credit to a member in the informal system depends on seniority, the amount of credit requested, the type of project and solvency. Despite these measures, credit access remains subject to many constraints, among them: lack of necessary capital for the development of the agricultural sector, insufficiency of the internal capacities of technical and financial management, a pre-eminence of the misappropriation of the funds allocated to the development of the sector, a weak extension of financial services in rural areas, a weak extension of credit program, and the absence of structures responsible for the specific supervision of the promoters of agricultural activity in the rural area to improve their self-financing capacity , but also to help them access bank financing.

- **Concept of rural Credit**

Specifically, as formal credit access to farmers diminishes, farmers turn to informal credit. Informal credit is mostly utilized maybe for consumption purposes, while formal credit is looked for and utilized for the most part in agriculture. The informal credit market is exceptionally heterogeneous and is dependably a segment of the predominant political, financial, and social relations network, including moderately low extra exchange costs for credit supply. A common way to satisfy the capital needs of new technology is to provide rural people with low interest rate credits. Farm credit is a crucial factor in the development of the rural sector. According to Musugi, credit is not merely a tool to increase productivity and raise farm income but is used to fulfill the social function of enhancing the lives and welfare of the rural people. According to Atieno, the lack of an efficient credit market constitutes one of the factors responsible for the declining productivity in the rural economy. Rural credit markets play an important role in

capital formation. Rural credit markets can be described as any place where creditors and debtors are brought together. Rural credit markets are aimed at placing credit facilities at reasonable terms within easy reach of rural dwellers, increasing productivity of rural sector, promoting and expanding the rural economy in an orderly and effective manner. In rural credit markets, there is a smooth flow of funds from surplus spending units to deficit spending units. Rural credit markets are made up of formal sector and the informal sector. Many governments have over the years tried to reach the rural people through subsidized credit programs. The existing credit policy has resulted I great disparity between credit demand and supply. The government of Cameroon has over the years established rural credit scheme to provide credit to rural people.

Despite government intervention in the creation of alternative institutions for credit, these have failed to drive the traditional rural market operators out of the market. Despite these attempts at improving credit markets, credit has remained a limiting factor to improving agricultural production.

2.2 Review of Rural Credit Market Mechanisms

There are five rural distinct ways or models through which the credit market operates. Community Owned Rural Finance Model is available in Cameroon (Cameroon cooperative credit union league - CamCCUL), which is possessed and overseen by the provincial group with help from the contributor office and its goal is to decrease destitution level through giving simple access to monetary administrations. Government led Rural Finance Model offers credit services mostly to large scale farmers in order to increase food production. Donor Guarantee - Input Supply Model promotes private segment loaning to reduce credit dangers, manufacturer loaning limit and address showcase defects. The credit voucher system provides agricultural inputs to farmers on credit, while the SCG model creates lending capacity between input stockists and manufactures of agricultural input. Only few smallholder farmers in the rural areas in Cameroon have benefited from Donor Guarantee - Input Supply Model.A review of these models shows that farmers are more likely to access credit from community based models than private bank or government led models.

- **Financial Inclusion in Cameroon**

Financial inclusion is the subject of numerous economic investigations; Avom and Bobbo; López and Winkler; Leon and Zins as a process that ensures the ease of access, availability and use of the formal financial system to all members of a society. It provides low-cost basic financial and banking services to struggling consumers and those excluded from traditional banking services, and increases low-income people's access to financial services. With a growth rate of 3.8% in 2018, Cameroon is experiencing a clear improvement in terms of financial inclusion whether in terms of deposits or borrowings in commercial banks. The advances in technology and especially mobile phones have revolutionized financial services provision and introduced new models of serving the poor. The mobile financial services are relatively cheap, secure, reliable and accessible and have seen majority of the poor and low- income earners expand their financial platforms to include mobile banking, agency banking and other forms of financial services. In particular, the wide-spread use of mobile phone technology has opened new markets across Cameroon and has necessitated financial services to reach consumer in remote areas where banking services is lacking. The advantage is that the non-bank financial institutions can ensure financial inclusion of smallholder farmers owing to their reach in rural areas.

- **Empirical Review of Possible Determinants of Demand for and Access to Credit**

- ***Demand for Credit***

Access to education is one of the most significant factors that affect the need for families to seek credit as it increases the need to borrow from formal loan markets and does not necessarily affect their demand for informal credit. Education can have negative or no effect on demand for credit in circumstances where other factors such as cost of credit and access to credit are priority. Undertook a survey to determine the possibilities that are in play in affecting different types of households need for credit in Ghana. Their study showed that there is a positive impact on the size of a household to the demand for credit since big households are more prone to shocks from higher number of household members.

Smallholder farmers based on their level of income could have varying choices to borrow or not borrow hence influencing their access to credit. Showed there is less demand for credit in households that own livestock since the latter do not require extra capital. These studies focus on financial inclusion of households and do not show how access to credit is influenced by financial inclusion.

- ***Socio-economic Characteristics of smallholder farmers***

Studies have shown that financial attributes of smallholder agriculturists are related with their interest in credit. Mpuga found that age of an individual is emphatically identified with the choice to apply for credit and the measure of credit applied. Nwaru disagreed with both stating that age of an individual does not affect demand on credit.In developing societies like Cameroon, men and women take part in various monetary exercises, which have distinctive ramifications on the interest for credit.Women who do not abide by traditional norms of gender specifications and roles are often blamed for the contradictory roles in society; Uilrich WAFFO, Gender Statistics Expert at UN Women Cameroon, noted that one of the obstacles women face when looking for financing from bank is discrimination; as a result they do not seek credit in the fear of being perceived as unable to take care of their families regardless of their potential profiles in market oriented segments.

As a consequence the probability of demanding credit correlated negatively with female household leadership. Single parent families, on the other hand, are considered disadvantaged thus in dire need for credit to boost their survival.

- ***Institutional Issues in Credit Access***

In the case where access to credit requires provision of assets for collateral and unfriendly repayment regulations, a group that does not fit the profile will not seek credit from these institutions and even if they do, they will be denied. Meeme sought to establish the factors influencing access of formal credit by small scale women tea farmers from Nduti tea factory in Kiambu County, Kenya. The findings showed that the small scale women tea farmers preferred institutions of their choice on grounds that; they received better customer care services, they got less interest loan, they got time extensions on repayments, they were trained on the usage of the formal credits, they received bonuses on early repayments while others said that the institutions

were always free to handle their budgets . These methods may require more capital to implement hence leading to farmers seeking credit or save on costs that would require the farmer to seek credit hence lowering the likelihood of seeking credit.

Access to credit data expands odds of access to credit. Vaessen, in an investigation of rustic credit openness in Northern Nicaragua demonstrate that at the institutional level, the objective gathering, the determination criteria of customers, the land territory of operation, and the components of money related items to be given to address manageability concerns, all which impact credit accessibility are imperative elements which loan specialists construct their choices in offering credit. Despite the efforts that have been put in place to enhance access to credit by smallholder farmers, most of them still do not access the credit.

CHAPTER 2: THEORETICAL APPROACH TO ENTREPRENEURSHIP AND FINANCING IN THE AGRICULTURAL SECTOR

Introduction

This chapter focuses on literature gathered in relation to the study. The chapter is organized into two sections; the first section providing theoretical literature presenting different theoretical perspectives on small scale farmers accessibility to finance and the second section presents the empirical literature on studies undertaken on small scale farmers access to credit in different countries and an overview of literature review.

SECTION I: THEORETICAL FRAMEWORK ON THE EFFECT OF FINANCE ON THE AGRICULTURAL SECTOR

1.1 Theoretical Literature Review

Various theoretical models have been developed which describe the growth of small and medium size firms. One class of theoretical models focuses on the learning process, either active or passive, and the other models refer to the stochastic and deterministic approaches. Notwithstanding that according to Sisay (2008), access to and demand of credit is affected by socioeconomic, institutional and environmental factors. Based on that, this study conceptualizes that access to credit by smallholder farmers in the study area were affected by socio-economic and institutional factors. The socio-economic characteristics that are hypothesized to affect access to credit by farmers include other sources of income, size of the household, age of the farmer, level of education, marital status of household head, occupation of household head and gender. These socio-economic characteristics may determine whether a smallholder farmer accessed and used credit or not. Institutional factors are agricultural extension services, bank account, and group

membership.

Farmers may demand credit if there are adequate financial institutions. Improved technology, enabling policies on land security, access to markets and extension services also create incentives for farmers to demand credit in order to increase farm productivity. Taking into consideration the fact that farming households are resource poor in the study area, limited access to credit is assumed to cause vulnerability to various stuns, for example, plant or livestock infection, absence of reception of new farming innovations and food insecurity.

Then again, it is assumed that farming households who are able to access credit have the potential to adopt new and improved technology, hire labor, increase farm productivity, and reduce food insecurity and poverty. Households' decision-making process can be explained by discrete choice models whose basis is rooted in random utility theory (McFadden, 1974). Random utility theory assumes that given a choice set *j* of access to credit for example, household *i* in decision making will choose a specific source that maximizes its utility after assigning to each alternative a perceived utility.

- ***Pecking Order Theory***

The Pecking Order Theory, also known as the Pecking Order Model, relates to a company's capital structure. Made popular by Stewart Myers and Nicolas Majluf in 1984, the theory states that managers follow a hierarchy when considering sources of financing. The pecking order theory arises from the concept of asymmetric information. Asymmetric information, also known as information failure, occurs when one party possesses more (better) information than another party, which causes an imbalance in transaction power.

Company managers typically possess more information regarding the company's performance, prospects, risks, and future outlook than external users such as creditors (debt holders) and investors (shareholders). Therefore, to compensate for information asymmetry, external users demand a higher return to counter the risk that they are taking. In essence, due to information asymmetry, external sources of finances demand a higher rate of return to compensate for higher risk.

In the context of the pecking order theory, retained earnings financing (internal financing) comes directly from the company and minimizes information asymmetry. As opposed to external financing, such as debt or equity financing where the company must incur fees to obtain external financing, internal financing is the cheapest and most convenient source of financing.When a company finances an investment opportunity through external financing (debt or equity), a higher return is demanded because creditors and

investors possess less information regarding the company, as opposed to managers. In terms of external financing, managers prefer to use debt over equity - the cost of debt is lower compared to the cost of equity. The issuance of debt often signals an undervalued stock and confidence that the board believes the investment is profitable. On the other hand, the issuance of equity sends a negative signal that the stock is overvalued and that the management is looking to generate financing by diluting shares in the company.

When thinking of the pecking order theory, it is useful to consider the seniority of claims to assets. Debtholders require a lower return as opposed to stockholders because they are entitled to a higher claim to assets (in the event of a bankruptcy). Therefore, when considering sources of financing, the cheapest is through retained earnings, second through debt, and third through equity.

1.2 Static Trade-Off Theory

The static trade-off theory is a financial theory based on the work of economists Modigliani and Miller in the 1950s, two professors who studied capital structure theory and collaborated to develop the capital-structure irrelevance proposition. This proposition states that in perfect markets, the capital structure a company uses doesn't matter because the market value of a firm is determined by its earning power and the risk of its underlying assets. According to Modigliani and Miller, value is independent of the method of financing used and a company's investments. The M&M theorem made two propositions:

Proposition I: This proposition says that the capital structure is irrelevant to the value of a firm. The value of two identical firms would remain the same, and value would not be affected by choice of finance adopted to finance the assets. The value of a firm is dependent on the expected future earnings. It is when there are no taxes.

Proposition II: This proposition says that the financial leverage boosts the value of a firm and reduces WACC. It is when tax information is available.With the static trade-off theory, since a company's debt payments are tax-deductible and there is less risk involved in taking out debt over equity, debt financing is initially cheaper than equity financing. This means a company can lower its weighted average cost of capital through a capital structure with debt over equity. However, increasing the amount of debt also increases the risk to a company, somewhat offsetting the decrease in the WACC. Therefore, the static trade-off

theory identifies a mix of debt and equity where the decreasing WACC offsets the increasing financial risk to a company.

- ***Random utility theory***

Households' decision-making process can be explained by discrete choice models whose basis is rooted in random utility theory (McFadden, 1974). Random utility theory assumes that given a choice set *j* of access to credit for example, household *i* in decision making will choose a specific source that maximizes its utility after assigning to each alternative a perceived utility. If the household chooses one source over another, then the utility from the chosen source is greater than that from the unselected source. The utility that a household derives from a choice depends on its characteristics and those of the alternative choices (Rungie *et al.,* 2012). The random utility theory also postulates that utility is a latent construct that is in the mind of the household and cannot be observed directly or measured (McFadden, 1974). The utility assigned by the household *i* to alternative *j* is not known with certainty by an external observer. The random utility theory further assumes that this latent utility can be divided into two components: a systematic utility (V) and a random component (ε) (Vojacek and Pecakova, 2010). The random component (ε) arises both because of the randomness in the households' preferences and because the attributes do not cover all of their preferences.The objective in discrete choice modelling is to analyze the households' choices.

SECTION II: EPISTEMOLOGICAL POSTURE

2.1 Access to credit

'Access and use of credit' in this study, means receiving and spending credit received from a given loaning source. The reaction variable for this situation is dichotomous variable. The most utilized way to deal with these assumed spurious variable relapse models are the Logit, Probit and Linear Probability (LPM) models (Gujarati, 2004). In statistics, the logistic model (or logit model) is used to model the probability of a certain class or event existing such as pass / fail, win / lose, alive / dead or healthy / sick. This can be extended to model several classes of events such as determining whether an image contains a cat, dog, lion, etc. Each object being detected in the image would be assigned a probability between 0 and 1, with a sum of one.Logistic regression is a statistical model that in its basic form uses a logistic function to model a binary dependent

variable, although many more complex extensions exist. In regression analysis, logistic regression (or logit regression) is estimating the parameters of a logistic model (a form of binary regression). Mathematically, a binary logistic model has a dependent variable with two possible values, such as pass / fail which is represented by an indicator variable, where the two values are labeled "0" and "1".

A probit model is a type of regression where the dependent variable can take only two values, for example married or not married. The word is a portmanteau, coming from probability + unit. The purpose of the model is to estimate the probability that an observation with particular characteristics will fall into a specific one of the categories; moreover, classifying observations based on their predicted probabilities is a type of binary classification model.A probit model is a popular specification for a binary response model. As such it treats the same set of problems as does logistic regression using similar techniques. When viewed in the generalized linear model framework, the probit model employs a probit link function. It is most often estimated using the maximum likelihood procedure, such an estimation being called a probit regression.

A linear probability model (LPM) is a regression model where the outcome variable is a binary variable, and one or more explanatory variables are used to predict the outcome. Explanatory variables can themselves be binary or be continuous.

The Probit and the Logit are non-linear models both maximum likelihood method (ML), for estimations (Brooks, 2008). This is because both models overcome the limiting aspects of using LPM by transforming the regression model in a way that the outcome is minimized to (0, 1) interval.

In studying the factors that affected credit access, Bebczuk (2004) sampled 140 Argentine SMEs and established that the acceptance of overdraft lines at high interest rates and very short maturity was an important factor regarding the probability of getting a bank loan, while the availability of collateral did not affect such probability. Further results are provocative indicating risk taking behaviour of the banks which is contradictory to the more conservative strategy that most banks in the world adopt in lending to SMEs. The study further indicated that asset tangibility (collateral) was less statistically significant variable in determining access to credit.

Fatoki and Odeyemi (2010) investigated empirically the determinants of access to trade credit by new SMEs in South Africa. The study revealed that out of 417 SMEs, only 71 were able to access trade credit. The results of the logistic regression indicated that managerial competency,

the availability of business plan, belonging to trade associations, previous relationship, location, business size, insurance and incorporation were significant determinants of access to trade credit by new SMEs.

2.2 Use of credit

The managerial competencies were categorized as sets of knowledge, skills, behaviors and attitudes that contributed to personal effectiveness. The study identified that the lack of these skills resulted in poor business plans and forecasting which resulted in collapse of the enterprises. Lyles et al (2004) found that managerial competencies as measured by the education of the entrepreneur, managerial experience and entrepreneurial experience all positively impacted on venture's performance. Other empirical studies such as Smallbone and Welter (2001) and Hisrich and Drnovsek (2002) identified managerial competencies as measured by education, managerial experience, start-up experience and knowledge of the industry positively impacted on the performance of new SMEs.

Pretorius and Shaw (2004) point out that financial information is one of the primary measures of the capacity of a business to effect repayment of credit. Financial information and business information were usually contained in the business plan of the SME that was presented to financial institutions. This information was used in determining present performance and predicting furture performance.

According to Fatoki and Odeyemi (2010), networking between entrepreneurs and financial institutions reduced information asymmetry. This tended to influence venture finance decisions. Owualah (2002) established that long-standing relationship between a trade creditor and an SME owner conveyed an advantage in the case inter-firm trade. In addition, networks and relationships increased the firm's legitimacy, which in turn positively influenced the firm's access to external financing. In large part, networking substituted the lack of effective market institutions, and tended to be an effective way for SMEs to access external financing, including bank loans in emerging economies.

Dahl and Sorenson (2007) noted that location also impacted on the market potential and growth opportunities of SMEs. Geographical proximity to either critical buyers or suppliers produced a form of enhanced environmental scanning that enabled firms to more easily identify and exploit growth opportunities in the market. Gilbert (2008) points out that the geographical area where the

firm was launched had implications for its access to markets and resources. Firms located in metropolitan areas may therefore had higher chance of success than those located in rural areas. For Zimbabwean firms, Fafchamps et al. (1997) found that larger firms were more likely to obtain trade credit. Biggs et al (1994) study trade credit as a source of enterprise finance in Kenya and noted that the use of trade credit increased with firm size.

The constrained access to bank credit has the negative implication of stifling growth in SME sector, with serious implications for poverty and unemployment (Morewagae et al, 1995). Informal sector credit is generally characterized by small loan amounts, short maturity periods and high interest rates which is not conducive for long-term enterprise development (Okurut et al, 2006). Most of the studies in this area have used descriptive statistics and the major contribution of this proposed study will be the econometric estimations of the determinants of access to credit by SMEs in the informal sector.

While investigating empirically the constraints to credit access by new SMEs from commercial banks and trade creditors, Fatoki and Smit (2011), identified factors in business environment that were classified as internal and external factors. The internal factors were labeled as managerial competencies, collateral, networking and business information while the external factors were labeled as the macro-economy and crime. The results of the Fatoki and Smit study indicated that the lack of tangible collateral often led to the decline of loan applications from financial institutions. The results of the study indicated that there was a significant positive relationship between lack of collateral and non- availability of debt from the banks. These findings confirmed earlier studies by Barbosa and Moraes (2004), Blumberg and Letterie (2008). In addition to this, the study also highlighted that the lack of business information was an important constraint to credit access. The results also suggested that managerial competency of the entrepreneurs had a positive impact on the access to credit. These results were consistent with the findings of Lefebvre (2002) and Storey (2004). Concluding on the internal environment, the lack of networking and relationship was also cited as important internal constraint to credit access. This was especially observed in firms that sought trade credit from suppliers.

On the external environment, Fatoki and Smit (2011) observed that the availability of credit in a bad macroeconomic environment such as recession period deteriorated. The main reason was that during such periods, the ability of firms to repay debt was also constrained and hence financial

institutions rarely took the risk to lend. Coupled with this, the location of an SME had a significant effect also as the environment also dictated the kind of collateral available to the lender SMEs located within high crime areas had difficulty in providing collateral and hence could not access the required credit.

Mwobobia's (2012) identification of challenges facing small scale women entrepreneurs in Kenya noted that at least 47% of the entrepreneurs were managed by women. These entrepreneurs faced challenges that included lack of finance, discrimination, problems with the councils, multiple duties, and lack of education, among others. The study established that the greatest barrier facing the entrepreneurs was access to finance as a result of the requirements of collateral of which a small proportion could secure to provide to the lending institutions. In addition to this, majority of the women entrepreneurs lacked information on how to access the financial products. This lack of information plus no business history information made it difficult for the lenders to make informed decisions of the business potential.

Messah and Wangai's (2011) investigation of factors that influenced demand for credit among small-scale investors in Meru Central District yielded results that showed that the entrepreneur's education level, number of dependents and household income were significant factors that influenced their ability to borrow credit from formal credit institutions.

PART 2:

METHODOLOGY, RESEARCH RESULTS (EMPIRICAL ANALYSIS)

Literature review permitted us to put to seat the concepts on agricultural entrepreneurship and determinants of finance. In this second part, we put to surface the manner in which data will be collected on the field and the scientific model which will be used in threating and analysis this data. This will entail a clear specification of the model used, the type of research used, the study sample and population in chapter three. In chapter for, we will present the results analyzed alongside suggestions and recommendations from the study.

CHAPTER 3: METHODOLOGY

INTRODUCTION

According to Sisay (2008), access to and demand of credit is affected by socioeconomic, institutional and environmental factors. Based on that, this study conceptualizes that access to credit by smallholder farmers in the study area were affected by socio-economic and institutional factors. The socio-economic characteristics that are hypothesized to affect access to credit by farmers include other sources of income, size of the household, age of the farmer, level of education, marital status of household head, occupation of household head and gender. These socio-economic characteristics may determine whether a smallholder farmer accessed and used credit or not. Institutional factors are agricultural extension services, bank account, and group membership.

Farmers may demand credit if there are adequate financial institutions. Improved technology, enabling policies on land security, access to markets and extension services also create incentives for farmers to demand credit in order to increase farm productivity. Taking into consideration the fact that farming households are resource poor in the study area, limited access to credit is assumed to cause vulnerability to various stuns, for example, plant or livestock infection, absence of reception of new farming innovations and food insecurity.

Then again, it is assumed that farming households who are able to access credit have the potential to adopt new and improved technology, hire labor, increase farm productivity, and reduce food insecurity and poverty. The hypothesized interactions of the explanatory variables with the dependent variable are presented in Figure 1.

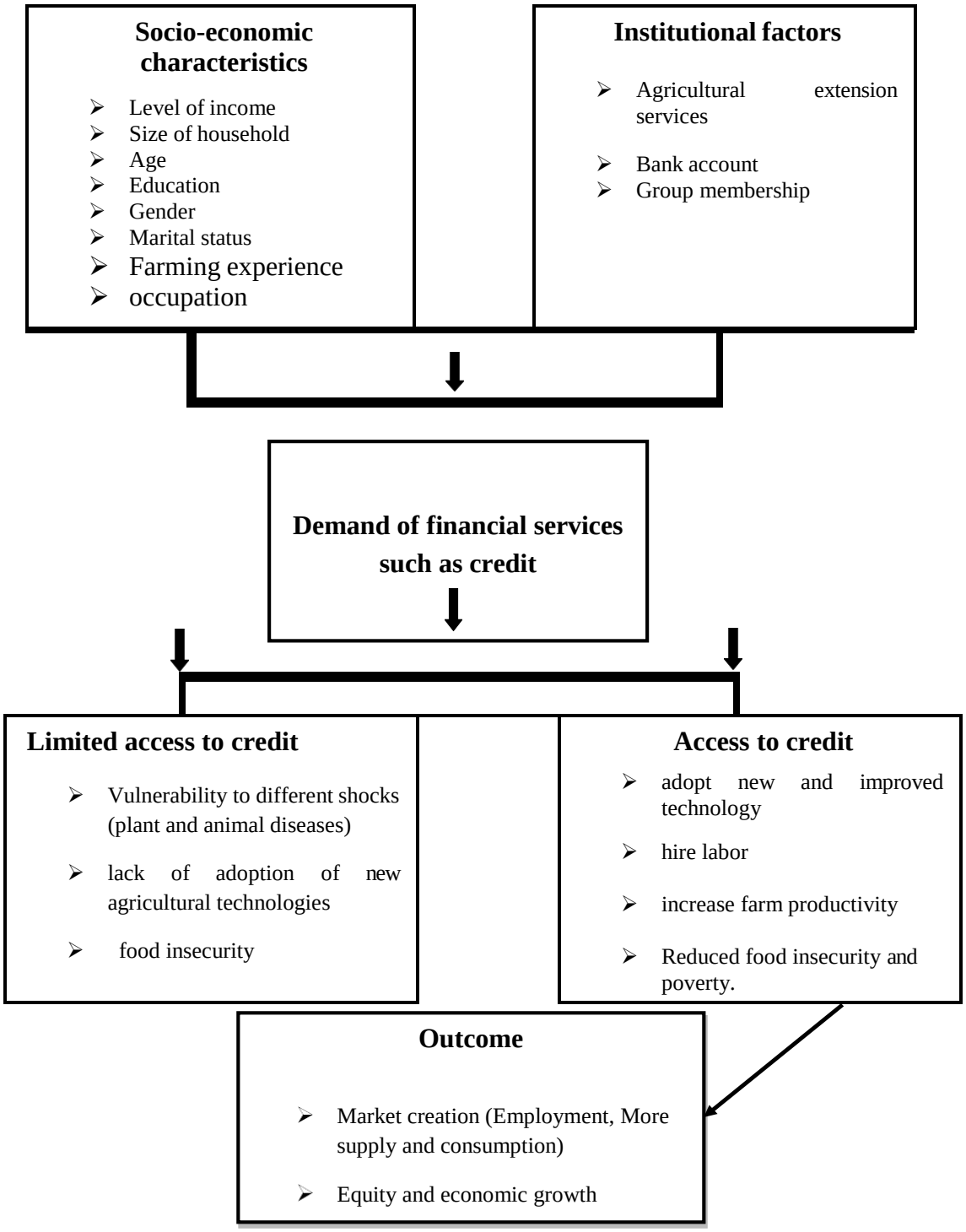

Figure 1: Adopted from New Institutional Economics Perspectives on African Agricultural Development (Dorward and Omamo, 2009)

SECTION I: SAMPLING PROCEDURE

1.1 Theoretical Framework

Households' decision-making process can be explained by discrete choice models whose basis is rooted in random utility theory (McFadden, 1974). Random utility theory assumes that given a choice set *j* of access to credit for example, household *i* in decision making will choose a specific source that maximizes its utility after assigning to each alternative a perceived utility. If the household chooses one source over another, then the utility from the chosen source is greater than that from the unselected source. The utility that a household derives from a choice depends on its characteristics and those of the alternative choices (Rungie *et al.*, 2012). The random utility theory also postulates that utility is a latent construct that is in the mind of the household and cannot be observed directly or measured (McFadden, 1974). The utility assigned by the household *i* to alternative *j* is not known with certainty by an external observer. The random utility theory further assumes that this latent utility can be divided into two components: a systematic utility (V) and a random component (ε) (Vojacek and Pecakova, 2010). The random component (ε) arises both because of the randomness in the households' preferences and because the attributes do not cover all of their preferences.

The objective in discrete choice modelling is to analyze the households' choices. For instance, in this study; the choice to access credit or not in relation to their socioeconomics and institutional characteristics. According to the random utility theory a household chooses among a set of *j* options. In this study there are two options that is to access credit or not. The dependent variable Y, a discrete variable represents the outcome of the decision. The goal of the analysis is to identify what variables and to what extent they influence the choice of one of the options above. The utility of the alternative *j* for a household *i* can be expressed as a linear combination of hypothesized factors represented by X_j with parameters β_j and the unobserved random factors ε_j (Vojacek and Pecakova, 2010).

The general utility model for a household *i* is expressed as follows according to Gujarati (2003):

$$U_{ij} = \beta_{ij} X_{ij} + \varepsilon_{ij} = V_{ij} + \varepsilon_{ij}$$

j = alternative decisions. j takes the value of 1 when a household decides to access credit and 0 otherwise.

$\square_{\square\square}$ = utility that household *i* get from the choice of alternative *j* amongthe alternatives defined above

β_{ij} = unobserved parameters to be estimated

$\square_{\square\square}$ = socioeconomic and institutional characteristics

$\square_{\square\square}$ = random error term

$\square_{\square\square}$ = systematic utility that household *i* gets from the choice of alternative *j* among the set defined above. The deterministic component of utility is a function of the unobservable attributes of the household choice and the specific characteristics of the household.

$$V_{ij} = \beta_{ij} X_{ij}$$

According to Vojacek and Pecakova (2010) if the household chooses the alternative which brings the greatest utility then the probability (π_{ij}) of the choice of the alternative *j* over alternative *j'* is expressed as:

$\square_{\square\square}$ = $\square$ ($\square_{\square\square}$ + $\square_{\square\square}$ > $\square_{\square\square'}$ + $\square_{\square\square'}$) = $\square$ ($\square_{\square\square}$ − $\square_{\square\square'}$ < $\square_{\square\square}$ − $\square_{\square\square'}$)

- **Empirical Model**

'Access and use of credit' in this study, means receiving and spending credit received from a given loaning source. The reaction variable for this situation is dichotomous variable. The most utilized way to deal with these assumed spurious variable relapse models are the Logit, Probit and Linear Probability (LPM) models (Gujarati, 2004). The LPM is basic however conflicting because of blemishes. A financial problem with the LPM is that it creates chances that lie between 0 and 1. This makes truncation of the chances at 0 or 1 necessary, hence creating very many observations for which the approximated chances are 0 or 1.

The Probit and the Logit are non-linear models both maximum likelihood method (ML), for estimations (Brooks, 2008). This is because both models overcome the limiting aspects of using LPM by transforming the regression model in a way that the outcome is minimized to (0, 1) interval. More so, Wooldridge (2002) observed that the latter models guarantee the logical limit to lie between 0 and 1. Because of these advantages, they are the models that are most frequently used (Liao, 1994; Maddala, 1989; Gujarati, 2004). The logit and probit models are very similar in various applicable ways, while the major difference between these models is the way they are distributed, as recorded in the Cumulative Distribution Function (CDF).Probit exhibits a standard distribution. Logit, on the other hand, shows a logistic distribution. The selection between the two types of regression is highly dependent on the assumptions taken in regard to the distribution. The logit model is generally preferred by researchers because of its comparative simplicity. According to Sirak and Rice (1994), the logit regression model is characterized by flexibility, convenience, and power, and is often preferred where the dependent variables are of a categorical nature or/and where it has a normal distribution. Various predictor variable in the objectives of the study are categorical, hence this study applied binary logit model to categorize the factors that affect credit services access among entrepreneural farmers in Ebolowa, Cameroon.

1.2 Variables Hypothesized to influence access to credit in the study area

The table below describe the independent variables hypothesized to influence access to credit by entrepreneural farmers in Ebolowa.

Table 2.: Variables hypothesized to influence credit access by smallholder farmers in Ebolowa

Variables	Variables measurement unit	Expected sign
Dependent Variable		
Access to credit or not	1= access to credit, 0 = otherwise	
Independent Variables		
Age of the household head	Number of years	+or-
Education of the household head	Number of years spent at school	+or-
Marital status of the household head	1=yes; 0=otherwise	+
Occupation of Household head	1= employed, 0 = otherwise	+or-
Gender of household head	1 = male, 0 = otherwise	+ or –
Household size	total number in the household	+ or –
Bank account	1=yes; 0=otherwise	+
Agric Extension	1=yes; 0=otherwise	+ or –
Farming experience	Number of years as farmer	+ or –
Group membership	1=yes; 0=otherwise	+ or –
Other income of sources	1=yes; 0=otherwise	-

- ***Dependent Variable***

The dependent variable for the logit model is agricultural entrepreneurs finance access. The example was partitioned into credit users and non-users in view of the question whether the family head access credit or not. Those who requested for credit and were not effective (rejected) and those who did not make any request were altogether considered non-users of credit while those respondents that requested and got finance were credit users. The dependent variable takes the value of "1" for users and "0" for non-users. The regression model was applied to process a few variables influencing access to credit by respondents.

- ***Independent Variables used in the model***

- **Age of Household Head (*AGE_HEAD)*:** is a continuous variable as it is defined by the occurrence of continual aging by the heads of a family when measured in years. Farmers who are older have better social networks and associations to formal credit companies (Tang et al. 2010). An assumption is made that older farmers have more access to credit as well as more access to the use of credit from formal institutions.

- **Gender Household Head** (***GEN_HEAD)***: is a dummy variable which takes up the value of "1" if the family head is a male and "0" if the family head is female. The women's lack of control over financial resources and the nature of their financial activities restrict their access to credit from formal institutions. For this information, an assumption that male family heads have more access to formal credit as compared to women due to factors they have like more exposure and mobility (Nwaru, 2011).

Household Head's Level of Education (*EDUC_HEAD)*: is grouped into literate and illiterate hence a dummy. Literate farmers tend to have more exposure hence are able to make an analysis of costs and benefits. When the household head is formally educated, there is a high probability of obtaining credit. Therefore, farmers who can read and write have better chances at meeting lending policy requirements of formal credit institutions (Tang et al., 2010).

Household size (*HH_SIZ)*: This refers to the number of family members who are capable of

working on the farms. The larger the size of the households, the more the size of the labor force hence no extra costs are incurred on labor creating less need to seek credit. The size of the households therefore impacts negatively on access to credit (Yehuala, 2008). If the household size is large, then more credit may be needed to buy food besides investing in agriculture hence multiple outcomes is expected.

- **Other sources of income (*OTH_INC_SOUR)*:** is an important determinant for the demand of credit. People with external sources of income rather than from solely farming, tend to take more credit since they have high income expectations in the future (Chen and Chiivakul, 2008).At low levels of salary, the family unit has constrained assets to spare and less interest for credit than at more elevated amount of wage. In some other situations, some low-income people may borrow more to meet high expenditures while rich people may not be interested in borrowing a lot. Multiple outcomes are therefore expected.

- **Membership to a development group (*GROUP_MEM)*:** Farmers in a development group can easily access credit as compared to those who are not. They are considered more organized and formal organizations can give them credit than when they are individual small holder farmers. A dummy variable takes a figure of '1' in case the farmer is participant in development groups and '0' if the farmer is not.

- **Number of years of farming experience (*FARM_EXP)***: A high farming experience means that the farmer is knowledgeable on what they are doing. This experience would inform farmer's decision whether to take credit to expand his or her agricultural venture or not. This is a continuous variable.

Access to agricultural extension services (*AC_EXT_SER)*: Agricultural extension services equip farmers with modern farming methods. These methods may require more capital to implement hence leading to farmers seeking credit or save on costs that would require the farmer to seek credit hence lowering the likelihood of seeking credit. This is a dummy variable that assumes a value of '1' if the farmer has access to agricultural extension and '0' otherwise.

Possession of bank account (*BANK_ACCT)*: Farmers with bank account are more likely to have more credit information that those that do not. Access to credit information increases chances of access to credit. A dummy variable takes a figure of '1' in case the farmer has a bank account and

'0' otherwise.

- **Marital status (MAR_STAT):** Farmers who are married were more prone to have credit access because of respect than those who are not. A dummy variable takes a figure of '1' in case the farmer has a bank account and '0' otherwise.
- **Occupation Household Head (OCC_HEAD):** having an off-farm income generating activities may negatively and positively affect access to credit. Trumbull (2010) asserts that farmers who have off-farm income are less likely to credit because they're able to support agriculture activities. On the other hand, Ololade R.A. &Olagunju F.I. (2013) found that farmers with off farm income are more likely to credit because they have means of repayment even if their productivity is low. A dummy variable takes a figure of '1' in case the farmer has a bank account and '0' otherwise.

SECTION II: METHOD OF DATA ANALYSES

2.1 Equation Estimation

The dependent variable takes the value of 1 or 0 depending on small scale farmers' use of credit or not. However, the dependent variables were continuous and distinct. The Logit model was used for this study. The cumulative LPM was specified as shown below:

$$\square = ( ) = \square(\square + \sum \square \square) = \quad 1$$

$$\square \qquad \square \qquad \square\square \qquad \overline{1+e^{-\square_{\square}}}$$

Where, P_i is the probability of formal credit use by an individual or not;

e denotes the roots of original logarithms, which is an estimated equal to 2.718;

X_i stands for the i^{th}explanatory variables;

α and β_i are parameters to be approximated

The logistic model can be noted down with reference to the log of odds as well as the odd which makes one gets an understanding of the coefficients. The ratio of the odds show that the probability ratio (P_i) which a person could choose as an option to the probability ($1-P_i$) of which they would not choose

$(1–Pi) =Exp(-Zi)/ [1 + Exp (- Zi)]$

Therefore, $Pi/(1–$

$Pi) =ExpZi$

Taking the natural logarithm of equation (6)

□ = □□
(□□) = □ + □ □ + □ □ + ... + □ □

□ 1−□□ 1 1 2 1 □ □

Taking the disturbance term (u_i) into account, the logit model becomes

$□□ = □ + \sum^{□}_{□=1} □□□1 + □□$

The dependent variable for access to credit or not is then stated as:

1 □ h □□□□h □□□ h □□□ □□□□□□ □□ □□□□□□

□ = {

0 □□h □□□□□□

In specific terms, the Logit model suggested is stated as:

$$\boldsymbol{Z_i\ (1/0)} = \beta_0 + \beta_1(AGE\_HEAD), + \beta_2(EDUC\_HEAD) + \beta_3(MARI\_STAT) + \beta_4(OCC\_HEAD) + \beta_5(GEN\_HEAD) + \beta_6(HH\_SIZ) + \beta_7(BANK\_ACCT) + \beta_8(AC\_EXT\_SER) + \beta_9(FARM\_EXP) + \beta_{10}(GROUP\_MEM) + \beta_{11}(OTH\_INC\_SOUR) + \varepsilon$$

- **Econometrics Model Diagnostic Test**

Green (2008) observed that the information available for a researcher seldom adjust precisely to the hypothesis of a theoretical framework. In this way, before continuing with the estimation of the Logit regression, the utilization of economic theories, rationale of smallholder farmers and stress econometric acknowledgment in demonstrating has been basic for dissecting variables that influence access to credit. The procedure begun with testing the level of connection among descriptive factors (multicollinearity), their association with the arbitrary term (Heteroscedasticity) and the reasonability of determined model itself (wellness of the model).

- **Multicollinearity**

At the point when there is an impeccable straight relationship among the indicators, the appraisals for a regression analysis cannot be exceptionally processed. The term collinearity suggests that two factors are close immaculate direct combinations of each other. At the point when more than two factors are included it is frequently called Multicollinearity, in spite of the fact that the two terms are regularly utilized conversely. Multicollinearity is a test that assesses whether the independent variables are correlated. The essential concern is that as the level of Multicollinearity builds, the estimates of the regression analysis end up plainly shaky and the standard errors for the coefficients can get slightly bigger.

The Variance Inflation Factor (VIF) was utilized to assess the level of relationship among factors and to estimate how much the variability of a coefficient was expanded in light of direct reliance

with different indicators. As a general guideline if any of the VIF are more noteworthy than 10 (more prominent than 5 when moderate) then there is a likelihood of an issue with Multicollinearity and is hurtful to the study (Newbert, 2008).

2.2 Hypothesis testing

Chi- square and t-test were used to test the first hypothesis. In addition, binary logit was used to measure the second hypothesis. These tests were always testing the null hypothesis, which stated that there was no significant difference between the expected and observed result. Testing of the null hypotheses was based on the fact that if the *p* value for the calculated Chi- square, t-test and Binary Logistic Regression was $p > 0.05$, then the null hypothesis was rejected.

- **Sampling and data collection**

The sample size was determined using Yamane (1967) formula and following studies by:

$$\square_0 = \frac{\square^2 \square \square}{\square^2}$$

Where:

$\square_0$ = the desired sample size when the population is more than 10 000

p = proportion in the target population

d = the level of statistical significance q

= 1 - p

Following Fisher *et al.,* (1983) p = 50 percent was used to calculate the sample size. It implies that the z-statistics is 1.96 and the desired level of statistical significance is 5 percent. The minimum sample size according to equation *(6)* was:

$$\square_0 = \frac{1.96^2 * 0.5 * 0.5}{0.05^2} = 384$$

Because the population is less than 10 000, the sample size was reduced. This is because a given sample size provides proportionately more information for a small population than for a large population. The sample size (no) can be adjusted using this equation:

$$\square = \frac{n^\circ}{1 + \frac{\square^\circ - 1}{\square}}$$

Where n is the sample size and N is the population. The sample size was:

$$n = \frac{384}{1 + 384\text{-}1/1000} = 278$$

Although the sample was 278, a sample of 105 was used because of limited resources and time. The study identified the small holder farmers from agricultural extension in Ebolowa and respondents were selected using a simple random sampling. Questionnaires were used for primary data collection. The questionnaires were administered using a face-to-face interview approach because immediate follow up clarification is possible.

➢ Study Area

Ebolowa is situated 158 kilometers (km) center region and its capital is Yaounde. Ebolwa is endowed with minerals, timber and arable land for agriculture. Ebolowa was important for this study because there is intensive smallholder farming, which tends to be the dominant economic activity, serving as a source of sustainable livelihood for the population. The Agricultural Research Institute for Development (IRAD) is also situated in Yaounde, center region, creating an opportunity for farmers around to serve as the direct recipients of IRAD research products. This therefore encourages farmers to undertake production and marketing of agricultural products in order to increase agricultural productivity and access to income for better living standards.

Figure 2. Map of the study area

Source: Google.

CHAPTER 4: RESEARCH RESULTS (EMPIRICAL ANALYSIS)

INTRODUCTION

The purpose of this study was to analyze the determinants of access to finance by entrepreneurs in the agricultural sector in Cameroon. In this chapter, the research data, results, and interpretation are presented. First, the sample biodemographic is described, then a detailed analysis of the three research questions using the variables of interest, What is the socio-demographic elements influencing the access to finance in the agricultural sector in Cameroon? What are the socio-cultural elements influencing access to finance in the agricultural sector in Cameroon?Who can have credit and who cannot have?. The research questions were analyzed using both descriptive and inferential statistics such as ANOVA, MANOVA, and Chi-square test of independence and are presented in different formats including tables and charts.

SECTION I: PRESENTATION OF ANALYSES

1.1Test for Multicollinearity

As indicated in chapter 3, the Variance Inflation Factor (VIF) was used to test for multicollinearity between explanatory variables. The results are presented in table 4.1.

Table 3.Test for multicollinearity

Variables	Tolerance	VIF
Gender	.780	1.281
Education	.791	1.265
Marital status	.462	2.162
Occupation	.814	1.228
Other income sources	.671	1.489
Agricultural extension	.602	1.661
Group membership	.571	1.750
Bank account	.557	1.793
Age	.484	2.062
Household size	.789	1.267
Farming experience	.742	1.348

The findings in Table 4.1 show that there was no issue of multicollinearity. The variance inflation factors were below 5 inferring that the factors were not very connected. The total VIF divided by the number of VIFs is 1.632 which is also less than 5.

- ## Descriptive Statistics

Results in table 4.1 show that majority of the respondents (55 percent) were male as compared to 45 percent who were female meaning that there were more male headed households than female. This area being in a rural set up, majority of the communities here believe that farming is male activity while female gender is mainly concerned with household affair. This concept

explains why majority of the respondents were male as well the rationale as to why the researcher was directed to male partners while initially approaching the female gender. The results also show that29 percent of the respondents were aged 41-45 years while 24 percent were aged 46 years and above. Respondents aged 36-40 years and 31-35 years were 17 percent and 11 percent respectively. The results also show that respondents aged 26-30 years were 10 percent while only 9 percent of the respondents were aged 25 years and below. This illustrates that the older farmers in the study area are more than younger farmers. One of the reasons is that younger people migrate to the towns and cities leaving older people behind. In some cases, return migration of older adults from urban cities back to their rural homes is also a reality (Kinsella, 2001). The results show that 41 percent of the respondents had no education while 18 percent of the respondents had primary education, 31 percent had secondary education as their highest level of education while only 11 percent had higher education. The results shows that majority of the farmers had no or low level of education. Farmers' education is important because it would enable them to have up-to-date information on how to grow food efficiently and economically. Education would also improve their knowledge on new techniques and technology which can increase their level of productivity (Rosegrant & Cline, 2003). The results show that 43 percent of the respondents indicated that their households had 6-10 members while 27 percent indicated 11-15 members. Respondents who indicated that their households had 5 members and below were 19 percent while 6 percent indicated their households had 16-20 members. Results show that respondents who indicated that their households had 21-25 members, and above 26 members were 3 percent each.

Table 4: Descriptive Statistics

Gender	**Frequency**	**Percent**
Male	55	55
Female	46	46
Total	101	100.0
Age		
≤25 years	9	9.0
26-30 years	10	10.0
31-35 years	11	11.0
'36-40 years'	17	17.0
'41-45 years'	29	29.0
≥46 years	24	24.0
Total	100	100.0
Education		
No education	41	40.6
Primary education	18	17.8
Secondary education	31	30.7
Higher education	11	10.9
Total	101	100.0
Household size		
5 and below	19	18.8
6-10	43	42.6
11-15	27	26.7
16-20	6	5.9
21-25	3	3.0
26 and above	3	3.0
Total	101	100.0

➢ Access to Credit

The results in Figure 4.1 shows that 39 percent of farmers in the study area had credit access and 61 percent did not. Hypothesis 3: Results from the pie chart allow for rejection of the hypothesis that All agricultural entrepreneurs have access to finance.

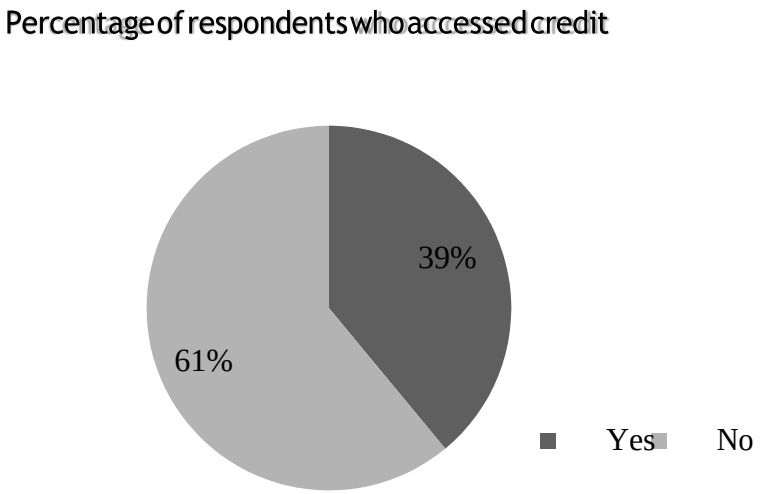

Figure 3: Percentage of respondents who accessed credit in Ebolowa

➢ Source of Credit

Results also show that all credit sources in Suakoko district were informal. It was revealed that 50 percent of the respondents borrowed from savings and credit cooperatives (CAMCUL), while 14 percent received credit from farmers' society, 18 percent borrowed from friends and relatives and 18 percent from moneylenders as shown in Figure 4.2.

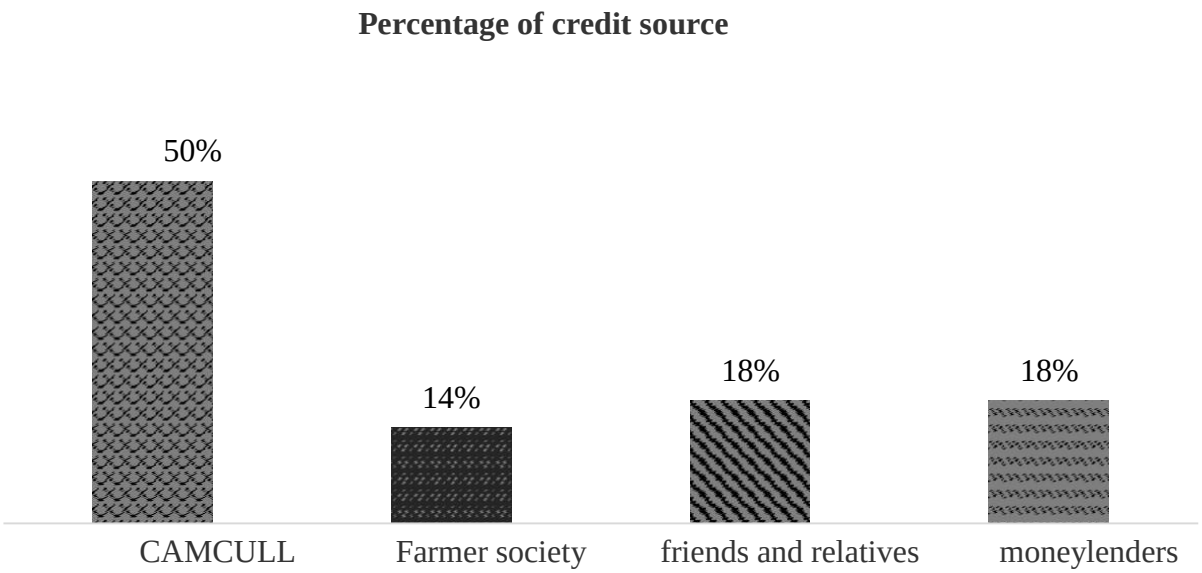

Figure 4: Percentage of credit sources in Ebolowa

- ***Type of Development Groups***

Farmers indicated that they were members of development groups, the results in Figure 4.3 show that 16 percent were in women groups while 51 percent were in credit and savings groups. The results show that those in political group and land development groups were 6 percent and 25 percent respectively while those in water groups and merry go round were 2 percent. Majority of the farmers were in merry go round group because it is fun, they get to bond with other farmers and have high social security.

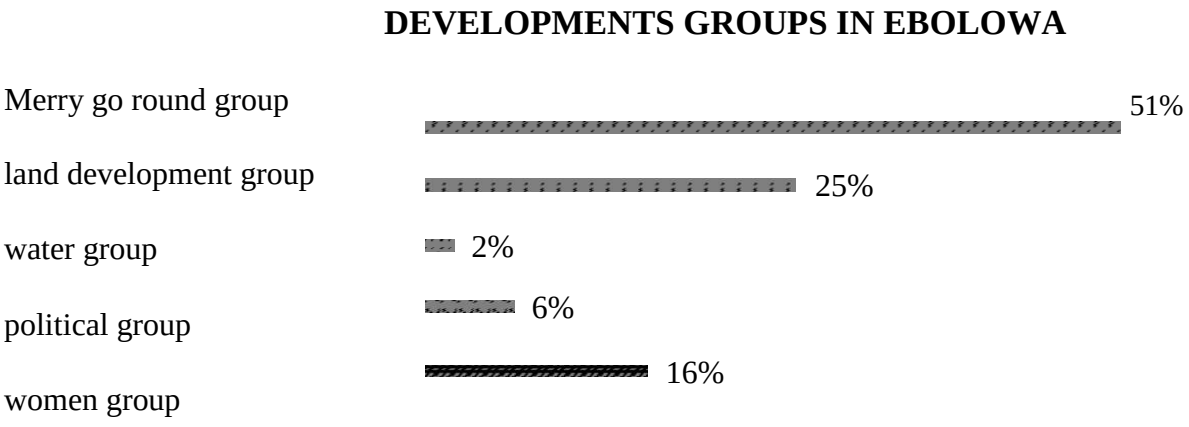

Figure 5 Development Groups in Ebolowa

Socio-economic and institutional characteristics of Small holder farmers

The characterization of socio-economic and institutional characteristics of users and non-users of credit in Ebolowa are shown below.

Table 5: Credit users and credit non-users based on categorical variables

Variables		Credit user		Non-users				Total	
		N	%	N	%	Chi Square	P-value	N	%
Gender	Male	27	66	39	61	0.257	.612	66	63
	Female	14	34	25	39			39	37
Education	No-education	18	44	48	75	10.37	.005	66	63
	primary	15	36	10	16			25	24
	Secondary	8	20	6	9			14	13
Marital status	Married	12	33	43	62	7.96	.004	55	55
	Not married	24	67	26	38			50	48
Occupation	Unemployed	16	40	56	86	24.52	.000	72	69
	Salaried employed	14	35	5	8			19	18
	Self-employed	10	25	4	6			14	13
Other sources of income	No	13	32	48	75	19.2	.000	61	58
	Yes	28	68	16	25			44	42
Agricultural Extension	No	25	60	58	95	20.01	.000	83	81
	Yes	17	40	3	5			20	19
Group membership	No	6	15	31	48	12.51	.000	37	35
	Yes	35	85	33	52			68	65
Bank Account:	No	18	43	62	98	42.8	.000	80	76
	Yes	24	57	1	2			25	24

Table 4.2 show that out of small-scale farmers who failed to access credit, 61 percent were male and 39 percent were female. Respondents who got access to credit comprised of 66 percent male and 34 percent female. The results further showed that there is a statistical indifference at 5 percent in both categories of farming households with p-value of .612. This implies that there are more male headed households whether user or non-user of credit.

Out of the smallholder households who failed to get credit, the majority or 75 percent had no formal education while 16 percent had primary education and 9 percent had secondary education. Out of those who had access to credit, 44 percent had no formal education while 36 percent had primary education and 20 percent had secondary education. The results further show that there is a statistical difference at 5 percent in both categories of farming households with p-value of .005. This shows that farmers with higher level of education are more likely to access credit because they are likely to get salaried employment and also can use their skills to increase farm productivity. These results are in agreement with Tang et al. (2010) who found out that education is a factor that contributes to the increase in chances to seek credit from formal credit companies. The results also concur with Chen and Chivakul (2008) who found out that at primary and secondary levels, education has positive effect on access to credit. The findings however contradict with those by Tien et al. (2010) who found out that many of the poor family providers worked in sector of the unskilled where educational qualifications does not influence demand for credit.

The results further show that there is a significant statistical difference in the marital status of farmers who had access to credit as shown by p-value of .004. Married farmers dominated non-users of credit by 62 percent while those who were not married were 38 percent. As of farmers who were able to access credit, 33 percent were married, and 67 percent were not married. This could be attributed to decision making in the households where demand for credit has to be deliberated and agreed upon by married couples.

In terms of occupation, results show that most farmers who qualified for credit are those who have other employment hence receive salaries and constituted 35 percent while those in self-employment comprised of 25 percent. Farmers who were unemployed and qualified for credit were 40 percent. As for farmers who did not get credit, they constituted 8 percent of the salaried

employed, 6 percent of those who were self-employed, and 86 percent of the farmers were unemployed. There is a statistically significant difference between the two categories at 5 percent with p-value of .000. The findings are similar to those by Kiplimo (2011) who found that smallholder farmers with steady occupation can easily repay loans even when their agricultural income is low since they get salaries.

Other sources of income for the household that had credit access and those that did not have access were statistically different as illustrated by p-value of .000. Among credit users 32 percent did not have other sources of income while 68 percent had other sources of income. On the other hand, among the non-users of credit, 75 percent did not have other sources of income while 25 percent had other sources of income. The results suggest that farmers who had other sources of income were more likely to access credit due to the fact that they are not depending on farm productivity alone to repay loan.

Out of the households who did not access credit, 5 percent managed to access extension services while 95 percent did not. For households who accessed credit, 40 percent accessed agricultural extension services while 60 percent did not. This demonstrates that users and non-users of credit were statistically different in terms of extension services as shown by a P-value of .000 at 5 percent significant level. This means that farmers who accessed extension services were more likely to access credit.

The results further show, out of the smallholder farmers who failed to access credit, 52 percent were members of various groups while 48 percent were not members of any group. On the other hand, 85 percent of farmers who had access to credit have group membership while those who were non-group members constituted a total of 15 percent. Results on group membership for farmers show that there is a statistical difference between those who had access to credit and those who did not as shown by p-value of .000 at 5 percent significant level.

Furthermore, farmers who failed to access credit were distributed as: 98 percent did not have a bank account and 2 percent had a bank account. While, farmers who were able to access credit, 43 percent did not have a bank account and 57 percent had a bank account. Moreover, results indicate that those who had bank accounts were more likely to access credit because having a bank account serves as guarantee to lenders.

Table 6: Summary statistics of continuous variables

Variable	Credit user				Non-user				p-value
	Min	Max	Mean	Std	Min	Max	Mean	Std	
Average HH size	5	19	10.25	3.67	5	17	9.70	3.054	.0130
Average Age	28	76	44.56	8.62	24	64	38.82	8.485	.009**
Land size	0.5	6	2.04	1.46	0.25	4	1.56	1.122	.019
Annual farm income	12,200	47,000	26,000	11623	10,800	35,500	21,000	7595.76	.005**
Years of Extension	1	3	1.55	.688	1	1	1.00	.000	.017
Years of farm exp	5	30	15.82	6.406	1	26	13.33	6.532	.030

According to the findings in Table 4.3 the households that had access to credit have an average of 10.25 persons and those who did not have credit had an average of 9.7 people. There was an insignificant mean difference for both categories. The findings of the study are not aligned to those of Marge (2000) who concluded that larger households are prone are more likely credit.

In terms of age, there was a slight difference between the two categories of those who had access to credit and those who did not since their age difference was 44.56 and 38.82 years respectively. The mean on the other hand, was different at 5 percent. In those households that accessed credit, the oldest farmer was 76 years old while the youngest was 28 years old. For those who did not access credit, the age range was 24 to 64 years. These findings are in agreement with those by

Tang et al. (2010), who concluded that the likelihood of old farmers to seek credit was higher as opposed to younger farmers due to their expanded social networks and social capital. Nwaru (2010) however argued that the difference in age was insignificant for access of credit.

The findings show that the land size difference ranged from 0.5 acres to 6 acres for farmers who accessed credit and 0.25 to 4 acres for those who did not. The mean difference for the land size was insignificant, as the average size of land for farmers who accessed credit was 2.04 acres and 1.56 acres for those who did not. All farm land in the study area was customarily owned. This study contradicts Diagne's (2006) study on determinants of household access to and participation in formal and informal credit markets. Diagne (2006) found a significant difference in land size and also found that those who used credit were able to cultivate large land as opposed to those who did not. This implies as size of cultivated land increase the operational expense for labour, input and technology use increase, which require cash capital, it leads to high demand for credit.

All the farmers who participated in this study had access to a certain amount of income which was different in both categories of farmers.

As for the years of receiving agricultural extension services, the results show that smallholder farming households who accessed credit had a mean of 1.55 years of extension services. Smallholder households who did not get credit had a minimum and a maximum of 1 year each of extension services. This has the meaning that an agricultural extension service is significantly low.

In terms of years of farming experience, farming households who accessed credit had a mean of 15.82 years. Those who failed to access credit had a mean of 13.33 years farming experience. This implies that smallholder farmers who accessed credit had more years of farming experience.

Hypothesis 1: Results from discrete and continuous variables (education, marital status, occupation, other sources of income, bank account, age, and annual farm income) allow acceptance of the hypothesis that Access to finance by agricultural entrepreneurs in the formal sector is significantly determined by socio-demographic factors in Ebolowa, Cameroon. This is indicated by significant P- values of education, marital status, occupation, other sources of income, bank account, age, and annual farm income.

1.2 Factors affecting Small-holder farmers access to Credit

A logit regression was performed to ascertain the influence of marital status, occupation, gender, age, education, household size, bank account, agricultural extension services, farming experience, group membership, and other sources of income on the likelihood that participants have access to credit. The results show that logit regression model was statistically significant, $\chi 2\ (11) = 34.603$, $p < .001$. The Nagelkerke R square was .557 which indicates 55 percent of the explanatory variables are explained by the model. Table 4.4 summarizes the results.

Table 7: Binary Logit Regression of Variables

Variable description	Marginal effect	Std. Error	P. Value
Household head age (years)	-.159	.307	.606
Household head education (years)	-5.093	5.067	.010**
Marital status of household head (1= yes, 0=otherwise)	-1.733	3.977	.190
Occupation (1=employed, 0=otherwise)	-19.005	8.140	.000**
Gender (1=male, 0=otherwise)	4.962	7.305	.461
Household size (number)	-679	.976	.404
Bank account (1=yes, 0=otherwise)	2.846	1.253	.023**
Agricultural extension (1=yes, 0=otherwise)	4.763	6.396	.554
Farming experience	.123	.251	.239

(years)			
Group membership	-.499	4.379	.012**
(1=yes, 0=otherwise) Other income sources	2.471	1.217	.042**
(1=yes, 0=otherwise) Constant	-6.087	2.804	.030

The results in Table 4.4 indicate that, the marginal affects for bank accounts and other sources of income highlight an important positive impact on access to credit in Ebolowa. However, education, occupation and group membership are important yet have negative effect on access to credit.

For a unit increase in education level of household head, the probability of accessing credit reduces by 5 percent. This shows that lower level of education increased the likelihood of accessing credit while a high level of education lessened the likelihood of accessing credit. The study conforms to that of Chen and Chivakul (2008) which found that education have a positive effect on credit access at lower levels of education but negative effect at higher level of education. Tang et al. (2010) and Kiplimo (2013) all found education to be significant, but these studies also found that education have a positive impact on access to credit unlike the current study. The findings of this study contradict those of Tien et al. (2010) who found that most of the poor household heads in Vietnam work in unskilled sectors, where education does not influence demand for credit.

While occupation was quite significant at 5 percent in explaining access to credit in the study area, it had a negative effect. An increase in a unit of occupation of the smallholder farmer reduces the chance of accessing credit by 19 percent. This implies that the more farmers are salaried or employed or self-employed, the less they will demand credit in the study area. This is because they will use their salaries or other sources of income to purchase farm equipment and hire labor for increased farm productivity. This study conforms to the findings of Laffont and N'Guessian, (2000) who opined that most credit sources require generally shorter advance reimbursement periods. Hence, smallholder farmers with salaries from employment or a business tend to profit more from lenders.

For a unit increase in ownership of bank accounts and having other sources of income increase the chances of accessing credit from several credit sources in the study area by 2 percent. These findings concur with those of Marge (2003) who stated that a flexible change on income is good for consumption hence makes a positive impact on the access to credit. According to Kumar (2005), income is an important determinant of accessing credit although there is a declining relationship between family income and taking credit since families that generate income often do not take credit. On the other hand, Leavy and Poulton (2007) concluded that most of the small scale farmers generate income from other sources which are unrelated to their farms. The outcome reveals that what increased the chances of access to credit was the farmers' availability of other sources of income rather than farming. This is because those households that would get more income from other sources are able to possess assets that would act as collateral when seeking loans. These results were aligned to those by Ojo (2003) who had drawn the conclusion that farmers ought to increase the sources of their income so as to increase their chances of qualifying for credit uptake.

Farmers who are members of groups are more likely to access credit. This might be due to the fact that these groups offered security in terms of collateral, high social capital and even give out credit to its members. However, group membership was found to negatively affect access to credit in the study area. Being part of a group in the study area may cause a farmer not to sort credit from other sources.

Hypothesis 2: Results from the binary logit regression allow for acceptance of the hypothesis that Access to finance by agricultural entrepreneurs in the formal sector is significantly determined by socio-cultural factors in Ebolowa, Cameroon. This is indicated by p-values of less than 0.05 of education, occupation, other sources of income, bank account and group membership.

- **Use of Credit**

The farmers were asked to indicate how they used the credit they received. Majority of the farmers (58 percent) indicated that they used their credit for non-agricultural purposes while 42 percent indicated that they used it for agricultural purposes. These results are shown in figure 4.4.

Use of Credit in Ebolowa

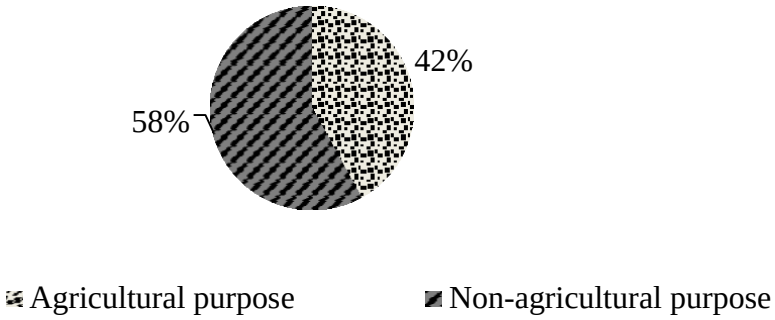

Figure 6: Use of Credit

The results in figure 4.4.1 show that most of smallholder farmers who accessed credit did not use it for agricultural purposes. This negates and diminishes the efforts to enhance agricultural credit especially in rural areas. The diversion of agricultural credit could be attributed to high levels of poverty and lack of social security making smallholder farmers spend loan meant for agriculture on other needs such as household needs, health and school fees.

- ***Agricultural Use***

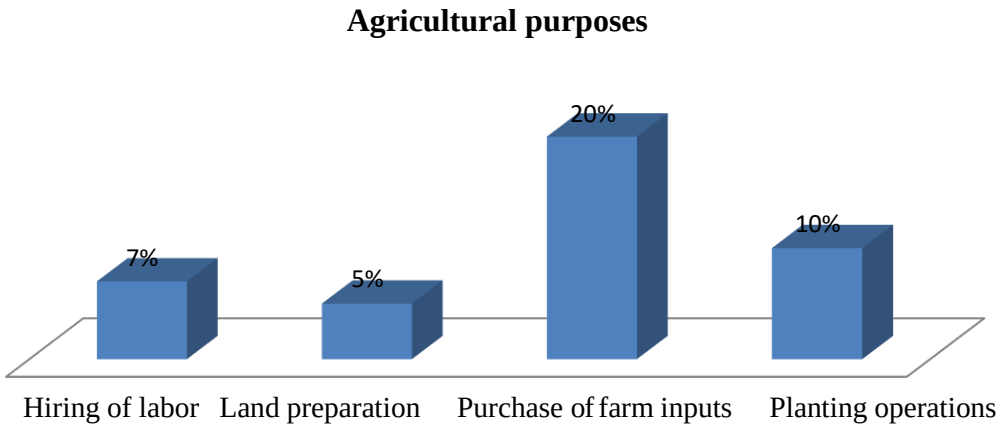

Figure 7: Agricultural use of Credit

The results show that 20 percent of smallholder farmers who use credit for agricultural purposes use it to purchase farm inputs while 10 percent indicated that they used it for planting operations, 7 percent to hire labor and 5 percent for land preparation. The findings show that bulk of the credit used for agricultural purposes is spent on farm inputs and farm operations. When such credit is diverted, smallholder farmers are likely to use poor farm inputs and fail to prepare their land properly hence affecting their agricultural production.

- **Non-agricultural use**

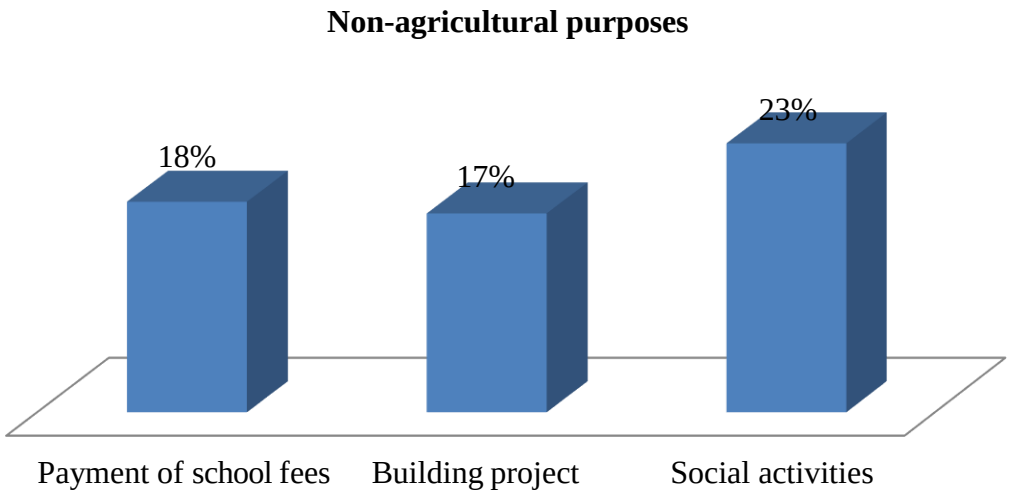

Figure 8: Non-agricultural use of Credit

Findings from the study show that of those smallholder farmers who did not use credit for agricultural purposes, 23 percent used it for social activities like marriage ceremony and child naming, while 18 percent used for payment of school fees and 17 percent used for building projects. These results could mean that many smallholder farmers have not taken agriculture as a business and in terms of priorities it is ranked lower than social activities to warrant diversion of credit to cater for social activities.

SECTION II: SUMMARY OF THE RESULTS

2.1 Summary of Findings

Small holder farmers in Cameroon who have the potential to feed the nation are actually the poorest and most food insecure in the population. They are principally subsistence farmers with limited outlets to market surplus production or to participate in the cash economy. As a group, they are geographically dispersed and therefore are often marginalized. The agricultural entrepreneurs in Cameroon do not have access to value chain processes such as processing machines, driers, storage and other post-harvest facilities. Cameroon's consumers in the country have long been accustomed to depending on imported rice and other staples, in spite of the fact that these crops can be readily grown in Cameroon.

The government of Cameroon and other stakeholders has attributed the decline in agricultural productivity to the cost of local financing services and poor credit access. In an effort to solve the problem of credit inaccessibility, farmers form loan groups, in which they contribute and lend funds to each other as loans. The amount of funds they collect is, however, low due to restrictions in terms of membership and geographical location. They therefore resort to seeking financialhelp from financial institutions. The overall objective of this study was to identify and analyze the determinants of agricultural entrepreneurs access to finance in Ebolowa, Cameroon. The specific objectives were to identify the socio- demographic factors that determine access to finance by agricultural entrepreneurs, identify the socio-cultural factors that determine access to finance by agricultural entrepreneurs and identify those who have access to finance and those who don't have access to finance.

To achieve these objectives, simple random sampling was applied to select 105 respondents. Primary data were collected using questionnaires. Quantitative data were analyzed using descriptive statistics such as mean, percentages, and frequency distribution. The t-test and Chi-square were applied to determine the percentage and mean difference between those who used credit and those who did not. A binary logit model was applied to analyze determinants of smallholder farmers' access to and use of credit.

CONCLUSION AND RECOMMENDATIONS

Results of the study indicate that 39 percent of farmers in the review zone had admittance to credit and 61 percent did not have entry to credit. This shows smallholder farmers in the study area may not be adequately financed or have adequate collateral given the low level of credit access. The study result shows that all credit sources in the study area were semi-formal. Results also established that 50 percent of the respondents borrowed from savings and credit cooperation (CAMCULL) while 14 percent received credit from farmers' society, 18 percent borrowed from friends and relatives and 18 percent from moneylenders.

The level of education, age, marital status, land size, gender, occupation, family size, total farm income, farming experience, extension service, bank account and other sources of income are variables which were presumed to have an impact on access to credit. The binary logit estimates indicated that education level, occupation, other sources of income, bank account and group membership significantly influence credit access in area of study. Unlike previous studies, this study went further into knowing if credit received were being used for agricultural purposes or not. Results indicated that 42 percent of credit received were used for non-agricultural purposes like payment of school fees, building projects and social activities like child naming and marriage ceremony. For those farmers that used credit for agricultural purposes, it included hiring of labor, land preparation, purchase of farm inputs and planting operations.

Recommendations

It is necessary for policy makers to improve education systems so that the poor are equipped with the skill and knowledge to effectively access credit at less cost and use them wisely in order to generate more income. The more educated the household head, the more they will tend to use

modern technologies and also credit which will bring about increase productivity which is really needed in Cameroon. Being educated will also help farmers to not only restrict themselves to farming but find other jobs to get other income which will enable them easily access credit.

Other source of income and occupation were found to have influence on access to credit by smallholder farmers in Ebolowa. Farmers who engage in off-farm activities earn more income and are able to get credit. Hence, other than focusing on increasing agricultural production only, the government should also emphasize on policies aimed at increasing opportunities for off-farm activities. This can be enhanced through creation of jobs and motivating self-employment.

Farmers who are members of development groups were found to be more likely to access credit. This might be because of the fact that those farmers have group security in terms of collateral and high social capital that would increase access to credit use. In other words, encouraging farmers to form part of development groups would improve the availability of credit to the farmers. Hence, the government should promote development groups geared towards providing collateral for members in Ebolowa.

The government and other stakeholders need to conduct awareness among farmers on the importance of using agricultural credit for its intended purpose. Extension officers need to be efficient in making sure these farmers are using credit for agricultural activities so as to increase productivity.

Suggestion for Further Research

The research did not take into account risk attributes of smallholder farmers. A farmer who is risk adverse may decide not to get credit because of fear. The researcher will like other research to focus on risk attributes of farmers and also credit institutions that lend to smallholder farmers.

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APPENDICES

Questionnaire Introduction

This survey is being conducted by Awafu Boris Massoma, a student from the Department of innovation at the Higher technical teachers training college in Ebolowa. The purpose of the survey is to understand factors that affect agricultural entrepreneurs' access to finance. Respondents for this survey shall be smallholder farmers in Ebolowa.

Your responses and opinions will be treated with utmost confidentiality and will only be used for Educational purposes.

I now request your permission to begin the interview.

Kindly answer the questions as appropriate by ticking in the spaces provided.

Section A: Socio-Economic Characteristics

1. Gender of respondent.

   Male [ ] Female [ ]

2. What is your age bracket?

   1 = ≤25 years

   2 = 26-30 years

   3 = 31-35 years

   4 = 36-40 years

   5 = 41-45 years

   6 = ≥46 years

3. What is your highest level of education completed?

   1 = No formal education, 2 = Primary education, 3 = Secondary education, 4 = Higher education

4. Marital status: 1 = Single, 2 = Married, 3 = Divorced, 4 = Widowed
5. Kindly indicate the number of members of your households based on gender?

Category	**Male**	**Female**
Adults (15 years and above)		
Children (below 14 years)		

8. What is your Main occupation and Income received monthly(Ld)

	Occupation	Proportion of Income
1	Salaried Employment	
2	Business man/woman	
3	Self-employed off farm	
4	Farmer	

9. Other than farming, do you have other sources of income?

   Yes [ ] No [ ]

10. If yes, what are the other income sources?

    1 = Teacher, 2 = Security, 3 = Driver 4 = public worker, 5 = Construction worker, 6 = Mechanic.

    _____

11. How many years of farming experience do you have?

Institutional Factors

12. Do you have a bank account?

    Yes [ ] No [ ]

13. Are you a member of a development group in this area? Yes [ ] No [ ]

14. If yes, what type of development group are you in?

Women group	
Political group	
Water group	
Land development group	
Merry go round (Njangui)	

15. Which type of farming are you engaged in?

    1 = Subsistence 2 = commercial 3= Both

16. In your view, is borrowing from credit sources risky? Yes [ ] No [ ]

17. Did you give-up to take loans from credit sources due to fear of risk in the last 12 months? Yes [ ] No [ ]

Section C: Access to Credit

18. Have you applied for credit in the last 12 months?

    Yes [ ] No [ ]

19. If yes, was the credit received?

    Yes [ ] No [ ]

20. Please specify source.

1= government/ parastatal bank

2=commercial bank

3=microfinance institutions

4=credit cooperatives

5=farmers society

6=friends and relatives

7=money lenders

21. Did you receive the same amount of credit applied for? Yes [ ] No []

22. Why did you not receive the full amount?

1 = lack of adequate collateral

2 = small farm size

3 = poor credit record

4 = other (specify) _____

_____

23. Do you have access to information on who is giving out credit?

Yes [ ] No [ ]

Use of Credit

8. Please indicate which agricultural and non-agricultural activity you used credit for and proportion of credit use for each activity in percentage.

Agricultural Activities	**Proportion of Credit use in percentage**	**Non-Agricultural Activities**	**Proportion of credit use in percentage**
Purchasing of Inputs		Marriage ceremony	

Hiring of Labor		Child Naming	
Acquisition of Equipment		Burial Ceremony	
Acquisition of Land		Payment of school fees	
Transporting produce to market		Medical Bills	
		Graduation Fees	
		Building Project	
		Purchasing of Food	
		Business purposes	
		Traditional ceremony	

Note: Proportion of credit use can be, 1 = Less than 10%, 2 = 10%-25%, 3 = 25%-50%, 4 =50%-75%, 5 = more than 75%.

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