

The Effects of Microcredit on Agricultural Production among Small-Scale Farmers in Kori Chiefdom, Moyamba District, Southern Province, Sierra Leone

¹Abdul Salami Bah, ²Chernor Alpha U. Bah, ³Mohamed Francis Musa, ⁴Abdul Fatao Tandason, ⁵Daniel Rince George

^{1,2}Researcher, Department of Agricultural Economics, Njala University, Njala, Sierra Leone

³Researcher, Rokupr Centre, Sierra Leone Agricultural Research Institute (SLARI), Sierra Leone

⁴Lecturer, Department of Agribusiness Management, Njala University, Njala, Sierra Leone

⁵Researcher, Department of Economics, Njala University, Njala, Sierra Leone

Abstract - Lack of capital has been identified as one of the constraints faced by small-scale farmers. The aim of the research was to assess the impact of credit on agricultural production with specific objectives to determine its effect on farm size, labour employment and quantity of inputs as well as output among small-scale farmers in Kori Chiefdom Moyamba District and to determine any significant difference, if any between borrowers and non-borrowers. Structured questionnaires were administered to respondents. Seven respondents were targeted from each of the fifteen (15) villages, which give a sample size of one hundred and five (105) respondents from the chiefdom. The sample consisted of age (youth and elderly), sex (male and female) and rice farmers using the stratified random sampling technique, and the data obtained were summarized into tables, pie and bar charts with percentages and frequency. Secondary data were obtained from both published and unpublished literatures. Results showed a significant difference between borrowers and non-borrowers in farm size, farm output, income status and quantity of all inputs used (except family labour, fertilizer, hoes/cutlasses and animal traction). According to the research, farmers in rural areas had difficult access to agricultural credit and loans. In the research area, only 38 out of 105 farmers (36%) received microcredit for farming, compared to the majority (64%) who did not. Based on the analysis' results, borrowers had farms that were significantly larger than those of non-borrowers; the majority of them (86.6%) had between 6 and 10 acres, while just 13.40% had between 1 and 5 acres. Neither borrowers nor non-borrowers had farms with a size between 11 and 16 acres and above (0%), while the majority of non-borrowers (91.40%) had farms with a size between 1 and 5 acres, 5.60% had farms with a size between 6 and 10. This suggests that the rise in farm size that borrowers experience is more significant when financing to small-scale farmers. The study shows therefore that, access to microcredit over a long period of

time impacts positively on agricultural production. Government and the organized private sector should provide credit regularly and timely to farmers.

Keywords: Agricultural; Farmers; Borrowers; Non-borrowers; Small-scale; Microcredit.

I. INTRODUCTION

Sierra Leone's economy is based mostly on agriculture, which employs over two-thirds of the country's workforce and contributes an estimated 60.7 percent of the country's GDP [1]. There are over 5.4 million hectares of arable land in Sierra Leone, with nearly 75% of the area being suitable for cultivation. The nation has rich soils and one of the wettest climates in Africa because to its plentiful rainfall, which averages over 3,800 mm annually. Rice, cassava, mangoes, groundnuts, as well as cattle and cash crops like coffee, cocoa, and palm oil, may all be grown in this climate. The sector's enormous potential is yet largely unrealized [1]. A projected 9.7 billion people will need to be fed by 2050, making agricultural growth one of the most effective strategies for eradicating extreme poverty, fostering shared prosperity, and doing so. Compared to other industries, the agriculture sector's growth has a two to four time's greater impact on improving the earnings of the poorest people. Research from 2016 revealed that agriculture provided a living for 65% of poor working individuals. Another important factor in economic growth is agriculture, which in 2018 contributed 4% of the world's GDP and up to more than 25% of GDP in some least developed nations [2].

However, food security, poverty alleviation, and growth generated by agriculture are all at risk: Numerous shocks, including COVID-19, a lack of funding, interruptions caused by extreme weather, pests, and the conflicts in Russia and Ukraine, are having an effect on the food systems, driving up food prices and contributing to an increase in hunger [1, 2, 32]. Finding a decent farm, workforce, and resources is the

key to the success or failure of any farming system. Over 65% of Sierra Leoneans live in rural areas, and it is estimated that agriculture employs about 65% of the labor force and 75% of the population (with women making up the majority of the labor force) [3]. The number of people living in poverty is considerable, with 53% of the population earning less than the federal poverty limit of \$1.25 per day, according to [4]. The rural economy is based on agriculture, which employs the majority of the inhabitants. Most of the people in this group are low-income, illiterate, and impoverished. The United Nations Development Programme (UNDP) views the empowerment of the poor as a critical strategic step in the fight against poverty. It's interesting to note that a third of the world's poor live in rural areas and rely heavily on agriculture [5].

In order to invest in their farms and small businesses, people in rural areas need access to financing, suggests [6]. This is a result of the ongoing financial meltdown, which has disproportionately impacted impoverished small-scale farmers and rural communities [6, 7, 8]. The United Nations Organization (UNO) supports the provision of microcredit in this regard, especially to underprivileged small-scale farmers. Additionally, it designated 2005 as the "International Year for Microcredit" to highlight the significance of microcredit to the rural population in 2000[9]. Thus, it is impossible to emphasize the significance of credit in agricultural development because a farmer who wants to improve his financial status needs money to make investments. According to [10], access to credit is a real tool for rural empowerment and poverty alleviation for the over 45% of the population that lives below the poverty line. Credit will aid low-income individuals' sustainable development in a nation like Sierra Leone, where a substantial section of the populace is heavily dependent on primary output. The agriculture industry is the largest single contribution to GDP, according to [11]. However, [12, 13] asserts that agricultural output is dropping because, in 1964, agriculture contributed 64% of the GDP. He continued by saying that because more than 70% of the people is employed in this industry, financial intermediation is essential for encouraging growth and development. [14, 15] made a similar implication when he said that credit can be evaluated based on its capacity to energize or motivate other production-related factors, acting as a catalyst to ignite the engine of growth and enable it to unlock its inherent potential and move in the desired or anticipated direction. Despite the fact that small-scale farmers can obtain agricultural loans from banks and financial institutions, credit unions, non-governmental organizations, self-help groups, and private lenders, the success of small-scale business owners in rural areas has been hindered by:

- Lack of/poor access to credit from formal lenders;

- Irresponsible lending practices of local money lenders;
- Endemic poverty resulting in limited purchasing power;
- An adverse macroeconomic climate.

Even the conventional credit distribution institutions, such the "osusu" and cooperative organizations, have been hindered by a lack of finance and the inability to build loan portfolios. This is true even though the government has implemented several policy steps to increase production capacities in agricultural and small-scale processing industries in rural communities. Since the 1970s, the federal government of Sierra Leone has started significant capital investment initiatives in agriculture. These initiatives include the Green Revolution program, Operation Feed the Nation (OFN), the Agricultural Development Projects (ADPs), and the later establishment of the Agricultural Credit Guarantee Scheme (ACGS) and Agri-business Management (ABM). Since we have seen, access to credit is essential for lifting small-scale farmers above the subsistence level, it is necessary to critically examine the role of credit in agricultural production with the aim of highlighting areas of its strengths and weaknesses and making recommendations that will go a long way towards encouraging lending to the sector.

Microcredit has become "sensation" in Sierra Leone's sustainable livelihood agenda just after the country's 11-year civil war (1991–2002), with the ultimate goal of safeguarding public welfare by raising household incomes, enhancing consumption, and building the human resources of the poor who live in the rural areas and make up 70% of the population [16, 17, 20]. However, despite all the efforts made by the government of Sierra Leone and other development organizations to improve the situation of rural residents, poverty is still rife among those who live there and whose their lives and livelihoods are mostly dependent on subsistence agriculture[19]. Access to the kind of economic services necessary to encourage financial intermediation and effectively distribute incomes to rural economic actors in order to accelerate the evolution and expansion of rural commerce has been hampered by factors like poor rural infrastructure, a low level of economic activity, and a diverse population[19]. Nearly all financial institutions have become ineffective as a direct result of the war's destruction of rural infrastructure and the rural economy, and even their financial middleman, the National Cooperative Bank, has closed. Farmers' banks in rural areas also failed. Due to this circumstance, financial institutions like microfinance institutions (MFIs) have proliferated in order to provide financial services to the most vulnerable populations, such as smallholder farmers [17, 18, 19]. The Government of Sierra Leone (GoSL), in coordination with the International Fund for Agricultural Development (IFAD), conceived the idea of the Rural Finance and Community Improvement Program to

mitigate the effects of the problems related to accessing the financial and payment systems for poor people[19]. The initiative started working in earnest in 2008 with the primary objective of promoting access to capital through the establishment of:

- Community Banks (CBs), a depository institution governed by the Other Financial Services Act of 2001 (OFS Act 2001), which is administered by the Bank of Sierra Leone;
- A village bank with a shareholding structure called Financial Services Association (FSAs) is registered with the Ministry of Social Welfare, Gender, and Children's Affairs as a Community Based Organization (CBO).

Additionally, the access to financing program was supported by the Global Agricultural Food Security Program (GAFSP) from 2012 to June 2014. From 2009 to the present, the Global Agricultural Food Security Program (GAFSP) and the Rural Finance and Community Improvement Program (RFCIP) have established 51 Financial Services Associations (FSAs) and 11 Community Banks, respectively, and have also restructured six Community Banks (CBs) that the Bank of Sierra Leone (BSL) had established between 2003 and 2008[20]. With the exception of the Western Freetown District, the entire nation is covered by the establishment of these institutions. The majority of farming is done by smallholder farmers in Sierra Leone, who have farms that are on average 1.63 hectares in size [20].

1.1 The Current Status of Rural Finance in Sierra Leone

With over 70% of Sierra Leoneans live in rural areas, and 70% of them earn less than the country's \$1.25 daily poverty threshold. Subsistence farming is the primary economic activity of the rural inhabitants. These elements contribute to high transaction costs, which are further exacerbated by very poor infrastructure, insufficient economic activity, and a highly diverse population [20]. These factors make it difficult to provide the appropriate financial services to rural areas, which are necessary to encourage intermediation and effectively distribute resources to the rural economic players in order to speed up the growth and development of the rural economy. Due to the lack of available financial services, the demands of farmers are not met by the services provided by the informal sector money lenders, who provide loans with extremely short terms and high interest rates [20]. The following are the major participants in the financial sector.

Commercial Banks

Commercial banks have historically dominated Sierra Leone's official financial sector. As of December 31, 2011, there were 13 commercial banks [20, 21] with a total of 87

branches, the majority of which were found in district capitals and some semi-urban areas. No other District has more than one bank branch; instead, 46 (or 52%) of the branches are in Freetown. It is clear that commercial banks have not sufficiently expanded their services into rural communities. There is no motivation for these foreign-owned banks to open branches in rural areas with subpar infrastructure and minimal economic activity given that the majority of these banks (i.e., 10 out of 13) are owned by foreigners, with foreign shareholdings [21] ranging from 81% to 100%.

Microfinance Institutions

There were six (6) licensed deposit-taking MFIs with 62 branches, according to [20, 21]. With 42, 11, and 5 branches apiece, Brac, Finance Salone, and Salone Microfinance Trust Limited are three of these (most of these branches are urban and semi-urban based). The major MFIs get outside financial support for their lending operations from organizations like UNCDF, Kiva, and CORDAID[20]. Particularly BRAC, which is mostly supported by BRAC International. Additionally, some of them require loan recipients to put up an advance payment equal to 20% to 30% of the loan amount as cash collateral. Due to the fact that the majority of their clients don't have any real estate to serve as collateral, the MFIs' primary business model is the group lending strategy. In Sierra Leone, MFIs offer credit that must be repaid in small, regular monthly installments without a grace period. Branch offices of BRAC, ARD, and Finance Salone in Kenema corroborated this. Due to their short maturity, frequent repayments, and lack of any grace period, the terms and conditions under which MFIs give loans to commercial firms are not suited for agricultural lending. Furthermore, the majority of MFIs favor working with female clients (51% to 100% of active borrowers are female). This implies that their programs and services do not take into account a sizable portion of the population (males). According to the data gathered, the MFIs' services do not adequately meet the demands of the vast majority of the rural residents, who are primarily small-scale farmers [20].

Financial Services Associations (FSAs)

Financial Services Associations that have registered with the Ministry of Social Welfare are still able to access their savings as equity. Safekeeping, microloans, and money transfers are the three main goods and services provided in rural communities[20]. A maximum loan amount equal to four times a shareholder's share capital is available to them. The first FSAs were implemented in Sierra Leone as part of a project funded by the IFAD and the Italian Development Cooperation that modified the Kenyan model[20]. Under the IFAD-supported RFCIP, the model has repeatedly been

enhanced and replicated/up sized[20]. FSAs are rural financial organizations that offer a variety of financial services to their shareholders, who are also the organizations' owners. They seek to develop easily accessible, locally run banking institutions. Credits to shareholders are primarily funded by locally mobilized stock, which makes up the risk capital of the village banks. The group lending mechanism or the bank's knowledge of the specific borrower, derived from the close connections and local expertise possessed by the FSAs, serve as guarantees for the loans[20]. Only shareholders have access to the loans, and the loan amount is determined by the value of each individual share (up to four times the share's worth) [20]. The present FSA model's business- and results-oriented approach is one of its strongest points. Given that shareholders' cash is at danger, an FSA must function with a high level of professionalism and skill as well as their close involvement in the organization. In order to sustain a strong loan portfolio, a high degree of outreach must be connected to market-oriented company strategy. Despite this, there are still weaknesses. Currently, and on average, only 30% of FSA members may access loans, which reduces the institution's usefulness to community members and also restricts membership growth [20].

The Agricultural Finance Facility (AFF)

The huge unmet demand for loans from smallholder farmers, who are the primary beneficiaries of the AFF, served as justification for its creation specifically for the agricultural sector [20]. The introduction of the CB/FSA network is a particularly appropriate solution to address this demand for credit due to commercial banks' limited willingness to invest in agriculture and other initiatives' lack of reach in rural impoverished communities. The AFF is intended to support this channel, guaranteeing that the rural underprivileged (mainly smallholder farmers) are enabled to engage in agriculture as an enterprise and so increase their level of food security and revenue [20, 21].

1.2 Statement of the Research Problem

Since gaining its independence in 1961, Sierra Leone has endured many years of underdevelopment. Microfinance credits have received a lot of attention from development organizations, microfinance organizations, and researchers in recent years with the goal of enhancing the rural livelihoods of the nation's citizens. However, many of these initiatives have not been very effective, and the country's agricultural productivity has been negatively impacted in part because small-scale farmers do not receive adequate financial support. Credit institutions have historically refrained from lending to small-scale farmers, who make up the majority of the farming population, citing factors like high default rates, difficulty in

monitoring numerous borrowers whose loans do not really offer a high rate of return on investment, as well as not having the necessary documentation. Only a few empirical studies have been conducted in Sierra Leone to quantify the effects credit has on increasing agricultural output and productivity in order to establish a solid foundation for the promotion of microcredit as a rural development strategy. Studies by [22] are some of them (2003). Therefore, the investigation was necessary.

1.3 The Research Aims and Objectives of the study

1.3.1 General Objective /Aim

The major objective of the study is to investigate how small-scale farmers in the Kori Chiefdom, Moyamba District, Southern Sierra Leone, use microcredit facilities to influence their level of output in order to provide recommendations for better and more consistent credit to small-scale farmers.

1.3.2 Specific Objective

The study was, guided by the following specific objectives, namely:

- a) To study the socioeconomic and demographic characteristics of respondents in the study area;
- b) To identify problems and constraints small-scale farmers encountered in the study area regarding access to microcredit;
- c) To quantify the effect of microcredit on farmers' farm size, input use, and volume of output;
- d) To compare borrowers and non-borrowers' farm size, volume of input, output, labour employed, and income status after farming.

1.4 Research Questions

The general research question of the study is; how does microcredit affect agricultural production among small-scale farmers? From the general research question, the following specific questions were derived:

- a) Does credit to small-scale farmers impact on their farm size, ability to purchase inputs, and their production level or output?
- b) Is there a marked difference in farm size, input use, and production level when compared with non-borrowers?

1.5 Hypothesis

The following hypotheses were drawn from the research questions of the study:

H0: Null Hypothesis: Credit made available to small-scale farmers has no impact on their farm size, use of inputs, or output levels; hence, there were no differences in farm size and levels of inputs used between borrowers and non-borrowers.

H1: Alternative Hypothesis: Credit made available to small-scale farmers has an impact on their farm size, use of inputs, and output levels; a significant difference in their farm size and levels of inputs is shown between borrowers and non-borrowers.

1.6 Scope of the Study

The Kori Chiefdom serves as the sole area of this research. In addition to the fact that the inhabitants are actively engaged in farming, there are at least three financial institutions operating here: the Union Trust Bank, the Taiama Community Bank, and the Sierra Leone Commercial Bank.

1.7 Justification of the Study

The majority of people in Sierra Leone work in agriculture, which has been plagued by financial issues over the past 20 years. The government and non-governmental organizations (NGOs) have made various attempts to address these issues; they have developed numerous policies throughout the years as well as financial institutions and guarantee programs to help offer credit to farmers and guarantee their debts. Since it has been unknown for some time whether credits enhanced production or not in the study area, the researchers felt it was essential to conduct a study to close this critical knowledge gap. It is expected that the recommendations from this and other borrowing effect studies will assist the government, NGOs, and any other type of moneylender identify and address any weak points in their lending rules, which will ensure continuous improvement of the country's agricultural sector.

II. RESEARCH METHODOLOGY

2.1 Introduction

How the research was carried out and analyzed is explained in this chapter. The following crucial areas were given greater attention: research design; study area description (location and size; climate; vegetation; topography and drainage; and geology and soils); population and sample size; types of data (primary and secondary data); data collection method (questionnaire); and method of analysis.

2.2 Research Design

A research design is a set of procedures that directs the research during the phases of data collection, analysis, and

interpretation. The study was an empirical sort of survey with a non-experimental design. The researchers concentrated on small-scale rice farmers who received microcredit and those who did not, and the data was gathered at a specific spot in the field.

2.3 Study Area

The primary research that serves as justification for the choice of a particular location can be used to define the study area, which is the desired coverage area in which the research will be done. Fifteen (15) villages in the Kori Chiefdom, including Mosongo, Bonganema, Foyah, Kawella, Momega, Bambobu, Bauya, Gbueihun, Jouma, Kortiya, Mambayeima, Mokonde, Ndabu, Vaama, and Yandu, were included in the research field in the Moyamba District's Southeast [23, 24].

2.3.1 Location and size

The Moyamba District is situated in Sierra Leone's southwest. It has a total area of 6,902 square kilometers, making it the largest district in the Southern Province. Moyamba Town serves as the district capital. The district is surrounded on the west by the Atlantic Ocean, on the north by the Port Loko and Tonkolili Districts, on the east by the Bo District, and on the south by the Bonthe District. The district consists of twenty-four (24) local council wards, six (6) parliamentary seats, and fourteen (14) chiefdoms. Mende, Sherbro, Temne, and Loko comprise the major ethnic groups. The district's total population was 259,617 according to the 2004 population and housing census.

However, the Kori Chiefdom is located in the Moyamba District's southeast region. It has a 663 square kilometer surface area. Taiama town is the chiefdom's administrative center. The chiefdom is bordered on the west by the chiefdoms of Kaiyamba and Fakunya, the north by the Tonkolili Districts, and the east and south by the chiefdoms of Kamajei and Dasse. The Mende are the main ethnic group [23, 24].

2.3.2 Climate

The Moyamba District shares a wet semi-arid climate with the rest of Sierra Leone and has two distinct seasons. The dry season starts in November and lasts until April. The wet season runs from May through October, with the highest rainfall occurring in July and August. The district experiences only minor climatic variance. The average yearly rainfall ranges from about 125mm to just over 250mm. In the rainy season, the relative humidity is 72%; in the dry season, it is 80%. About 28 degrees Celsius is the annual average temperature [25].

2.3.3 Vegetation

Mangroves, grasslands, inland valley wetlands, and secondary farm bush are the predominant vegetation types. The district's vegetation has been significantly impacted by human activities, including coal mining and farming practices (such as indiscriminate tree cutting, continuous cultivation, and the development of new communities). All vegetation types can, however, be cultivated, which is advantageous for farming. Rice, groundnuts, cassava, and potatoes are the main food crops farmed in the district. A few commercial crops, including oil palm, pineapple, and cashew, as well as some livestock management, are also grown there [24].

2.3.4 Topography and Drainage

The district is topographically separated into two altitude zones: the northeast and the southwest. The district's lowest point is in the southwest and gradually rises to a height of 1200 meters, which is shared by Kasewe and the Mokañji Hills, which are located north of the Moyamba Plateau. The Kpangbaa and John (Taia) River basins make up the district's two principal river basins hydrologically. Even though these rivers are seasonal, their deep, sand-filled riverbeds may hold a lot of water for a long time after the rainy season. So, in the district, water for irrigation during the dry season is not a major problem [24].

2.3.5 Geology and Soils

In general, the district's geology is composed of two primary types of rocks. In the south, these are the lower Precambrian and undifferentiated Primary sequence. The salt pans, which are located in the southern portion of the area, are an underground network of sand dunes that run parallel to the coast. Lateritic soils make up the majority of the primary categories. All of the soils in these areas are suited for agriculture and have good drainage.

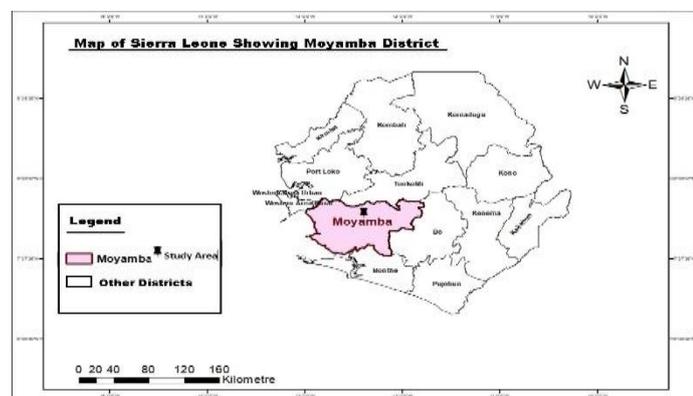


Figure 1: This figure shows the map of Sierra Leone indicating Moyamba District and study area

Source: Authors' construction, 2022

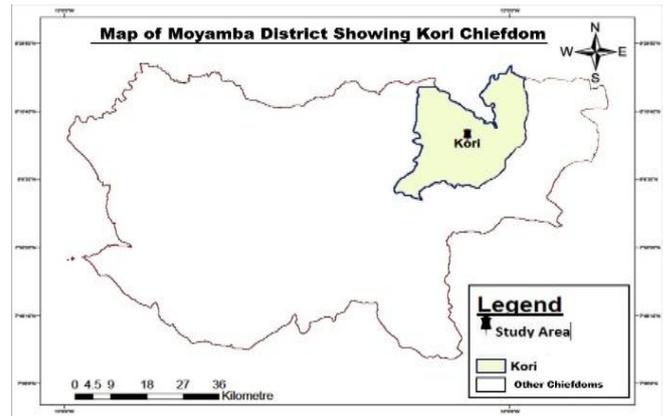


Figure 2: This figure shown the map of Moyamba District indicating Kori Chiefdom

Source: Authors' survey, 2022

2.4 Population and Sample Size

2.4.1 Population

The entire number of small-scale rice farmers residing in the Kori chiefdom, which constitutes the study area, served as the population for the study.

2.4.2 Sample Size

In this study, the sample size was one hundred five (105) farmers. The sample included people of different ages, genders, and crop enterprises (rice farmers). A total of seven responders were selected from each of the fifteen communities.

2.5 Sampling Technique

The technique of stratified random sampling was employed. Based on the current number of sections and villages in the chiefdom, the study area was divided into different strata. Out of a total of twelve sections, 10 were chosen at random. These twelve sections were each written on a separate sheet of paper, put in a black plastic bag, and vigorously shaken. The 10 sections listed below happened to be the fortunate ones picked as the papers were removed one by one from the bag without replacing. The fifteen (15) villages, Mosongo, Bonganema, Foyah, Kawella, Momega, Bambabu, Bauya, Gbueihun, Jouma, Kortiya, Mambayeima, Mokonde, Ndabu, Vaama, and Yandu, were chosen using the same approach from the ten sections, Gbandawai, Waima, Bailargo, Fogbo, Kortiya, Taia, Mokaba, Majehun, Vaama, and Yandu. Seven farmers were then chosen from each of these villages. Farmers who received loans from the various banks were 38 (borrowers), and farmers who did not receive loans were 67 (non-borrowers) who responded.

2.6 Types and Sources of Data

2.6.1 Primary Data

Primary data are those that were gathered freshly, for the first time, and are therefore unique in nature [25]. For the purpose of gathering primary data, the researchers created a questionnaire that was distributed to small-scale farmers. Information such as whether or not farmers have access to microcredit credit; the effects it has on those who have received credit on their farm size, labor hired, volume of inputs used, volume of output in number of bushels, their income status; major obstacles that prevent small-scale farmers from accessing microcredit; and others.

2.6.2 Secondary Data

Data that is already available and has already been gathered and examined by another party is known as secondary data [25]. This entails information gathered through officially approved reports, published books, journals, pamphlets, newspapers, magazines, and other acceptable material. The researchers used secondary data to guide this investigation. Data from journals, published and unpublished dissertations from Njala University and other institutions around the world, as well as secondary data collected from official reports released by several ministries of Sierra Leone and other nations, were also utilized.

2.7 Questionnaires

A questionnaire is a tool that facilitates information gathering from a large sample utilizing a predefined set of questions created by the researchers to acquire information needed to answer study questions. In order to get the necessary data for addressing the research questions, the researchers created a survey questionnaire that was distributed to small-scale farmers.

2.8 Data Analysis

Simple statistical techniques from the Excel software were used to analyze the field data and display tables with frequencies and percentages, table, pie charts, and bar charts.

2.8.1 Methods of Data Analysis

The researchers employed descriptive statistics for the analysis of the information acquired from the distributed structured questionnaires. A tabular presentation, frequencies, and percentages were utilized to summarize the data on the respondent's age, educational background, gender distribution, family size, and agricultural experience. The data was analyzed using Excel. It was also used to compare the

variations in farm size, labor, input, production, and income status between borrowers and non-borrowers.

III. DATA PRESENTATION AND ANALYSIS

3.1 Introduction

An overview of the data from the structured questionnaire that was administered to both borrowers and non-borrowers in the research region is presented in this section. The topics covered in the questionnaire serve as the organizing theme for this section. A discussion of the outcomes is offered before the summary tables of the data on the issues. Two segments made up the presentation:

- 1) First, the characteristics of the respondents were described and discussed, including the distribution of respondents' ages, sexes, marital statuses, educational backgrounds, agricultural experience, family sizes, and reasons why they did not borrow.
- 2) The second section looked at the percentage of borrowers and non-borrowers, farm size, inputs used, production volume; labor employed, output price, and income status to determine the difference between borrowers and non-borrowers.

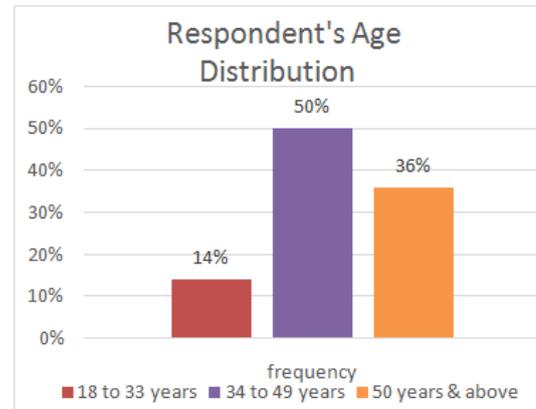


Figure 3: The figure below Shows Age Distribution of Respondents

Source: Field Survey, 2022

The age breakdown of study participants is represented in the graph above. It demonstrates that the majority of respondents (50%) are between the ages of 34 and 49, followed by those between 50 and above with (36%) and only a small number fall between the ages of 18 and 33. (14 percent). As a result, it can be concluded that the majority of respondents are between the ages of 34 and 49, which is the most economically active working age (50 percent). Based on the work force, the age distribution of farmers determines the type of agricultural enterprise or activities to be engaged in. The findings are in line with a research by [30, 31] that

revealed majority of the respondents belonged the age group of 25 – 50 years.

Table 4.1: The table below Shows Sex Distribution of Respondents

Sex	Frequency (f)	Percentages (%)
Male	64	61
Female	41	39
Total	105	100

Source: Field Survey, 2022

Table 4.1 above shows the sex distribution of respondents in the study area. The result reveals that 61% of the respondents were male and 39% were female. Although Sierra Leone has a population with females being in the majority, 2015 population and housing census (PHC) this results reveal that majority of the respondents were male. This implies that male farmers are dominated in the study area, which mostly set up agricultural enterprises. This study is in support of [30, 31] which clearly state that majority of the respondents of the sample were male.

Table 4.2: The table below Shows Marital Status of Respondents

Marital status	Frequency (f)	Percentages (%)
Marriage	53	50
Single	24	23
Divorced	10	10
Widow/widower	18	17
Total	105	100

Source: Field Survey, 2022

From the result obtained in table 4.2, it shows that 50% of the farmers are married, 23% are single; follow by widow/widower with 18%, and divorced with the least percentages of 10%. This implies that farming in the study area highly required couples in order to overcome the various constrained faced as evidenced above. It may also be because of the culture and custom of the people inhabiting these farming areas. The findings of this study are consistent with those of [30, 31], who evaluated the Impact of Microcredit on Agricultural Development in Rural Farmers.

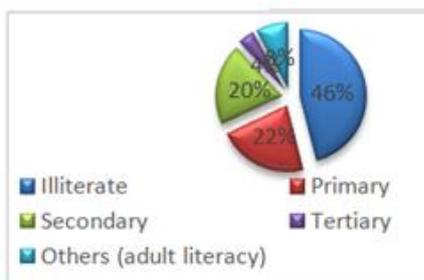


Figure 4: the figure below Shows Respondents' Level of Education

Source: Field Survey 2022

The degree of education of respondents in the study area is reflected in the pie chart above. As shown by the data, 46% of respondents were uneducated (illiterate), 22% had completed their elementary education, 20% had completed their secondary education, 4% had completed their higher education, and 8% had completed some other type of education (adult literacy). This suggests that adoption of innovations will be challenging because respondents to the survey have low levels of education and competence skills.

Table 4.3: The table below Shows Farming Experience of Respondents

Years	Frequency (f)	Percentages (%)
1-5	33	31.43
6-10	18	17.14
11-15	42	40
16 & above	12	11.42
Total	105	100

Source: Field Survey, 2022

According to table 4.3, 40 percent of the respondents had been farming for between 11 and 15 years, followed by 31.43 percent for between 1 and 5 years, 17.14 percent for between 6 and 10 years, and 11.42 percent for more than 16 years. This suggests that farmers with experience predominate in the research area.

Table 4.4: The table below Shows Family Size of Respondents

Family size	Frequency	Percentage (%)
1-5	28	27
6-10	62	59
11 & above	15	14
Total	105	100

Source: Field Survey, 2022

Table 4.4 shows the number of dependents on respondents in the study area from analysis, we have seen that 59% of the farmers had 6 to 10 dependents, 27% had 1 to 5 dependents and 14% had 11 dependents & above. This may be to supply family labour in farming activities. Number of dependents also determine the farm size of farmers in Sierra Leone farming communities. The result supports the general notion of large families as a characteristic of rural communities' birth and death Statistics Sierra Leone 2015. This is consistent with research by [30, 31] who found that majority of the respondents family size fall within the range of (6-10).

Table 4.5: The table below Shows Borrowers and Non-borrowers in the Study Area

Respondents	Frequency	Percentages (%)
Borrowers	38	36
Non-borrowers	67	64
Total	105	100

Source: Field Survey, 2022

Table 4.5 illustrates the proportion of respondents who have and have not used microcredit for farming in the research area. According to the results, 36% of respondents obtained loans for farming, while the remaining respondents (64%) did not. This might be as a result of restrictions and requirements related to obtaining credit.

Table 4.6: The below Shows the Distribution of Borrowers by Loan Size Category

Amount of loan (Le)	No. of respondents	Percentages
100 -700,000 Le	15	39
800 -1.4 million Le	9	24
1.5 -2.1 million Le	7	18
2.2 -2.8 million Le	4	11
2.9 million Le & above	3	8
Total	38	100

Source: Field survey, 2022

According to Table 4.6, of the farmers in the research region who benefited from loan, 15 respondents, or (39%) borrowed an average of Le 100 to 700,000, followed by nine respondents, or (24%) who borrowed Le 800,001 to 1.4 million. 18% of borrowers took out loans between Le 1.5 and 2.1 million, while 11% of respondents took out loans between 2.2 and 2.8 million. This indicates that fewer farmers secured loans between 2.9 million and above since 8% of farmers who borrow between 2.9 million and above. As previously mentioned, the bulk of the population engages in subsistence farming, with average farm sizes often ranging from 1 to 5 acres (table 4.8). As a result, very little money is granted to them as a loan.

Table 4.7: The table below shows the Distribution of Non-Borrowers by Reasons for Not Borrowing

Reasons for not borrowing	Frequency	Percentages
Never heard of it	24	36
Application procedures complicated	20	30
Bank is far away	0	0
High interest rate	15	22
No collateral	0	0
Amount too small	8	12
Total	67	100

Source: Field Survey, 2022

It can be seen from the table above that 24 (36%) of the farmers have never heard of microcredit, and 20 (30%) claimed the application process is challenging, the interest rate is high, and the amount is too small by 22% and 12.7%, respectively. This suggests that the achievement requirements and barriers to receiving microcredit for farmers in the research area are different for each farmer.

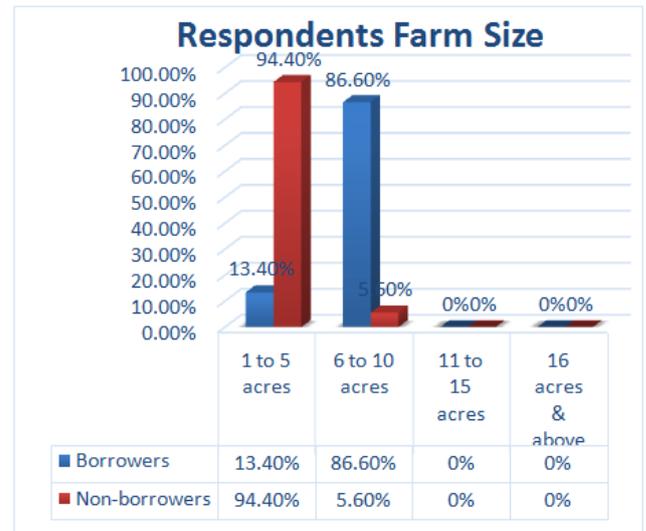


Figure 5: The figure below Shows Borrowers' and Non-borrowers' Farm size

Source: Field Survey, 2022

In accordance with the data, 86.60% of the borrowers farmed 6 to 10 acres of land, followed by 13.40% who farmed 1 to 5 acres, and none (%) who farmed 11 to 15 acres and 16 acres or more, respectively. While 94.4% of non-borrowers had farms of 1 to 5 acres, just a small minority (5.6%) owned farms of 6 to 10 acres, and none (0.0%) owned farms of 11 to 15 acres or more. As seen above, the null hypothesis that there is no discernible difference between the two is false. As a result, more borrowers were able to develop larger farms, according to this conclusion. The findings are in line with a research by [27, 28] that revealed borrowers had greater farm sizes than non-borrowers.

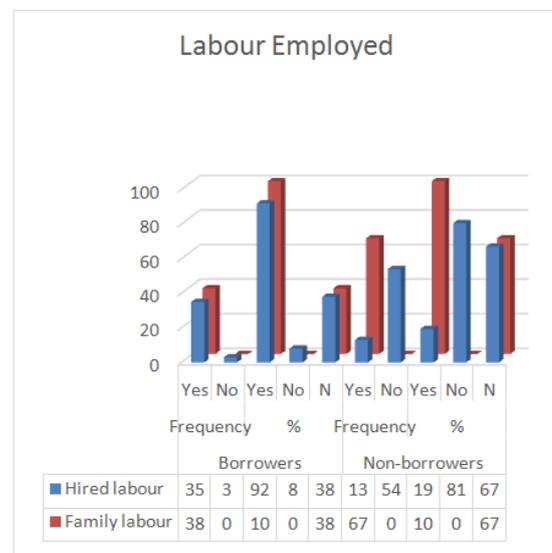


Figure 6: The figure below Shows Distribution of Borrowers and Non-Borrowers Based on Labour Employed

Source: Field Survey, 2022

According to the aforementioned figure, 92 percent of borrowers employed labor while only 8% of non-borrowers did, whereas 13 non-borrowers hired labor while 54 non-borrowers did not (or hired labor at a rate of 19.4%). Therefore, it follows that the vast majority of non-borrowers (80.6%) depend on family labor to complete their farm tasks. Analysis has shown that both groups (38 borrowers and 67 non-borrowers) mutually decided to use family labor. This suggests that family labor was used by all the farmers in the study region in addition to hired labor. In other words, due to a lack of finances, hired labor will not be sufficient to complete all of the farm tasks, hence family labor will be needed to augment the labor force.

agriculture did not use better seeds. Which suggests that they might be using the old, unimproved seeds they've saved from earlier farming seasons. The minority (11%) just buy seeds to supplement what they already possess.

Fertilizer: Our analysis also revealed that no respondents (100%) of both borrowers and non-borrowers used fertilizer, hence there was no difference between the two groups' use of fertilizer in the study area. Depending on the type of farming and/or cropping system used by farmers in the research area, this may be because fertilizer is expensive or because they purposefully choose not to apply it.

Pesticides: Figure 7, shows that 86% of borrowers did not use pesticides, compared to 14% of borrowers who did, and 94% of non-borrowers who did not use pesticides, compared to 5% of non-borrowers. This demonstrates unequivocally that the research area does not frequently utilize pesticides. However, in the research region, there was a difference of 8% (14% - 6%) in the amount of pesticides used by borrowers against non-borrowers, meaning that borrowers used more pesticides than non-borrowers.

Hoes/cutlass: According to the analysis on figure 7, there is no difference in the usage of hoes and cutlasses between borrowers and non-borrowers, as shown by the fact that both groups utilize them equally (100%). This suggests that both borrowers and non-borrowers employed a hoe or cutlass to prepare the ground for planting, which makes it obvious what kind of farming method was used (subsistence farming using crude tools).

Animal traction: Figure 7 demonstrates that there is no difference between the two because neither borrowers nor non-borrowers (100%) used animal traction. It means that locals don't frequently employ animal power.

Machine (tractor): Analysis According to an analysis of figure 7, 64% of borrowers used tractors, 36% did not, and 100% of non-borrowers failed to use tractors. This only identifies the region's predominant farming system, which is subsistence farming. The non-borrowers only rely on manual labor using basic tools, while some of the borrowers, as seen above, employed both physical labor and machinery to supplement their efforts. In general, the findings support the observation that farmers who continue to get credit have a beneficial impact on the inputs they utilize and, consequently, the output. The findings of this study are consistent with those of [28], who evaluated several studies carried out by the Food and Agricultural Organization (FAO). All of the studies stressed the need of long- and medium-term credit for progress and development.

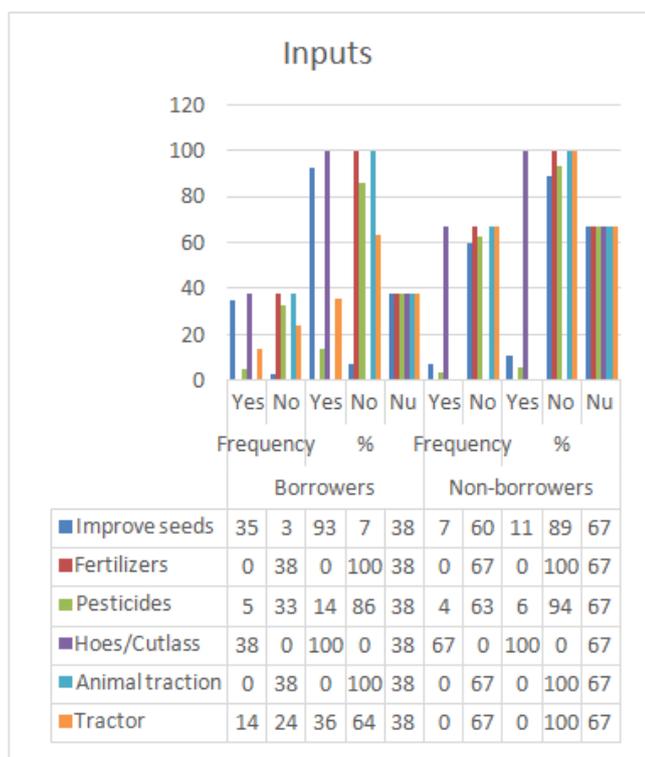


Figure 7: The figure below shows the Distribution of Borrowers and Non-borrowers based on Inputs used

Source: Field Survey, 2022

The utilization of inputs such better seeds, fertilizer, insecticides, hoes/cutlasses, animal traction, and machinery or tractors is compared between borrowers and non-borrowers in Table 4.9. This was done to see if there was any real distinction between the two.

Improved seeds: According to the table, 93% of borrowers used enhanced seeds while 7% did not, and only 11% of non-borrowers did so. As indicated by (93%) in the research region, credit made available to borrowers had a significant impact on the use of more improved seeds, whereas the majority (89%) of non-borrowers who practice subsistence

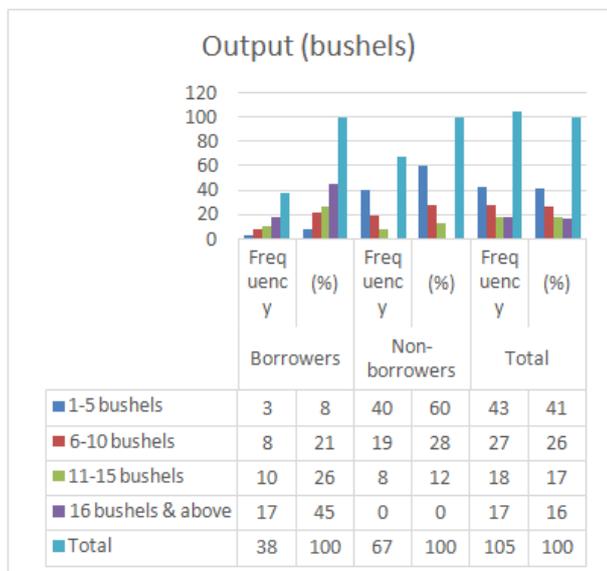


Figure 8: The figure below shows Respondents Output Volume (in bushels)

Source: Field Survey, 2022

According to the data, 45% of borrowers produced 16 bushels or more, 26% produced 11 to 15 bushels, 21% produced 6 to 10 bushels, and 8% produced 6 to 10 bushels or less. While the output range for non-borrowers was 60% from 1 to 5 bushels, 28%, 12%, and 0% from 6 to 10 bushels, 11 to 15 bushels, and 16 bushels and beyond, respectively. According to the combined responses from the two groups, 41%, 26%, 17%, and 16% of respondents, respectively, had an output between 1 and 5 bushels, 6 and 10 bushels, 11 to 15 bushels, and 16 and above bushels. As indicated by the fact that 45% of the results were 16 acres or more, the results generally show that borrowers produced more than non-borrowers did.

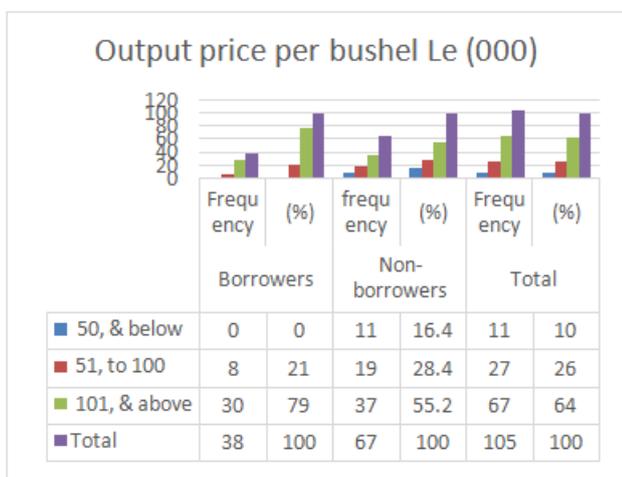


Figure 9: The figure below shows Respondents output prices per bushel

Source: Field Survey, 2022

According to figure 9, 79% of borrowers had output prices of Le 101,000 or higher per bushel, while 21% and 0%, respectively, had output prices of Le 51,000 to 100,000 and Le 50,000 or less. However, more than half (55.2%) of non-borrowers had an output price of Le 101,000 or above per bushel, while 28.4% and 16.4% had prices of Le 51,00 to 100,000 and Le 50,000 or less, respectively. According to the total respondents' production prices, both borrowers and non-borrowers, 64% had bushels priced at Le 101,000 or more per bushel, while 26% and 10%, respectively, had bushels priced at Le 51,000 to 100,000 and Le 50,000 or less. This suggests that agricultural output prices vary by community and commodity type.

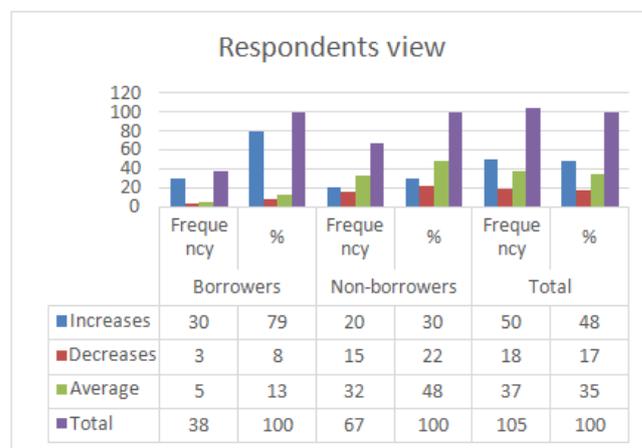


Figure 10: The figure below shows respondents' view about their farm income status

Source: Field Survey, 2022

The analysis shows that 79% of borrowers' income status increased as a result of sales of their farm products, whereas income for 13% and 8% of borrowers decreased or stayed about the same on average. For non-borrowers, this is demonstrated by the average income being 48%, a growth of 30%, and a decrease of 22%. According to the responses from all respondents, including borrowers and non-borrowers, agricultural income increased by 48%, averaged 38%, and decreased by 17%, respectively. This suggests that if microcredit is used successfully and economically in farming, farmers' income status may grow. This is consistent with research by [27, 30, 31] who found that access to finance boosted farm revenue.

IV. SUMMARY CONCLUSION AND RECOMMENDATION

In regard to the study's objectives, the findings are described in this section. It provides a conclusion and suggestions for actions to be performed in order to improve the effects of micro credits among small-scale farmers. The study's goal was to evaluate the following factors by

contrasting farmers in the Kori Chiefdom who borrow money from lenders with those who do not borrow.

- i. Their general socio-economic characteristics.
- ii. Their problems and Constraints and
- iii. The comparisons between borrowers and non-borrowers in terms of :

Farm size (b) labour hired (c) input used (d) output obtained and (e) income status.

4.1 Summary of Findings

4.1.1 Socioeconomic Characteristics of Farmers

The study's findings indicate that 50% of respondents are between the ages of 33 and 49, when people are most likely to be employed, while 18 respondents (or 36% of the total) were 50 or older and only 14% were under 33. Farmers who are men predominate in the research area. Out of 105 respondents, 64 (61%) are men, 41 (39%) are women, and 50% are married. The remaining 23% are single, 17% are widows or widowers, and 10% are divorced, indicating that the majority of respondents are responsible and actively engage in farming operations for a living.

Nearly half of the respondents (46%) lack formal education (are illiterate); 22% have a primary education; 20% have a secondary education; 8% have adult literacy; and 4% have a higher education. Given that the study area is primarily rural, this is to be expected. When the respondents' farming experience was examined, it was discovered that 40.00% of them had 11 to 15 years of experience, 31.43% had 1 to 5 years, 17.14% had 6 to 10 years, and 11.42% had 16 years or more. Which indicates that farming is the primary source of income for the majority of the Kori chiefdom's population, often beginning at a very young age. Fifty-nine percent of respondents (59%) had a family size of six to ten persons living in their home, followed by 27 percent and 14 percent for households with one to five and eleven or more individuals, respectively.

4.1.2 Analyzed Financial Constraints Faced By Respondents

According to the survey, farmers in rural areas had difficult access to agricultural credit and loans. In the research area, only 38 out of 105 farmers (36%) received microcredit for farming, compared to the majority (64%) who did not. The results also demonstrate that borrowers receive small loans, as shown by the majority (39%) who took out loans between Le 100,000 and Le 700,000, 24% who took out loans between Le 800,000 and Le 1.4 million, 18% who took out loans between Le 1.5 and Le 2.1 million, and 11% who took out loans between Le 2.2 and 2.8 million. The least number of 8%

debtors are in the 2.9 million and higher range. Based on a study of non-borrowers, the largest, 24 (36%) of non-borrowers, have never heard of microcredit; 20 (30%) said the application process is challenging; 22% said the interest rate is too high; and 12% said the amount is too small. This suggests that the achievement requirements and barriers to receiving microcredit for farmers in the research area are different for each farmer.

4.1.3 Analyzed Comparisons between Borrowers and Non-Borrowers in Terms of: Farm Size, Labour Hired, Input Used, Output Obtained, And Income Status

In accordance with the analysis's findings, borrowers' farms were much bigger than those of non-borrowers'; the bulk of them (86.6%) had between 6 and 10 acres, compared to just 13.40% who had between 1 and 5 acres. While the majority of non-borrowers (91.40%) had farms with a size between 1 and 5 acres, 5.60% had farms with a size between 6 and 10 acres, and neither borrowers nor non-borrowers had farms with a size between 11 and 16 acres & above (0%). This indicates that lending to small-scale farmers has a stronger effect on the increase in farm size that borrowers experience.

Furthermore, the majority of borrowers (92%) employed workers for farming, compared to only a small percentage of non-borrowers (19.4%) who did the same, indicating that the majority of non-borrowers (80.6%) rely on family labor for farm work. The usage of family labor is not different between borrowers and non-borrowers, indicating that all farmers (100%) in the research area used family labor as a supplement to hired labor. In other words, because there are not enough hired workers to complete all the farm tasks, family labor will be expected to cover up.

Additionally, borrowers used much more inputs than non-borrowers, as seen by the 93%, 36%, and 14% of borrowers who used better seeds, tractors, and insecticides, respectively, versus the 11%, 6%, and 0% of non-borrowers who did so. However, there were no differences seen in the inputs of fertilizer, hoes/cutlasses, and animal traction between borrowers and non-borrowers. This might be because farmers in the research area have adopted a certain kind of technological innovation. The outcome revealed that having access to loans over time allowed borrowers to use larger amounts of each of the evaluated factors.

Further analysis reveals that borrowers produced much more than non-borrowers, as demonstrated by the fact that 45% of borrowers produced 16 bushels or more, 26%, 8%, and 21% of borrowers produced 11 to 15 bushels, 1 to 5 bushels, and 6 to 10 bushels, respectively. The output of non-borrowers ranged from 1 to 5 bushels for 60% of them, 6 to 10 bushels for 28%, 11 to 15 bushels for 12%, and 16 bushels or more for

0% of them. More than two-thirds (73%) of borrowers had output prices of Le 101,000 or higher per bushel, whereas 21% and 0%, respectively, had output prices of Le 51,000 to 100,000 and Le 50,000 or less. For non-borrowers, however, more than half (55.2%) had an output price of Le 101,000 or more per bushel, 28.4% had Le 51,000 to 100,000, and 16.7% had Le 50,000 or less. According to the total output price reported by both borrowers and non-borrowers, 64% had bushels priced at Le 101,000 or more, 26% had bushels priced at Le 51,000 to 100,000, and 10% had bushels priced at Le 50,000 or less. This suggests that agricultural output prices vary by community and commodity type.

Analysis shows that 79% of borrowers' income status increased as a result of sales of their farm products, whereas income for 13% and 8% of borrowers decreased or stayed about the same on average. For non-borrowers, this is demonstrated by the average income being 48%, a growth of 30%, and a decrease of 22%. According to the responses from all respondents, including borrowers and non-borrowers, agricultural income increased by 48%, averaged 35%, and decreased by 17%, respectively. This suggests that if microcredit is used successfully and economically in farming, farmers' income status may grow.

4.2 Conclusion

Based on the research's findings, it can be deduced that 61% of respondents were men and 39% were women, with 50% of the respondents falling within the 33 to 49 age range, which is when people are most economically engaged. From the results, it was also learned that the majority of respondents (50%) are married, and 46% of respondents (nearly half) are illiterate. 40.00% of respondents had 11 to 15 years of farming experience, while 59% of households had 6 to 10 persons as their family size.

According to the report, just 28% of rural farmers had access to microcredit, and only 39% of them received loans or credit in the range of Le 100,000 to Le 700,000. The majority of non-borrowers have given borrowing serious thought, but they have been unable to do so due to a number of obstacles, including the fact that they have never heard of borrowing, that the application process is difficult, that interest rates are high, that the amount sought is too small, and that they lack collateral.

The results also support the conclusion that subsistence farming is practiced by farmers in this area. This may be due to the size of the loans and the quantity of inputs used, but borrowers had noticeably larger farms, hired more workers, and used better seeds, pesticides, and tractors than non-borrowers did. Additionally, borrowers (45%) have significant agricultural yields (16 bushels or more) and high output prices

(79%), which are Le 101,000 or more per bushel. According to the data, it is also possible to draw the conclusion that borrowers have a greater income level than non-borrowers, as shown by 79%. The importance of microcredit funding through cooperative societies as a non-governmental entity cannot be overstated because it provides small-scale farmers with a lifeline. Thus, this study demonstrates that microcredit has the ability to increase agricultural production over the long run.

4.3 Recommendations

Sierra Leonean government and other credit delivery organizations should concentrate on giving the peasant farmers consistent and ongoing financial support in order to boost their economic activity. In turn, this will significantly contribute to ensuring greater production levels and strengthening agriculture over time. The research's conclusions and the government of Sierra Leone's emphasis on development initiatives like the National Economic Empowerment and Development Strategy have led to the following suggestions (NEEDS):

- Given the significance of agriculture to the Sierra Leonean economy, both the public and organized private sectors should regularly, promptly, and consistently deliver credit to farmers. This study demonstrates how farmers' production levels are positively impacted by the ongoing provision of credit to them.
- To ensure smooth microfinance delivery across the nation, the federal government should oversee the implementation of its microfinance policy and local governments should set aside money for lending through microfinance institutions.
- Farmers groups and existing social organizations should be strengthened and fortified in order to increase rural farmers' access to agricultural loans.
- In this regard, extension agents might be quite helpful. Extension personnel need to educate both men and women about gender issues in order to connect rural farmers with accessible loan options.
- Additionally, farmers should be encouraged to apply for the credit as soon as possible to prevent delays in the fund's disbursement.
- To fully utilize the potential of microcredit and other finance institutions, smallholder farmers need transition from subsistence to commercial farming.
- Farmers who have received funding should be contacted again by microcredit organizations to see if they are using the money as intended.

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