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## **The Impact of Microfinance on Smallholder Agricultural Productivity in Sierra Leone: A case study of Koinadugu District.**

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### **Abstract**

Agriculture contributes significantly to the economy of Sierra Leone making it the most vibrant sector employing about 75% of the population in the country with majority settling in rural areas. The rural sector of the country is blessed with productive arable parcels of land suitable for agriculture in which majority of its participants are smallholder farmers predominantly involved in small-scale farming. These farmers lack the financial wherewithal to graduate their agricultural practices from subsistence to commercial, with the aim of increasing household incomes. The only area they have relied on to augment their financial needs and farm productivity is on microfinance, an activity that has contributed greatly to the improvement of the socio-economic condition of smallholder farmers in the country. This research discloses the impact of microfinance on smallholder agricultural productivity in Koinadugu district in Sierra Leone. Rice, the leading produce produced by farmers in the district, is used to represent agricultural productivity. A total sample size of 100 farmers was collected from the frame out of which 50 farmers were selected from each of the two groups- clients and non-clients through a random and purposive sampling techniques. Analyses of the collected data was done through descriptive statistics, Independent Samples T-Test, Cross-tabulations and Chi-Square test of significance and multiple regression analysis. A multiple regression model was employed to measure the determinant factors of rice output in the analysis. The study found that even though clients of microfinance realized high agricultural productivity comparative to the non-clients, the rural financial institutions which heavily rely on depositor's money, did not provide exclusive loans for agriculture, the utilization of other loan portfolios makes it difficult for farmers to secure long-term loans, forcing them to engage into petty trading as an income diversification strategy to pay their loans on time. Major challenges such high interest rates, inadequate Information about agricultural loans, delay in loan disbursement were unearthed by the study. In future, farmers will be constrained by short-term loans if the government does not capitalize these financial institutions for exclusive agricultural lending.

**Key words: Microfinance, Smallholder ,Productivity, Sierra Leone, Koinadugu.**

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## **1.0 Introduction and Background**

After the 11 years (1991-2002) of civil war, microfinance became a “buzz-word” found in the socio-economic development agenda of Sierra Leone with the ultimate aim of protecting the welfare of the citizenry by increasing household incomes, improving consumption, and developing the human capital of poor people residing in remote areas of the country, who constitute 70% of the population (**International Fund for Agricultural Development-2006**). But with all the efforts made by successive Governments and other development agencies to ameliorate the state of affairs of the rural residents, poverty still remains as pervasive as ever for people living in the rural areas whose lives and livelihoods are largely attached to subsistence agriculture. Factors such as poor rural infrastructure, marginal level of economic activity and a widely diversified population have impeded access to the right type of economic services into the country side needed to promote financial intermediation and efficiently distribute incomes to the rural economic actors so as to accelerate rural commercial evolution and expansion. Following the devastation of rural infrastructure and rural economy as direct impact of the war, nearly all investments and financial establishments have been rendered dysfunctional and even their financial intermediaries, the National Cooperative Bank, closed. Former rural banks also closed down. This situation prompted the proliferation of financial establishments like Microfinance Institutions (MFIs) to deliver financial services to the most vulnerable groups including smallholder farmers. (**Microfinance Program Development Paper, Bank of Sierra Leone, 2004**).

To cushion the effects of the issues related to accessing the finance and payment system for poor people, the Government of Sierra Leone (GoSL) in collaboration with the International Fund for Agricultural Development (IFAD) conceived the idea of the Rural Finance and Community Improvement Program (RFCIP). The project began actual operations in 2008 with the main aim of fostering access to finance through the establishment of: 1) Community Banks (CBs), a deposit taking institution regulated by the Bank of Sierra Leone under the Other Financial Services Act 2001 (OFS Act 2001) and 2) Financial Services Association (FSAs), a shareholding based village bank registered as Community Based Organizations with Ministry of Social Welfare, Gender and Children's Affairs, Also, Global Agricultural Food Security Program (GAFSP) supported the Access to Finance program from 2012 to June 2014. The RFCIP & GAFSP established 51 FSAs and 11 Community Banks from 2009 to date and in addition

restructured 6 CBs established by the BoSL from 2003-2008. The setup of these institutions covers country in its entirety with the exemption of Western Freetown District.

Small-holder farmers in Sierra Leone, operate on farm sizes of an average 1.63 hectares dominating the farming operations (**Ministry of Agriculture, Forestry and Food Security, MAFFS, 2013**). The production of sustenance crops is prominent which is considered as the main economic drive for over 75 percent of the inhabitants in the rural areas. The main crops (rice, cassava, vegetables) are cultivated alongside with tree crops (cocoa, coffee, cashew), coupled with the re-possession of swamps and uplands for farming activities (**MAFFS, 2013**). With the return of normalcy that signaled the end of the civil strife in 2002, many small-scale farmers who fled the conflict to major cities and other areas outside the country, returned to their rural settings to resume their farming activities. With a dramatic increase of crop productivity after the war, the sector continues to be focused on subsistence farming rather than commercial agriculture. Productivity remains very low at: 0.72 and 1.23 metric tons for upland and lowland rice respectively; 2.2mt/ha for maize; 5.5mt/ha for cassava; 6mt/ha for sweet potatoes; 1.8mt/ha for groundnuts; 100-200kg/ha for cocoa; and 4t/ha for oil palm. The demand and supply side for better and improved technologies is inadequate. Physical infrastructure for the research system was derelict even prior to the war and this requires serious rehabilitation (**MAFFS, 2013**).

Numerous constraints has plagued smallholder farmers from reaching their productivity levels. The absence of financial resources, the perennial use of traditional instead of mechanized methods of agriculture for better yield, the absence of adequate rice milling systems among others have posed debilitating effects on smallholder farming in the country.

The aforementioned conditions have invariably prevented smallholder farmers from realizing the expected incomes to deal with the myriad problems inherent in their households. Microfinance is an economic improvement approach intended to provide a host of financial services poor people and low incomers who cannot readily have routes to financial amenities from the official lending organizations (**World Bank, 2006**). Many Stakeholders in the microfinance business especially donors and investors argue that, microfinance is a lucrative business with a steady gains in revenue and this is achievable with expanding the outreach to target a considerable amount of poor households” (**United Nations Capital Development Fund, 2015**). Microfinance activities provide not only much needed capital to rural farmers for farming but also create a better system for entrepreneurship development. The emergence of the RFCIP that saw the establishment of Community Banks and Financial Services Associations, should constitute a

range of benefits including loan accessibility for agricultural development, farmer welfare and community development among others.

The major aim of the research was to empirically examine the impact of microfinance on smallholder agricultural productivity in Sierra Leone taking Koinadugu district as a case study. To achieve this, we don't only need to understand the complications faced by smallholder farmers in the country but also to look at the nexus between agricultural efficiency and microfinance and recognize the bases for rice productivity in the research area. For this study, the term microfinance was the main concept used to encompass not only micro loans but also savings done by smallholder farmers.

The district of Koinadugu was chosen to conduct the research because: Firstly, agricultural activities are prevalent, Secondly, the district is the largest but less populated with poverty eating deep into its socio-economic fabric and Thirdly, the district is considered as an NGO basket, reflected to the heavy presence of NGO activities intervening in many areas including micro-finance institutions.

## 2.0 Literature review

Economic maintenance for people residing in the rural areas is very important for the growth of their lives and livelihoods. In this regard, microfinance has become a common poverty alleviation strategy to free poor people from the trap of penury. According (**Ledgerwood, 2002,**) microfinance is a system of providing comprehensive financial amenities such as loans, micro insurance, Savings, money transfers to poor people whose incomes are marginal for household development and their businesses and who are normally disadvantaged from accessing loans from the formal finance systems.

The twin terms of microfinance and microcredit that are often used interchangeably. It is significant to state that microcredit is an offshoot of microfinance making it prudent to draw a dichotomy between the two. According to **Anderson et al (1998)** microcredit denotes a portfolio of small loans. Conversely, microfinance is a holistic scheme of financial services such as loans, savings, micro-insurance, money transfers etc., to those in need of financial support, whose incomes are marginal and lack the collateral to contend with the formal banking institutions. It is obvious that, these activities of giving financial remedy to vulnerable groups is sometimes done by a group of NGOs and microfinance establishments working in the interest of

these poor people. Arguably, microfinance institutions are diverse with regard to scope, model and intervention. Over the previous decades various development methods were created by policy planners, donor groups, disaster and relief groups, and others with a poverty alleviation mandate in rising countries. These groups have been able to address some of the problems such as poverty, inherent in these developing areas. One of the tools used for reaching out to people of financial need has been microfinance a system of providing much needed funds to people for the enhancement of their lives and livelihoods (**Johnson & Rogaly, 1997**).

Micro finance has been a remedy for poor people especially small-scale farmers in the continents of Asia and Africa(Sub-Saharan) to improve their lot and increase welfare. (**Financial development in Sub-Saharan Africa-Promoting inclusive and Sustainable growth (2016)**). These financial Institutions which provide these services, operate in different spheres, some target micro-businesses to benefit populations in both urban and rural and some target small-scale agriculture the very direction of this study. It is important to note that not all programs designed as microfinance will actually connect to a person's opinion of the concept of microfinance. It is actually dependent on the mode of operations and the people that are targeted and services offered. For instance a study done by (**Kaboski and Townsend 2005**) discovered that microfinance has varied interventions depending on the prime targets of financial services which normally encourage people who receive micro-loans to save. Women have described as the most recipients of financial services in the last decades. A study by **Karlan and Zinman (2006)**, observes the influence of customer micro-loans in Africa concentrating on working persons and not those owing micro-enterprises. According to these authors, microfinance programs needed a thorough examination so as to come up with evidences as to which ones directly benefit the intended beneficiaries, by labeling them as microfinance schemes, the argument of the researchers is that microfinance programs should not only target the right people to whom financial need is extended to capture the objectives of the program with regard to outreach, impact, and financial self-sufficiency. It is a reality to state that if microfinance programs fail to confer comprehensive amenities to target beneficiaries of these programs, it could be hard to extrapolate as to why a particular program could work better than the other.

## 2.1 Models of microfinance

### 2.1.1 Grameen Bank model

This model was introduced by Dr. Mohammad Yunus in Bangladesh being simulated around the globe. Under the model, interested people for microcredits constitute themselves into groups

voluntarily with a membership of five (5). The ideal principle of this model establishes a group-liability that subjects all members into financial accountability should a member defaults in a situation that will hold the entire group liable if another member fails to honor their financial obligation. (**Besley & Coate, 1995**), and dynamic incentives which means that the borrower (or the group) is prevented from future borrowing if he or she defaults in the payment installments and where bigger loans are granted over time if the previous ones are paid back in an orderly manner. The general characteristics of this model included low transaction costs, the absence of collateral, the servicing of loans is significantly dependent of group pressure, the repayment of the loans is generally done at short intervals, and the absence of rigorous modalities has made loan accessibility very simple.

### *2.1.2 Village or rural Bank Model*

Under this model, two primary sources of accounts support the progress of its members. These sources include internal and external accounts. As the name suggests, the external account mobilizes money from external means of source and in turn monies accrued from this source are made accessible to members of the bank. Conversely, the internal account comprise of individual savings of members to which members are eligible for loans. Unlike the Grameen model, membership on the rural bank model consists of 30 to 50 people who pay their loans on weekly terms to preserve the cohesion of the bank. The objective is that the “bank” will be self-sufficient. The bank is not exclusively reliant on external monies to fund its operations. Not actually relying on the external account for funding. (**Brown, 2011**). A combination of the Grameen and village or rural banks models is very common in the study area of this research-Koinadugu district in Sierra Leone.

### *2.1.3 Credit Unions*

A credit union is a financial association, usually operated on a non-profit terms managed and operated by its membership with the sole aim of issuing loans and accepting saving from its members **Brown (2011)**. There are regional differences in the African perspective. East Africa demonstrates moderately poor results in the credit union activities whilst West Africa is more promising (**Sharief & Sheree, 2007**). Providing funds only to members is the mantra of credit unions which has prevented reaching more people outside the union. It is believed that this limitation is punctuated by its small and low capitalization to loan more people.

#### *2.1.4 Self-Help Groups (SHG)*

Self-help groups are popular in India because they can be easily created under the legal framework in the country (Nasir, 2013). This group is relatively small with a membership of 20 people. An SHG is a small group of about 20 persons from the same homogenous group who come voluntarily to optimize their aim for economic development. The group organizes funds from its members only and extends financial services to their members only. The internal dealings are supported first and after that NGO backing the group connects them to other financial organizations for financial assistance (Nasir, 2013).

#### *2.1.5 Cooperative Model.*

An organization is said to be cooperative when it is owned by the members who benefit from its facilities. This example of microfinance is well suited when a community has enough human and fiscal resources to control and manage their own affairs. The mantra of this model is that, only members who own the cooperative who utilize its services from a wide range of sectors such as agriculture, trade and other business ventures. (Nasir, 2013).

### **2.2 Smallholder farming in Sub-Saharan Africa.**

Countries in Africa, especially those that are in Southern, Western, and Southern areas share common agricultural practices. (United Nations Report on Microfinance in Africa 2015). Agriculture is the most important component in the economies of most African countries, an industry that employs majority of the citizens in these countries. Much of agriculture work is limited in the areas with a network of smallholder farmers who consistently engaged in subsistence farming in which majority of them are poor and barely live to survive. Smallholder agriculture has always been a predominant commercial activity for the people in Africa, particularly in the Sub-Saharan region, and it will remain enormously important for the distant future (International Monetary Fund report on financial development in Sub-Saharan Africa-Promoting inclusive and Sustainable growth- 2016). However, the scope of the sector does not essentially mean funding in the smallholder segment of agriculture will yield high social benefits in comparison to other possible uses of development resources. Significant variations in the smallholder systems could seriously affect its viability to cater for the numerous farmers, emanating from shifts in technology, markets, climate and the international environment. Development policy initiatives and priorities arguably will vary across nations because of the

variations with regard to agricultural practices in the area of smallholder farming. **(Douglas Gollin, 2014).**

The small-scale sector of agriculture faces very serious challenges to handle with the realities of modern agriculture. Most sub-Saharan African families hinge on smallholder agriculture for their source of revenue, and most agriculture in Africa, is effected by smallholder homes. This is an obvious situation irrespective of the development that had taken place in urban areas of countries regarding growth and expansion. A FAO 2010 report said that 58.8 per cent of the entire sub-Saharan labor force was in agriculture and a slightly higher proportion (63.6 per cent) of the whole population was in rural areas. **(Douglas Gollin, 2014).** Smallholder agriculture is also and particularly a source of livelihoods for women. Women constitute of the majority in the agricultural workforce, they are not likely to engage in other work because agricultural activities are the main source of income for these women especially the economically lively ones. Only a small number of African engage in other areas of labor, the bulk of them are predominantly involved in smallholder agriculture. Virtually the entire farming labor force is engaged in small-scale production systems other than big farms, even though there is no theoretically vibrant approach to describe 'small farms' or 'smallholder agriculture'. Many measurement is done where quantification is conceivable, yet, it is obvious that a greater number of African agriculture is predominantly subsistence. For example, the bulk of crop farms are lesser than five hectares **(Eastwood et al., 2010)** and results from many household studies attest to the fact that the medium scope of a crop farm is approximately one and two hectares in most of the countries with existing data. **(Eastwood et al., 2010, Dercon and Gollin,).** The importance of the land area of these farms cannot be over-emphasized because the role they play in the total development of the lives and livelihoods of the people. It is prudent to say that these small farms are not only reasons of occupation; they are also, possibly provide food and other amenities for the people.

Even though there are vast differences across sub-Saharan Africa, several smallholder households harvest a huge segment of the household's food; and conversely, considerable amount of these harvests are expended by the household. Though African smallholders hang on agriculture for provisions as well as for cash revenue, suffice it to say that various smallholder households follow non-farm undertakings as well as farming. The level of reliance on agriculture differ extensively among countries. Non-farm employment in the rural settings also offer a number of paybacks to agricultural families. This helps them to diversify and cope with risk in



the event of shocks. This serves as a launch-pad to manage the perils of cyclical variations in agricultural work, and offers monetary benefits to balance and increase the income accrue from farming (**Haggblade et al., 2010**). In general, households in remote areas tend to devote their labor hours to farming, and rural non-farm work is associated with closeness to business centers.

It is important to recognize that 70% of the food distributed to the world is produced by smallholders, yet they are principally susceptible to climatic and financial shocks, many live squarely from harvest to harvest. Poor harvests, or price deteriorations normally pose catastrophic effects.

## 2.3 Who are smallholder farmers?

They could be described as those farmers owning small-based plots of land, not exceeding 2 hectares, on which they grow subsistence and few commercial crops with an exclusive reliance on family labor. (**Department of Agriculture, Forestry and Fisheries, South Africa, 2012**). Smallholder farmers operate in communities which are mostly farming areas with a degree of farm intensification. The extent of time and energy devoted by these farmers has proven to be invaluable for agricultural productivity mainly done for household consumption. The use of the term 'smallholder' represents to the restricted resource supply comparative to other larger scale and more commercial farmers; the actual definition differs among countries and among agro-ecological zones (based on soil, landform and climatic characteristics), with variations in farm size, allocation of resources, use of external inputs and amount of food yields that are marketed (**Dixon, Aysen Tanyeri-Abur and Wattenbach, 2004**). Characteristics of smallholder farmers include low monetization and narrow business skills, little or no financial literacy and financial organization skills, less information management and risk aversion. These farmers generally fit in the class of the rural poor.

## 2.4 Microfinance Policy in Sierra Leone

### 2.4.1 Country Profile

Sierra Leone attained its independence and Republic status in 1961 and 1971 respectively. As a country on the west coast of Africa, It shares border with Guinea on the north, Liberia in the south-east, and the Atlantic Ocean in the south-west. The country has a hot weather, with a different atmosphere reaching from grassland to rainforests, with a full area of 71,740 km<sup>2</sup> (27,699 sq mi) (**Statistics Sierra Leone, 2015**) and a populace of 7,075,641 (**based on 2015 national census**) The country is divided into regions: Northern Province, Eastern Province,

Southern Province and the Western Area, entirely segmented into fourteen districts. Freetown is the metropolitan, major city and is the economic and political center. Bo is the succeeding major city. The other major cities are Kenema, Makeni, The country has about 16 ethnic groups each with its own dialect and norms. The two principal and best powerful are the Temne and the Mende people. The Temnes are mainly found in the north of the country, while the Mendes are principally found in the south-east. Even though English is the language articulated at schools and government organization, the Krio language is generally spoken language in Sierra Leone and ties all the diverse indigenous persons in the country, particularly in trade and communal collaboration with each other. The country is a largely Muslim nation (**Statistics Sierra Leone, 2015**) however, with a significant Christian minority. Sierra Leone viewed as one of the greatest religiously open-minded countries in the world. This situation has created a myriad array of community interconnection in which Muslims and Christians congregate in all spheres with peaceful co-existence. Apart from agriculture, Sierra Leone has relied on mining, especially diamonds, for its economic base. The country is a signatory to various bilateral and multilateral organizations, including the United Nations, the African Union, the Economic Community of West African States.

## 2.5 Microfinance Policy

The government has propagated microfinance policies of which the current ones are targeting development generally for sustainability (**Bank of Sierra- Government Gazette-2013**). It is against this background that government is committed to investing in microfinance which serve as a facilitator for the mitigation of poverty in the rural as well as in the urban areas of the country. In order to actualize this, the government established a micro finance policy formulation Task Force including numerous participants to which Bank of Sierra Leone and Ministry of Development and Economic Planning are members. The creation of the community banks will deliver formal blue print for directing vast idle reserves as well as obtaining credits and advances. Before this period, government used ad hoc policies on Micro Credit to cater for the needs of (i) Low income households, (ii) Small holder farmers, (iii) Small and medium enterprises in both rural and Urban Communities, in the post war activities in Sierra Leone

## 2.6 Micro Finance Stakeholders in Sierra Leone.

The National Micro Finance Policy provides a list of stakeholders whose responsibilities are interwoven, forming a complex network to promote successful Micro Finance activities. They underscore the following:

### *2.6.1 The Government*

The government provides the enabling environment by ensuring political stability and refining the legal framework for commercial activities. A liberalized economy acting like a facilitator in this regard.

### *2.6.2 Non-Governmental Organizations (NGOs)*

A good number of NGOs are operating on microfinance to serve the poorer section of the people. Many of these NGOs are regulated by government making them operate within the ambit of law.

### *2.6.3 Credit-Only MFIs*

These MFIs provide credit as a micro finance institution only. Occasionally they can accept cash for collateral purposes.

### *2.6.4 Donors*

Donors are encouraged to support the delivery of economic facilities to the poor. In order that the institutions that donors fund remain worthwhile, donor money should be devoted through the Savings Trust which will increase the capital of MFIs and enhance capacity building to ensure sustainability when donors pull out.

### *2.6.5 Commercial Banks*

Commercial Banks are mostly involved in short-term financing, which prevents them funding projects with longer maturities. Applications for loans for agriculture for example, are not often matched by the structure of customer's deposits. Many of the loan funds of these banks go to the urban sector, depriving the rural poor completely of loan capital.

## **2.7 Different Approaches of MFIs in Sierra Leone**

### **2.7.1 Local NGO MFIs**

#### *2.7.2 Gender Grassroots Empowerment Movement – GGEM*

GGEM's mission is "to reduce poverty by giving credit for sustainable livelihoods". To achieve this goal, the organization provides credit for people with mini-enterprises. While the organization does not target the underprivileged section of the population, the focus group of GGEM is the poor, but economically active population. Unlike other MFIs, GGEM also

considers clients that intend to start up a business with their loan. However, these clients are only considered for cluster loans and only in the situation of 75% of fellow group members having prior business engagement. Potential clients with an age requirement of 18 and 65 years of age. The director of the organization stated that women's empowerment is an obvious objective of GGEM. To support this goal, GGEM has a female quota of 70% for their loan products. GGEM offers four diverse categories of credit products: individual loans, group loans, salary loans and wholesale loans.

### *2.7.3 Association for Rural Development – ARD*

This organization started operations as a development NGO since 1989. The organization became involved in the microfinance sector during the civil conflict to support displaced persons from the country side. Today the mission of ARD is “to provide cost-effective financial facilities to the mainstream inhabitants who are engaged in economic activities, as means of improving their livelihoods”. ARD does so by providing credit for clients engaged in small-scale trading and small- to medium-sized enterprises. Similar to GGEM, ARD targets the poor but economically vigorous population and does not target the poorest of the poor for their financial services. To be applicable for a loan, clients must be at 18 and 60. ARD does not apply any sex quota as well as women's empowerment as an obvious goal. ARD offers two different types of loan products: group loans and single loans. MITAF, MFIs and Women's Empowerment.

### *2.7.4 For-Profit MFIs*

#### *2.7.5 Lift Above Poverty Organization – LAPO*

The Nigerian microcredit institution LAPO has been engaged in Sierra Leone since March 2008. LAPO's mission is “to accomplish the goal of economic enablement of its target beneficiaries through the accessibility of reasonable economic amenities provided in a cost-effective manner”. LAPO's target groups that are economically active poor people. To select its clients, LAPO uses a host of poverty signs including housing conditions, nutrition and steadiness of household income. According to these indicators LAPO classifies its potential clients into five categories: 1. least poor, 2. less poor, 3. average poor, 4. poor, 5. poorest. Only households from categories 3 to 5 are considered as clients, provided that they are involved in a kind of business already. Nearly 100% of LAPO's clients are female because of the main financial product LAPO offers – group

loans – is exclusively for women. These clients must be 18 to 56 years of age. Individual loans, for both women and men, have been added to the portfolio this year but currently only play a marginal role. In accordance with LAPO's mission, (economic) empowerment is the prime objective of the organization.

### *2.7.6 Finance Salone*

Maturing from a microcredit program started by the American Refugee Committee (ARC) during Sierra Leone's civil war, Finance Salone became an enterprise itself in 2005. The mission of Finance Salone is "to provide microfinance facilities to low income entrepreneurs through a sustainable microfinance institution with a national scope". Poor people are a target group of Finance Salone, but only those that have been engaged in business activities before seeking for a loan. When selecting

Clients, it uses poverty indicators such like type and extent of business and revenue. Finance Salon applies a women's quota of 60% for its loan products. Only Clients of 16 and 60 years of age are eligible to enter the program. Four different types of credit are offered by Finance Salone: group loans, individual loans, salary loans and agricultural loans.

### *2.7.7 Bangladesh Rehabilitation Assistance Committee – BRAC*

Originating in Bangladesh BRAC first started working in the microfinance sector in 1974. The BRAC approach combines microfinance services with community development services and training program. Yet, in Sierra Leone, where BRAC started its microcredit program in 2009, the focus has been primarily on financial services. 40 MITAF, MFIs and Women's advancement "The mission of BRAC is to engage with people whose lives are dominated by extreme poverty, illiteracy, disease and other disadvantages. With a holistic approach, we strive to bring about positive changes in the value of life of people who are poor." As stated in its mission BRAC microcredit program is directed to the poor sectors of the population. However, like the other MFIs BRAC only gives credit to people already engaged in economic activities. Similar to LAPO, BRAC utilizes a host of poverty signs (kilocalories/day, income source, assets, and housing) to evaluate the poverty profile of loan applicants. Only people with restricted access to land and properties will be considered as clients. 100% of the organization's clients are women. BRAC offers two forms of loan products: micro loans for credit groups and individual micro-enterprise loans.

## 3.0 Methods

### 3.1 The Study Area

Koinadugu district is one of the 16 districts in Sierra Leone and it is located in the Northern Province of the country. The region is identified for its cold weather which is probably because of its mountainous terrain. Kabala, the district headquarter town, is a cosmopolitan municipality harboring diverse ethnic groups in addition to the Kurankos, the aborigines of the town.

The rural financial institutions that provided microfinance activities are the Kabala community bank, which provides loans to smallholders within Kabala town and the villages selected and the Financial Services Associations (FSAs). The Kabala community bank is a rural Bank that provides microloans to smallholder farmers with an interest rate of .08% This bank receives payments from its clients who are not only farmers but also other customers such as business people, government workers etc. To qualify for loans, farmers must constitute themselves into groups with the leader of the group takes the loan on behalf of the members. The group leader is expected to mobilize his/her members for prompt payment and to whom the bank holds responsible in cases of default. The services the farmers get from the bank include loans, money transfers and savings.

The Financial Services Associations (FSAs) are other financial intermediaries operating at the village level. Like the rural Bank, the FSA distributes loans to farmers. The difference in operations for these two RFIs is that, the FSAs operate as the grassroots bank with shareholding rights. To qualify for loans, farmers must be members of the bank with shares, and the size of a loan is contingent on the number of shares one has. Unlike the rural bank, the interest rate if FSAs is .02%. The maximum loan size for a group is 5,000,000.00 (Leones) (US\$=664.7) shared by 5 members or more for a period of 6 months, the minimum is 1,000,000.00 (Leones). (US\$=132.9). The region is the biggest district in Sierra Leone based on [topographical terms](#). Bigger towns in the district include [Sinkunia](#), [Falaba](#), [Fadugu](#) and [Kurubonla](#). Koinadugu has a population of 404,097, established by 2015 Sierra Leone national census; and has a total area of 12,121 km<sup>2</sup> (4,680 sq. miles) which divided is segmented into eleven [chiefdoms](#).

The study employed the cross-sectional Sample Survey design methodology to elicit information from the target beneficiaries and non-beneficiaries to analyze the impact of microfinance on

smallholder agricultural productivity. The survey design methodology incorporated both quantitative and qualitative schemes to prompt information. A triangulation of data and method to seek more information from the farmers as well as the rural financial institutions was used.

The study was entirely quantitative; the qualitative component constituted Key informant interviews or In-depth interviews, case studies and Focus group discussions. The key informant interviews targeted microfinance stakeholders such as community bank managers, financial services association managers, loan officers, government regulatory bodies, heads of small farmer organizations, community leaders etc. The focus group discussions targeted female Joint liability microfinance groups. Because of the quantitative style of the study, the survey questionnaire with a structured (close-ended questions) and semi-structured (open-ended questions) approach was designed to collect information on the study variables.

The study also consulted secondary data to get a thorough insight on the topic of study. Primary data collection was divided into 2 phases. Phase one (1) included the use of the survey questionnaire to collect information from the sample households. Phase two (2) comprised of the collection of qualitative data through in-depth interviews, case studies and focus group discussions.

A Statistical and Econometric analyses of the data using **STATA** was conducted. The type of statistical analysis included **Descriptive statistics, Independent means samples, Cross-tabulations and Chi-Square test of significance and multiple regression analysis**, to produce answers for the impact of microfinance on smallholder agricultural productivity in Sierra Leone.

### *3.1 Population and sampling Strategy*

The targeted population of the study was smallholder farmers. The sampling frame consisted of the list of the smallholder farmers and a sample size of one hundred (100) smallholder farmers who had taken loan or not (past two (2) years- 2011-2013), was drawn from the frame. The size included both clients and non-clients of microfinance.

A purposive sampling technique was used to purposively select communities that benefitted or not from the micro loans provided by the RFIs. A random selection of households in these communities was made. The study was conducted between March – April, 2016.

In bid to minimize selection bias, interviewees were recruited from among the actual participants and non- participants of microfinance during the 2 years. The survey did not include those that dropped from the scheme even though some respondents expressed some causes that led to the withdrawal of some of their colleagues from the microfinance activities. Interviewers also ensured that loan officers did not interfere in the recruitment process of respondents to avoid bias or conflict of interest. This was done to guarantee data quality.

### ***3.2 Multiple Regression Model***

The choice of the multiple regression model to analyze the data was informed by the desire to identify the empirical relationship between the predictors and the outcome variable of interest making logical predictions of productivity levels holding other factors constant. Generally, Key Literatures have justified the use of multiple regression model as appropriate to measure and calculate the interaction effects among variables to determine agricultural productivity. The use of the model allowed the researcher to learn more about the bond between explanatory variables and a dependent or criterion variable. **(Pearson, 1908- First person to apply the model).**

### ***3.3 Model Specification***

#### ***3.3.1 Econometric analysis model.***

Below is the Multiple Regression Model used to estimate the results on the determinants of rice production by smallholder farmers, holding other factors constant.

$$Q=f(X_1, X_2, X_3, X_4, X_5, X_6).....(1)$$

Q(Y)

$$a+\beta_1X_{input}+\beta_2X_{Labour}+\beta_3X_{Land}+\beta_4X_{Technology}+\beta_5X_{Loan}+\beta_6X_{Impact}+u.....(2)$$

Where:

Q =Output from farm (Y=rice in Bags 50k),

a= (alpha) constant/intercept

$\beta_1, \dots, \beta_6$ = (Beta- regression coefficients or slope) parameters to be estimated,

$X_1$ =Inputs cost (fertilizers, Pesticides, improved seeds),

$X_2$ =Hired farm labor(number of people and days of work)

$X_3$ =Farm Land (In Hectares. 1.63 max)

$X_4$ = Farm Technology cost (hired tractor, hand-hoe, machete etc),

$X_5$ =Loan ( money in Sierra Leone Currency(Leone-1USD=5,492.39 SLL)



$X_6$ =impact –Dummy 0= no impact 1= there is impact (Economic and social),  
u= error term.

### 3.3.2 Testing the hypotheses

The study was carried out to test the following hypotheses on asymptotic basis(2-tailed)

- Null hypothesis ( $H_0$ ) There is no impact of microfinance on smallholder Agricultural Productivity in Sierra Leone.
- Alternative Hypothesis ( $H_1$ ) There is a significant impact of microfinance on smallholder Agricultural Productivity in Sierra Leone.

$H_0: \beta_1=0, \beta_2=0, \beta_3=...=\beta_6=0$   $H_1$ : at least one of the  $\beta_6 \neq 0$

## Results and Analyses

### 4.1 Table i. Summary Statistics of key demographic variables

Variables	Microfinance	N	Mean	Std. Deviation	Std. ErrorMean
<b>Primary Occupation</b>	Micro-credit clients	57	1.75	1.550	.205
	Non- microcredit clients	43	1.84	1.745	.266
<b>Gender</b>	Micro-credit clients	57	1.47	.504	.067
	Non- microcredit clients	43	1.47	.505	.077
<b>Respondent's Age</b>	Micro-credit clients	57	5.05	1.597	.212
	Non- microcredit clients	43	4.42	1.694	.258
<b>Marital status</b>	Micro-credit clients	57	1.30	.865	.115
	Non- microcredit clients	43	1.14	.639	.097
<b>Total household income per year</b>	Micro-credit clients	57	3.16	1.437	.190
	Non- microcredit clients	43	2.40	1.635	.249
<b>Total household expenditure per year</b>	Micro-credit clients	57	2.65	1.664	.220
	Non- microcredit clients	43	2.28	1.594	.243
<b>Savings in Bank Account</b>	Micro-credit clients	57	1.12	.331	.044
	Non- microcredit clients	43	.09	.426	.065
<b>Farm Land</b>	Micro-credit clients	57	3.16	1.437	.190

	Non- microcredit clients	43	1.58	.731	.112
<b>Education status</b>	Micro-credit clients	57	5.07	1.438	.190
	Non- microcredit clients	43	5.21	1.407	.215
<b>Respondent's number of children</b>	Micro-credit clients	57	4.77	1.476	.196
	Non- microcredit clients	43	4.21	1.656	.252
<b>Assets Acquisition</b>	Micro-credit clients	57	95.60	18.008	2.385
	Non- microcredit clients	43	5.02	14.685	2.239

**Source: Field Survey data.**

The table above reports a summary of key demographic variables captured in the analysis. The results show a significant difference in the total annual income means for the groups (microcredit clients and non-microcredit clients). This suggests that microcredit clients with **Mean= 3.16, St.Deviation= 1.44** had an increase in income since the introduction of microfinance with a significant relationship between Microfinance and income. In the interviews, farmers who received loans related their high incomes to their increase in output (rice), having procured and applied the necessary inputs for greater productivity. Conversely, credit beneficiaries saw an increase in asset, **Mean=95.6, St. Deviation= 18.0**. The clients intimated that, they used part of the proceeds from the sale of rice to procure household appliances and refurbishment of their houses. This is also an indication of the correlation between microfinance and assets.

Interestingly, even though the clients of microfinance saw an increase in total income, nevertheless, there is no difference in total annual expenditure with the non-clients. It was discovered that the clients spent **80%** of the income to offset other household responsibilities such as paying school fess, paying medical bills and other household necessities. The farmers lamented that indeed they benefited from the microfinance scheme but much of what they had was expended which sometimes led them to engage in other income diversification measures like petty trading, as a coping strategy.

The non-clients who depend entirely on family remittances for support underwent the same expenditure incurred by their clients counterparts. The only thing that differentiated the clients and non-clients is the former benefitted from the scheme while the latter did not, but both had similar socio-economic characteristics.

It was also revealed that output was determined by the number of hectares of land cultivated. Microcredit clients, **Mean=3.16, St. Deviation =1.44**, cultivated on more hectares (minimum of

1. 55 of 1.63), because they had the financial means to hire more labor to work on large farms, and this enhanced their productivity levels. A comparison between micro-credit clients and non-clients showed no significant difference in educational status, gender, marital status, age, primary occupation and number of children. Farming was discovered as the main economic activity for both groups. The active age group for the microfinance scheme for both groups was found in the age group of **35-40 years**. Microcredit clients saved more. **Mean=1.12 St. Deviation= 331**, as compared to the non-client.

## 4.2 Agricultural and non-agricultural activities of sample farmers

*Table ii. Agricultural and non-agricultural Activities of sample farmers*

	Frequency	Percent	Valid Percent	Cumulative Percent
Agriculture	58	58.0	58.0%	58.0
Children's school fees	15	15.0	15.0%	73.0
Health	2	2.0	2.0%	75.0
Add to an existing business	19	19.0	19.0%	94.0
House construction	6	6.0	6.0%	100.0
Total	100	100.0	100.0	

*Source: Field Survey Data.*

Results show that respondents took loan for the sole purpose of agricultural activities (**58%**). Because of the risky nature associated with agricultural lending, the CB and the FSAs cannot guarantee long term repayment of loans therefore farmers used part of the loan to engage into other non-agricultural activities such as using adding to an existing business(**19%**), paying school fess(**15%**),

medical (**2%**), house construction(**6%**). Farmers who do petty trading used proceeds from sales to meet to the monthly repayment obligations set by the CB and the FSAs. There was a general feeling of appreciation among credit beneficiaries for the micro loans. These loans helped them to foot much needed household bills like school fees, farm inputs and medication. Farmers were able to procure farm inputs like fertilizer, pesticides to aid productivity. Loans given by the CB and FSAs for agricultural purposes were generally utilized for the purpose for which they were disbursed, **42%** of the money was used for other purposes to offset some household

responsibilities.

### 4.3 Agricultural productivity

Farm productivity is variable in terms of the type of crop planted. From the study, it was discovered that, rice and pepper are among the crops widely grown in the study area. But for the purpose of this study, rice was taken as the main crop for the analysis. This is because of the crop being the country's staple food and a very important produce in the study area.

**Table iii. Agricultural Productivity (rice) for sample Farmers**

No. of Bags	Microfinance		Total
	Micro-credit Clients	Non- microcredit clients	
10-19 bags	19%	11%	30
20-49 bags	8%	0%	8
5-9 bags	19%	12%	31
less than 5 bags	8%	18%	26
more than 50 bags	3%	2%	5
Total	57	4	100

Source: Field Data

Table 3 underscores rice productivity by sample farmers. From the analysis, there is a statistically significant connection between rice output and microfinance. (**Pearson  $\chi^2$  (5) =15.9120 Pr=0.007\*\*\***). Microcredit clients produced more bags of rice (**10-19 bags=19%, 20-49 bags=8%, 5-9 bags=19%, more than 50bags=3%**) compared to their non-microcredit counterparts (**10-19 bags=11%.20-49 bags=0%, 5-9bags=12%, less than 5 bags=18%, more than 50 bags=2%**).This justifies the fact that agricultural productivity is contingent on the amount of loan received to buy more inputs and hire more people to work on the farms. Non-microcredit clients did not have enough output because of the lack of funds to undertake agricultural activities. Most non-clients lamented they had low harvest because they did not have the financial means to buy inputs like fertilizer and to hire people to work on their farms.

#### 4.4 Microfinance on community Impact

**Table iv. The Village/Town has improved considerably as a result of the microfinance program.**

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly agree	62	62.0	62.0%	62.0
agree	28	28.0	28.0%	90.0
neutral	4	4.0	4.0%	94.0
strongly disagree	3	3.0	3.0%	97.0
disagree	3	3.0	3.0%	100.0
Total	100	100.0	100.0	

**Source: Field Survey Data.**

There was an overwhelming acceptance of the fact that, micro-credit activities have helped improved communities by providing funds for house construction. Respondents stated that, before the introduction of the micro-loans, houses were used to be built with mud bricks and thatch roofs. This has changed considerably because credit –beneficiaries can now boast of building houses of concrete bricks with corrugated iron sheets (CI sheets) from micro-credit finance.

#### 4.5 Determinants of Agricultural Productivity of sample farmers

In an attempt to calculate the multiple regression model, some issues that have to do with farmers who dropped out of the microfinance activities were not taken into account to estimate factors responsible for agricultural productivity, in this case rice. However, there is a polarized debate in relevant literatures of microfinance regarding the inclusion or not of those who left microfinance schemes for divergent reasons. It is argued that an inclusion of microfinance drop-outs in the analysis lowers the estimated impact of findings. (Gwendolyn Alexander-Todeschini et al, 1999). Estimating impacts of microfinance becomes empirical with a concentration of the actual beneficiaries to establish causality. Some writers believe that eliminating drop-outs is a bias approach to capturing the intended impacts. To deal with this puzzle, a multiple regression model is often used to capture the estimated factors necessitating agricultural productivity, identifying an empirical nexus among the variables for a logical

conclusion. The elimination of the drop-outs in the model gave definitive findings about the impact of microfinance on smallholder farmers agricultural productivity.

**Table. v. Multiple Regression analysis of determinants of agricultural productivity (Rice)**

Variables	Coef.	Std. Err.	t	P>t	[95%Conf. Interval]
Fertilizer	.2039436	.0560181	3.64	0.000***	.0926705 .3152168
Farm labor	-.3199779	.056176	-5.70	0.000***	-.4315646 -.2083913
Farmland	-.3663159	.0913101	-4.01	0.000***	-.5476922 -.1849397
Farmtech	.1904637	.3293965	0.58	0.565	-.4638421 .8447694
Improved_seed	.1781349	.0473875	3.76	0.000***	.0840055 .2722643
Impact	-.015249	.0060267	-2.53	0.013***	-.0272204 -.0032776
Loan	.005037	.002851	1.77	0.081	-.0006261 .0107002
_cons	.348644	.3335719	1.05	0.299	-.3139556 1.011244

**Note \*\*\* indicates significant at 5%.  $P < 0.05$  with a 95% confidence Level. 1-**

**0.05=0.95 Regression equation =  $Y = a + b * X + e = 0.3486 + \text{Coefficients } X \text{ (Predictors)}$**

The results showed variables such as Fertilizer (NPK 15), Farm labor, Farmland, improved seeds and socio-economic status as statistically significant. There is a positive relationship between fertilizer and rice productivity to meet the farmers' needs. Rationally, an increase of fertilizer by 1 unit of application will increase rice productivity by **0.2039 units**. Although farm labor showed a negative relationship with rice productivity, however, farmers' will see an increase in rice productivity on average by **0.3199 units** if farm labor days are increased by 1 unit. (**All things being equal- Ceteris Paribus**). Conversely, farmland did not show a positive relationship with rice productivity but if it is increased by 1 hectare, rice productivity will grow by **0.3663 units**. The rice seeds procured by the farmers' had a positive association with rice yield. If farmers' could increase the procurement of rice seeds by 1 unit, they will see an increase in rice productivity by **0.1781 units**.

The regression results established that there is a general impact (social and Economic) of microfinance on smallholder farmers. Though negative in association with rice productivity, an increase in the socio-economic status of farmers' by 1 unit will intensify rice output by **0.1524 units** because with more income, there will be the propensity to buy more seeds, hire more labor, pay household bills etc. Farm Technology (mainly tractor), and Loans received are not statistically significant even though both variables show positive relationships with rice

productivity. Farmers' intimidated the interviewers of the high cost associated with hiring a tractor for ploughing purposes. Hiring more farm labor was alternated to the tractor because it was cost-effective. However if the use of farm technology (tractor) is increased by 1 unit, rice output will surge by **0.1905 units**.

Even though farmers' realized high incomes, nevertheless the loans received were marginal to undertake extensive agricultural activities. (maximum loan size for a group is **Le 5,000,000.00 (US\$= 664.7)** shared by 5 members or more for a period of 6 months, the minimum is **Le1,000,000.00 (US\$=132.9)**. Most of the farmers' received the minimum of the loans with a very short repayment time coupled with unpleasant interest rates. If loans are increased by 1 unit, rice productivity will increase by **0.0050 units**. (All things being equal- *ceteris paribus*).

#### **4.6 Constraints faced by smallholder farmers to access credit**

In a multiple response question sequence, farmers were asked as to why they are not taking loans. **37.0%** said they were not aware of the micro-credit facilities offered by the CB and the FSAs, while others said, they were still on the waiting list to be verified and approved. **4.0%** said they do not want to go into debts, **59.0%** took loans for agricultural purposes. Farmers stated that the interest rates charged by both CB (**.08% interest**) and FSAs (**.02% interest**) on the loans were high and this has made things extremely difficult when it comes to the repayment of these loans. They had to pay every month according to repayment schedule agreed with the RFIs which to them is a burden because the purpose of the loans was for agriculture. Since agriculture is a seasonal affair, they had to engage into petty trading as revenue diversification strategy to repay the loans at the same time concentrating on their agricultural activities which is their primary occupation.

#### **4.7 Access to Agricultural Market by Smallholder Farmers**

A high proportion of micro-credit clients were accessing market (**65.0%**) while a small proportion of the non-micro credit clients (**35.0%**) were able to access markets. Micro- credit clients were able to hire labor as well as commercial motor bikes (Okada) to ferry them and their merchandizes to markets. The non-credit clients could not afford the costs associated with hiring these motorbikes the primary means of transportation in these communities. The advent of the Ebola epidemic in the country caused serious setbacks for smallholder farmers in accessing markets. Incomes from the sales of agricultural output became marginal because of the non-movement of people and goods as a result of the state of emergency declared by the government

in a bid to curb the transmission rate of the disease. The Movement of goods and people was strictly prohibited in quarantine areas. These saw a drastic reduction in farmers' incomes especially those that cultivated rice and other perishable crops.

#### 4.8 Perception of respondents' on RFIs approaches

In the study, farmers were asked to give their views on the approaches employed by the Community Bank (CB) and Financial Services Associations (FSAs) in meeting their overall objectives. **75.0%** of the respondents strongly agreed that the RFIs are doing a good job and they are meeting their target objectives. Only **25.0%** of the respondents disagreed that the RFIs are not meeting their objectives because they are not serving the target clients for the loans. Generally, there is a feeling of appreciation for the RFIs in the study.

### 5.0 Discussion

It is empirical to establish that agricultural productivity is proportionally correlated to microfinance as evidenced in the results section (4.0) which underscores a clear indication of the impact of microfinance on smallholder agricultural productivity in the study area giving us enough empirical evidence to reject the null hypothesis of the study. Those who got loans saw a growth in their revenues and output because they bought much needed farm necessities and services to boost productivity including the satisfaction of their social needs. This is in conformity with the works of (Aminu Sulemana et al, 2015). They confirmed that microfinance is tool for under privileged agriculturalists to boost their agricultural productivity. Microfinance is a substitute and approachable way of enabling smallholder farmers to access credit, the weight of microfinance is that farmers be constituted into groups prior to the disbursement of loans and this was the practice by the Rural Financial Institutions to minimize default. But this did not prevent farmers from defaulting as the RFIs claimed that their annual portfolio at risk was **15%**. Most of the loans were written off as bad debts since farmers could not repay them. As indicated in section (4.7) farmers who accessed credits got the advantage of hiring labor and motor bikes to carry products to the market centers where they fetched relatively high prices compared to farm gate prices. According to IFAD (2003), agricultural market is indispensable for the improvement of the farm productivity of many rural smallholder farmers. Indeed, access to loans by smallholder farmers is essential but not sufficient by itself to have optimal farm



productivity. It needs other factors to complement credit accessibility to augment agricultural productivity.

The study discovered the lack of training for farmers to effectively manage the loans disbursed to them. From the study, **71%** of the farmers are illiterate in formal education and this could be a reason for the increased rate of default, they lack the basic numeracy and business management skills. This was confirmed by the Kabala Community Bank. What was also discovered was the absence of funds exclusively for agricultural lending. RFIs operated on other products without paying more attention to issues of agricultural lending. The terms of lending for agriculture were the same as those in other products thereby making it extremely difficult for long term agricultural loans. Agricultural loans have a period of 6 months payable with interests. The farmers were left with no choice than to divert part of the loans to other areas like petty trading to mobilize income for the weekly repayment of loans, something that proved difficult since servicing of loans for agriculture is dependent on productivity.

Even though the administrative procedures of securing loans were flexible, a problem of communication between the creditors and debtors of loans was found. Farmers criticized the deficiency in information dissemination for the availability of loans. This militated against farmers especially those that resided in very remote settlements to access these loans.

Farmers protested of the huge interest rates charged. This is a confirmatory finding from other studies that huge interest rates serve as a disincentive for poor people especially farmers to borrow (**Frank Girabi, 2003**).

Interestingly, the study found that a greater number of the beneficiaries of the loans were men comparative to women an opposite finding of other studies on microfinance. This development could be ascribed to socio- cultural dynamics of the research area. Koinadugu district is dominated by the Islamic religion and as such most women subscribe to the dictates and decisions of their husbands on household development issues. Farmers confirmed that they are the breadwinners and managers of food security so it is their responsibility to fend for their relations and not their wives.

Conversely, although loans were borrowed for agriculture production, only 58.0% went to the sector. This justified that the loans received by smallholder farmers had multiple use and not

necessarily intended for agricultural production. Rural farmers were also likely to seek for credit for other pressing needs such house construction, health, education etc.

A total of 42.0 % of the credit size received by smallholder farmers was diverted to non-farm activities. Nevertheless, it is a transcendental reality that, farmers who divert credit to other activities different from what they borrowed money for, are prone to failure in achieving high productivity an act that could increase the risk of default . Although the study confirmed that there is an impact of Microfinance on smallholder agricultural productivity, nonetheless, loans given to these farmers are marginal and the repayment timeline was disadvantageous to them. Entrepreneur or credit management education is vital to farmers before they access the loans. According to this study, farmers who had access to business centers benefited more than those without. Yearly Income for micro-credit clients increased as compared to non-micro credit clients (**Table 1**).

Despite the friendly atmosphere of microfinance to farmers and the great impacts on agricultural productivity, a number of factors that could stifled microfinance availability and sustainability by smallholder farmers were discovered. These included the absence of microfinance information, high interest rates, risk averse and others still waiting to be approved for loans. From multiple regression analysis variables such as fertilizer, seeds, hired labor, social and economic impact and farm land are statistically significant. Although, farm technology and loans were not significant, nevertheless, they had positive relationships suggesting that increase use of farm technology and loans will increase agricultural productivity - **ceteris paribus**.

This study generally confirmed other studies that microfinance can indeed increase agricultural output and this has effect on poverty alleviation in developing countries with specific reference to Sierra Leone and in the study area in particular. However, In order to achieve sustainable agricultural development in the country, the community banks and the financial services associations must be well capitalized with special funds for agricultural lending to boost not only agricultural productivity but also incomes of smallholder farmers.

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