

**IMPACT OF COFFEE FARMING ON THE SOCIO-ECONOMIC DEVELOPMENT OF
BUWALASI SUB-COUNTY IN SIRONKO DISTRICT**

**BY
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Declaration

I MAFABI NATHAN WILSON, declare that this is my original work and has never been presented to any institution /university for an academic award.

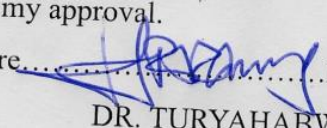
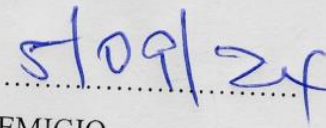
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Approval

This is to certify that this research work is for MAFABI NATHAN WILSON; "Impact of coffee farming on the socio-economic development of Buwalasi Sub County in sironko district" has been under my supervision and is now ready for submission to the department with my approval.

Signature..........Date.....

DR. TURYAHABWE REMIGIO
(SUPERVISOR)

Dedications

I dedicate this research report to my beloved parents Mr Mafabi Patrick and Ms Namono Baturu not forgetting my fancy Mirembe Martha who have unconditionally supported me financially, emotionally and psychologically towards the completion of this research within the stipulated time.

Acknowledgement

Ebenezer to Almighty God for the far he has brought me in my studies since primary till level of university “a loud hallelujah to Him ” I ideally appreciate God for gift of life , provisions at all levels and points during my studies and endless mercies towards whatever I have gone through in completing my studies .

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I would like to take this opportunity appreciate the natives of the study area who gave in their time to participate in this research. I wish to list all my classmates and individuals in Buwalasi Subcounty who contributed in one way or another to the completion of this research report but they are too many to mention. Finally I am most deeply grateful to my other Mummy Irene Mafabi, all friends and his relatives.

List of Abbreviations And Acronyms

MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
UCDA	Uganda Coffee Development Authority
UCF	Uganda Coffee Federation
UCFA	Uganda Coffee Farmers Alliance
NAADS	National Agricultural Advisory Services
ICO	International Coffee Organisation
CWD	Coffee Wilt Disease
ENR	Environment Natural Resources
NDP	National Development Plan
GDP	Growth Domestic Product
DSIP	Development and Investment Strategy
DCDO	District Community Development Officer
BCU	Bugisu Comparative Union

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Abstract

Coffee farming globally is an important activity due to its contribution of National GDP, tax generation and inequality reduction role. The purpose of the study was to establish the factors facilitating coffee growing, Assess the positive and negative contributions of coffee growing, Examine the problems facing the coffee farmers and also to Examine the strategies to improve coffee farming in Buwalasi Sub county, Sironko district. The employed both qualitative and quantitative methods for data collections. Primary data was collected using both open and closed ended questionnaires from coffee farmers and schedules for coffee stores' management and key stakeholders in coffee farming business within Buwalasi Sub County. The data was analysed using statistical methods that is chi-square, pie chart, bar graph. The target population was 65 coffee farmers in Buwalasi sub county from which a sample of 58 coffee farmers, 4 members of coffee stores management within Buwalasi sub county and other 3 key stakeholders doubling as representatives to Bugisu Comparative Union (BCU) from their various coffee stores. Males dominated the coffee farming activities and female roles were clearly stipulated as weeding, harvesting, grinding and drying of coffee seeds. Age of coffee farmers (50%) ranged between 35 to 64 years. Majority (87%) of coffee farmers were married people. There was a very low correlation between level of education and yields of coffee by coffee farmers. 37.84% of respondents attributed low yields to techniques production adopted. The study further established that 68.04% of the respondents did not attribute production techniques adopted to be a cause of low coffee yields. According to the study pests and diseases (93.5%) attributed much to the low coffee yields by coffee farmers. The study established that there was low adoption of irrigation by 5.6% and Mechanization adoption was 6.5%. The study revealed that education level of the farmers was not correlated with productivity of coffee per tree. Farmers were less satisfied with roles of cooperative societies particularly with BCU due to high rates of corruption, segregation and delayed payments of farmer. The study therefore concluded that coffee farmers need access to competitive markets that can give them better prices for their produce and allow them to negotiate better prices, the infrastructure in form of feeder roads and central warehouses should be improved such that transportation of coffee to the urban markets becomes easy, coffee farmers ought to have access to cheap

financial boosts and that both cooperative and District agricultural heads should search for better brands of pesticides that can kill the pests and weeds without altering the soil PH. Having made such conclusions, the study recommended that government through the coffee marketing board and cooperatives should source for international markets and engage in obtaining better prices, district leads through the works department should prioritise maintenance of the feeder roads that facilitate the movement of coffee produce. In the same vein the study recommended that storage facilities should be improved so as to reduce post-harvest losses.

CHAPTER ONE: INTRODUCTION

This chapter presents the; background of the study, Statement of the problem, objectives of the study, specific objectives, research questions and the significance of the study, limitations and delimitation

1.1 Background

Coffee (*Coffea* spp) is a genus of flowering plants in the family Rubiaceae (Davis, Tosh, Ruch, & Fay, 2011). It is a shrub or small tree native to tropical, evergreen with multiple stems and smooth leaves and produces clusters of cream-white flowers and fruit commonly referred to as Sa berry which normally possesses two seeds and it is one of the most important cash crops across the world and a major source of export earnings in developing countries

Globally, coffee is second only to crude oil as the most important internationally traded commodity in monetary value and Brazil is the largest producer and exporter of coffee, followed by Vietnam and Colombia (de Souza, Serigati, Costa, & Gimenes). "Coffee farming has a rich history dating back centuries, with its origins traced to Ethiopia and its spread to regions across the globe influenced by colonial trade and cultivation practices (Aregay, 1988a). Today, coffee farming encompasses a diverse array of production systems, from small-scale, shade-grown farms to large-scale commercial plantations. Sustainable farming practices, such as agroforestry and organic cultivation, are increasingly emphasized to mitigate environmental impacts and support the long-term viability of coffee production

"Coffee farming represents a crucial livelihood for millions of people worldwide, particularly in developing countries where it serves as a primary source of income for rural communities. The cultivation process involves meticulous attention to detail, from selecting the right varieties and managing pests and diseases to harvesting and processing the cherries. Challenges such as climate change, market fluctuations, and labor shortages pose significant threats to coffee farmers, highlighting the importance of sustainable practices and equitable trade partnership("Buckley v. Valeo," 1976) .

Coffee farming is intertwined with complex social, economic, and environmental dynamics that shape its production and consumption patterns globally. From the colonial-era plantations of the Caribbean to the cooperative movements of Central America, the history of coffee farming reflects power struggles, labor exploitation, and movements for social justice. In recent years, initiatives promoting fair trade, organic certification, and direct trade relationships have emerged to address concerns about farmer livelihoods, environmental sustainability, and ethical sourcing practices within the coffee industry(Aregay, 1988a)

Global panorama of coffee farming provides a bird's-eye view, capturing the diversity of practices, challenges and innovations across different continents. In across-cultural exploration, analyse the global impact of coffee farming, drawing parallels and distinctions among diverse coffee-producing regions. The transformative role of technology in global coffee production is expertly dissected (Aregay, 1988a), offering insights in to how innovations shape the future of the coffee industry. A holistic view of the environmental sustainability of global coffee production is presented by (Aregay, 1988a), emphasizing the need for collective efforts to address ecological concerns on a worldwide scale

In Africa, Ethiopia is the largest producer of coffee but overall coffee yield in Africa is relatively little and fetches low prices compared to coffee from other continents(Clarence-Smith & Topik, 2003). As a result, most coffee farmers get lower incomes from coffee sales which do not help them out of poverty. To boost production, African governments have adopted different management practices that can enhance coffee productivity, for-example agroforestry systems and other management practices have been approved to increase production while conserving a portion of the biodiversity

that occurs in coffee farming systems. Such management practices balance the trade-offs between farmers' economic needs, ecosystem services, and biodiversity conservation(AREGAY, 1988b).

In Sub-Saharan Africa, coffee is a major cash crop and source of income for farmers . Despite its economic importance, the productivity of the crop is currently under threat posed by inappropriate management, declining soil fertility, pests, and diseases(AREGAY, 1988b).

“Coffee farming sustains livelihoods, weaving an economic tapestry that connects farmers to consumers Africa wide.” .As stewards of the land, coffee farmers play a crucial role in preserving ecological balance and fostering sustainable agriculture .In the rich tapestry of biodiversity, coffee plantations emerge as vital threads, supporting countless species and ecosystems("Brown v. Board of Education," 1954).

East Africa comprises of several countries that is Uganda, Rwanda, Burundi, Kenya, South Sudan, Tanzania, and Ethiopia among others. paint a vivid picture of East Africa's coffee landscape, navigating through the challenges and opportunities that define the region's coffee industry ("Buckley v. Valeo," 1976).”

The transformative role of technology like use of irrigation scheme, spraying of insects or pests in east Africa coffee production is expertly dissected , offering insights into how innovations shape the future of the coffee industry.

The coffee markets in East Africa are in state of flux and dynamically influenced by various factors like consumer preferences and economic trends thus impacting on the prices and region economic factors such as currency exchange rates and government policies, further contribute to the market's dynamic nature .Additionally, climate variability affects coffee yields, adding an environmental dimension to the industry's challenges ("Griswold v. Connecticut," 1965).

“The climate in East Africa plays a crucial role in coffee farming,”. “With varying temperatures and precipitation patterns, coffee cultivation faces challenges. In recent years, climate change has impacted coffee-growing regions, posing risks to yields and quality,” she emphasizes ("Brown v. Board of Education," 1954)

In Uganda, coffee is a cash crop, and Uganda ranks second in Africa after Ethiopia. Agriculture contributes 22.6% of the Gross Domestic Product and 90% of foreign

exchange earnings . Coffee is currently dominating the agricultural sector in Uganda as a source of income in terms of exports. The crops are the main source of livelihood for a large portion of the population. Specifically, coffee is the major export crop in Uganda employing over 3.5 million families through coffee-related activities("Roe v. Wade," 1973) . Arabica coffee production systems are concentrated and intensive in highland areas. These regions account for 40% of the total coffee volume produced in Uganda("Brown v. Board of Education," 1954) .

Coffee is one of the perennial cash crops traditionally grown in the Eastern region of Uganda along the Lake Victoria crescent, Western part of Uganda; attached the relatively low level of poverty in these regions of Uganda to growing of coffee. Similarly, UBOS (2010) found out that the vast portion (46 %) of households in Northern Uganda were regarded as poor compared to only 11 % and 23% in eastern and Western Uganda respectively. UBOS (2010) strongly attributed the well-being of households in Western and Eastern Uganda to growing of coffee.

Coffee farming in Uganda like in many parts of East Africa is a significant agricultural activity. According to the study("Roe v. Wade," 1973) , coffee production in Uganda plays a vital role in the economy providing livelihoods for many farmers.

Johnson et al. (2019) emphasizes the importance of incorporating environmentally sustainable practices in Ugandan coffee farming, such as agroforestry and soil conservation to ensure the long-term health of the ecosystem. Highlights the need to address current market trends in East Africa , emphasizing factors like quality improvement , value addition, and adherence to global standards to enhance the competitiveness of East African coffee production.

The contribution of coffee growing on the welfare of people in Sironko District has encouraged the Uganda Coffee Development Authority (UCDA) to introduce growing of coffee in other regions of the country in order to open up financial prospects for poor farmers' households(AREGAY, 1988b). The intermediate term objective of UCDA is to offer an alternative source of earning to the poor and on the other hand, the long term objective was to preserve coffee exports of Uganda, which were on a downward trend because of the coffee wilt disease (CWD) in the traditional regions of Uganda growing coffee.

Coffee is Uganda's major foreign exchange earner generating millions of dollars annually and for a couple of years, growing of coffee has increasingly become part of Western and African (de Souza et al.). Since growing of coffee is escalating in South American countries at every half block in one's local downtown, it may not be amazing that coffee has become the second largest traded commodity next to

1.2 Background of the study area

1.2.1 Physical background

Buwalasi sub-county is one of the sub-counties in sironko district in Uganda. Buwalasi subcounty has 12 parishies and 138 villages and neighboured by sironko town council in the North, Butandiga in the North East, Buhugu sub-county in East, Buyobo sub-county in the Southeast and Butezas in the South and Bukhulo in the West. Buwalasi sub-county land area covers 200 square kilometres. The coordinates for Buwalasi sub-county are approximately 1.2594° N latitude and 34.3538° E longitude. Buwalasi sub-county is nestled within the foothills of Mount Elgon, a dormant volcano and the fourth highest mountain in East Africa. The proximity to Mount Elgon not only provides a stunning backdrop to the landscape but also influences the climate and natural resources of the area. The sub-county is characterized by its rural setting, with scattered villages and homesteads across the land. The terrain varies from fertile valleys to steeper slopes, offering diverse opportunities for agriculture and forestry. The region is known for its rich biodiversity, including various plant and animal species endemic to the area. Furthermore, Buwalasi sub-county is intersected by several roads and pathways, facilitating transportation and connectivity to neighboring towns and districts. Buwalasi sub-county is a vibrant and dynamic community situated within a beautiful and resource-rich landscape in the Eastern Uganda.

Figure 1: A Map of Uganda Showing The Location of Sironko District

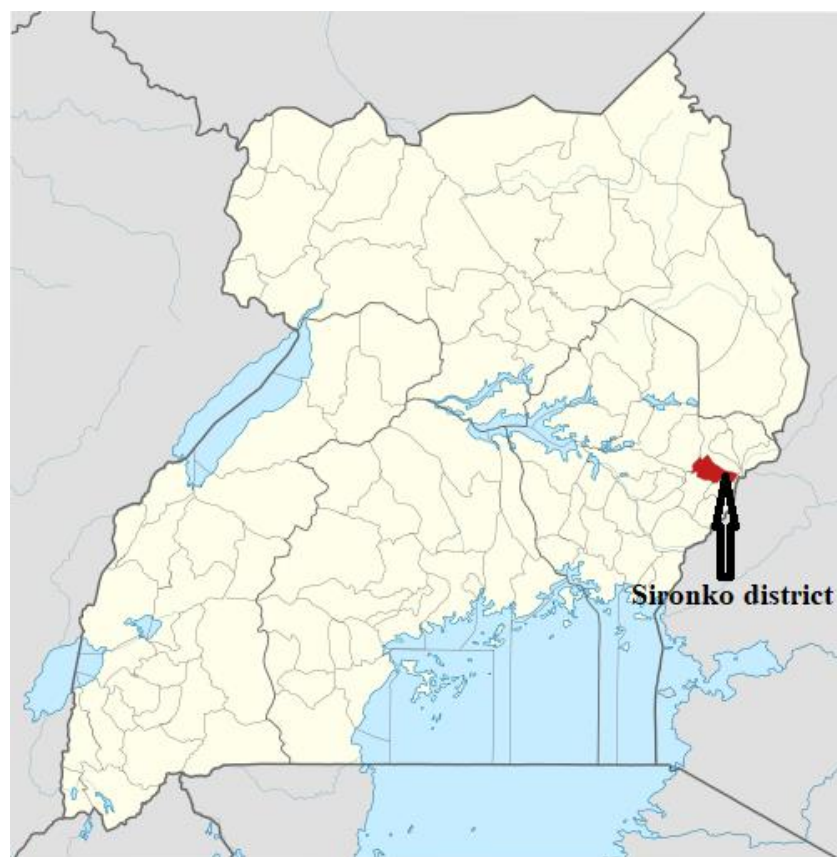
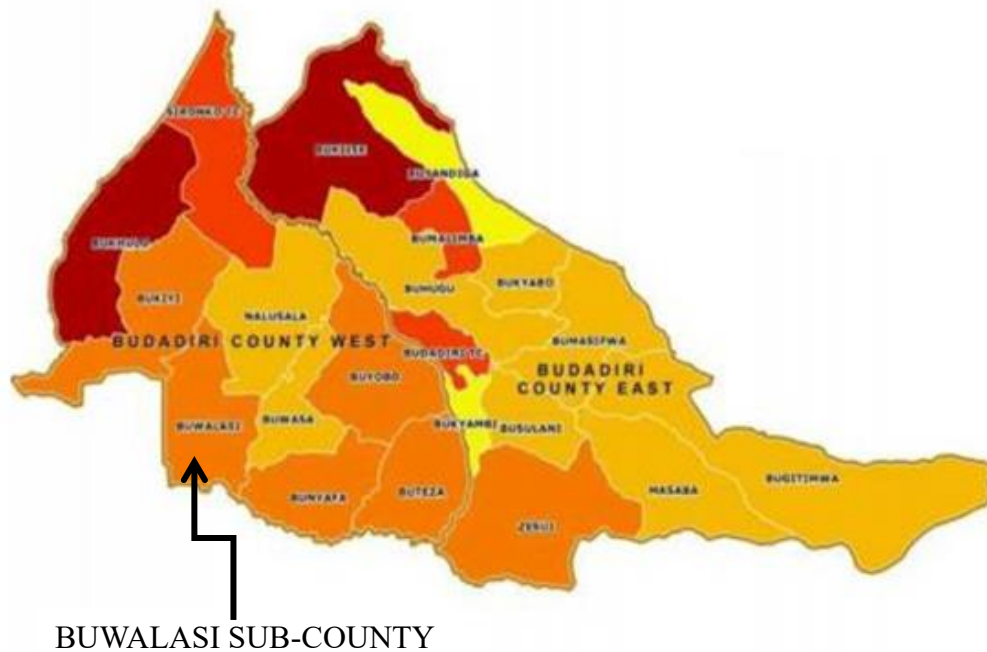


Figure 2: A Map of Sironko District Showing Its Sub-Counties



1.2.2 Relief

The topology of Buwalasi sub-county is relatively complex and consists of two very different geological environments, namely the Tertiary extrusive and intrusive volcanic and the associated Quaternary (erosion) sediments. Buwalasi sub-county in Sironko District, Uganda, is characterized by rolling hills and lush greenery, providing a picturesque landscape. The relief features gentle slopes and valleys, typical of the terrain in the eastern region of Uganda. The relief of Buwalasi sub-county in Sironko District is characterized by a combination of low-lying plains and moderately elevated hills, offering diverse terrain for agricultural activities and scenic views. The area is dotted with small streams and rivers, contributing to its fertility and supporting local communities with water resources. The landscape is framed by patches of dense vegetation and occasional clusters of trees, adding to its natural beauty. Additionally, the area benefits from a relatively mild climate, making it conducive to farming and outdoor activities.

1.2.3 Climate.

The district experiences a bimodal type of rainfall with the heaviest in the first season of March-July while there is low rainfall in the second season between the months of August–September. The average rainfall is 1550 mm per year. This heavy rainfall supports the agriculture sector, which is the base of the district livelihood. There is a short dry spell between these seasons and a long dry period between the months of January-March. Temperatures are on average 28 °C but become lower as one goes up the mountainous areas.

1.2.4 Vegetation

Sironko District is endowed with a number of natural resources. The District's rich Environment Natural Resources (ENR) base include; tropical high rain forests (i.e. Mt Elgon National Park and Namatale Central Forest Reserve), plantation forests scattered throughout the district mostly as woodlots especially along riverbanks located mainly in the protected areas.

1.3 Statement of the problem

According to (Hill, 2005) Uganda Poverty Assessment, coffee farming has attained commercial Significance in Sironko District. Coffee grown in Sironko District is estimated at 4,000 acres. The varieties grown include; Arabic coffee and Robusta coffee. Robusta coffee is grown on a smaller scale as compared to Arabic coffee. According to the (UIA, 2013) the Government of Uganda through the NAADs Programme invested put in 1,947,143 thousand billion Uganda shillings in growing of coffee by offering better-quality varieties of coffee, extending loans to farmers growing coffee at subsidized prices with the aim of improving wellbeing of households. Since the introduction of coffee growing in Sironko district("Dandridge v. Williams," 1970). What is not known is that whether wholly coffee farming has contributed to the socio-economic development of Buwalasi sub-county or due to government involvement by injecting in billions of money or there are other activities. This research proposal therefore seeks to establish the impact of coffee farming on the socio-economic development of Buwalasi sub-county, Sironko district and attempts to offer possible solutions to the challenges encountered by farmers growing coffee in sironko district.

1.4 GENERAL OBJECTIVE

The impact of coffee farming on the socio-economic development in Buwalasi sub-county, Sironko district.

1.5 SPECIFIC OBJECTIVES

The specific objectives were;

- (i) To establish the factors facilitating coffee growing in Buwalasi sub-county, Sironko district.
- (ii) To assess the Positive and Negative contributions of coffee growing in Buwalasi sub-county, Sironko district.
- (iii) To examine the problems facing the coffee farmers in Buwalasi sub-county, Sironko district.
- (iv) To explain the strategies to improve coffee farming in Buwalasi sub-county, Sironko district.

1.6 Research questions.

The research questions of the study were;

- (i) What are the factors facilitating coffee growing in Buwalasi sub-county, Sironko district?
- (ii) What are the Positive and Negative contributions of coffee growing in Buwalasi sub-county, Sironko district?
- (iii) What are the problems facing the coffee farmers in Buwalasi sub-county, Sironko district?
- (iv) What are the strategies to improve coffee farming in Buwalasi sub-county, Sironko district?

1.7 SIGNIFICANCE OF STUDY

The study was significant to different stake holders in the following different ways:

To the House Holds: Coffee being a major source of income for every house hold in Buwalasi sub-county, this study acted as a bench mark for understanding factors affecting coffee yields and quality, such as soil management practices or pest infestations, which enable farmers to adopt appropriate strategies to increase productivity and therefore boost family income.

To the community: This study provided empirical evidence on the challenges and opportunities facing coffee farming in Buwalasi Sub County through identification of specific barriers to market access, such as inadequate transportation infrastructure, thereby promoting a conducive environment for coffee farmers to thrive.

Policy Makers: The policy implementers such as the coffee development board and the indigenous Bugisu cooperative union would use the findings on the impact of using agro-chemicals on soil and water quality in coffee farming to inform farmers on the right farming practices to be adopted in order to conserve and protect the environment as well as maintain soil fertility.

1.8 SCOPE OF THE STUDY

The study scope was discussed in terms of the geographical, content and time scope.

1.8.1 Geographical Scope:

The study was carried out in Sironko District. Sironko District is a district in the Eastern Region of Uganda. The district was created in 2000 and had previously been part of Mbale District. Sironko is the main commercial town in the district. It is bordered by Bulambuli District to the north, Kapchorwa and Kween Districts to the north-east, Kenya to the east, Bududa District to the south-east, Mbale District to south-west, and Bukedea District to the west. Sironko is approximately 22 kilometers (14 miles), by road, north-east of Mbale, the largest city in the region. The study was carried out in Buwalasi sub-county.

1.8.2 Content Scope

The study examined the factors facilitating coffee growing while identifying both the positive and negative contributions of coffee growing, the problem faced by the coffee farmers and the strategies to improve coffee farming in Buwalasi sub-county, Sironko district.

1.8.3 Time scope:

The research covered a period of three years from 2022 to 2024. This period was selected because it is assumed that most sectors of the economy had returned back into active production after the covid-19 pandemic.

1.9 JUSTIFICATION OF THE STUDY.

The study findings served as a key identifier of the factors responsible for facilitating coffee farming as a drive to socio economic transformation. As such factors such as existence of coffee farming cooperatives, Presence of family labor, Good political will, Availability of fertile soils and Existence of plenty of rainfall were identified.

The findings with regard to the positive and negative contributions to coffee farming can serve as a bench mark upon which coffee boards can move policies that can benefit both the local farmer and government through export while addressing the negative impact to protect the farmer as well as to conserve the environment.

Clear investigations by the study into the problems that coffee farmers are face will act as a stepping ston upon which solutions to such problems and challenges will be addressed in the sub-county as well as the district at large

The findings of this study will also serve as a source of reference for other researchers who intend to conduct studies relating to coffee farming

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter depicts what has been put down in a view or with relation with findings with research related to impact of coffee farming on the socio-economic environment. The issues are discussed according to the research objectives.

2.2 Factors facilitating coffee farming.

Presence of Groups, associations, and cooperative; These have eased farmers' access to support services like inputs, extension, financial capita and also promotion of cohesion, knowledge sharing hence enabling farmers to address some of the challenges that affect the coffee production(Agholor, Monde, Obi, & Sunday, 2013).

Extension services; This has been done through organising educational training at sub county and svillage levels which has helped to change the mind-sets and perceptions of the farmers. Farmers have been educated on the best coffee production system and management practices to boost coffee production("Roe v. Wade," 1973)

Access to credit and financial facilities; The National Development Plan (NDP) and the MAAIF Development and Investment Strategy (DSIP) have increased access to agricultural financing which has enabled and facilitated coffee farmers to effectively and efficiently afford to purchase the needed agricultural inputs. In addition to that, access to credit enhances the farmer's capacity to effect long-term investments in their farm activities (Sebagala, Kawuki, & Nantongo, 2019). Farmers need money to purchase inputs that are used in different activities on the farm such as mulches, herbicides, farm tools and hire labour to work on the farm, therefore cash is essential in carrying out farm operations

Access to Education; Increases knowledge and numeracy helps farmers to acquire and understand information and to calculate appropriate input quantities in a modernizing or rapidly changing environment to optimize inputs and improve on the efficiency of production ("Graham v. John Deere Co. of Kansas City," 1966) . Education has increased access to external sources of information which has enhanced the ability to acquire information through experience with new technology which is ever evolving in the world today("Carpenter v. US," 2018). According to Rosenzweig (1995), schooling enables farmers to learn on the job more efficiently, farmers with more education get much higher gains in income from the use of new technologies and adjust more rapidly to technological changes("Sony Corp. of America v. Universal City Studios, Inc," 1984). In Uganda, children in primary school are often taught the basics of agriculture. Agriculture is one of the subjects taught from primary to university level in Uganda with study about the soils, crop husbandry, animal husbandry, agricultural mechanization, weeds control and pests control among others(Biriwasha, 2012).

Existence of vast land, the vast land has encouraged farmers to grow collectively and massively participate in coffee farming since there is room for growing other crops especially the food crops like maize, cassava. Through this coffee growing has fought poverty and famine (Robbins, 2003).

2.3 Positive socio-economic contributions of coffee growing

According to (Dessie, 2017), about 125 million people depend on coffee for their livelihoods globally through the generated income, and delivery of the much desired rural employment for both women and men in the labour intensive production and harvesting

processes. In Ethiopia, almost a fifth of the population relies on coffee for their livelihood. In Uganda, about a million smallholder households producing coffee and the value chain activities of coffee sub-sector is a source of income for about 8 percent of the population or 2.5 million people.

Families growing coffee in Northern Uganda are richer than those relying on seasonal crops such as groundnuts, maize a study has proved. The study by ("West Virginia Bd. of Ed. v. Barnette," 1943) found out that the possibility of coffee to liberate Ugandans from poverty 2014, revealed that households producing coffee were linked to lesser poverty incidences, at 21.7 percent, unlike the households producing coffee with higher poverty incidence of 31.6 percent "Evidence from his data, therefore, showed that production of coffee has a strong influence on reduction of poverty at household level,"

Studies by ("Roberts v. United States Jaycees," 1984) indicate that families that grow coffee have more assets unlike those depending on other crops. "An advance in the possession of other household assets like; mobile phones and bicycles by farmers growing coffee is observed both at national level and Sironko District. When producers of coffee are related to non-coffee producers, outcomes demonstrate that farmers producing coffee are fairly better off in terms of wellbeing," states the report, which analyzed the possible influence of production of coffee towards reduction of poverty in Uganda.

Studies precisely focused on direct changes in welfare among households growing coffee in mid-northern Uganda. The districts observed were: Nwoya, Lira, Apac, and Gulu. They were selected because the Uganda Coffee Development Authority had put emphasis on the area for the introduction of clonal coffee and the study focused on 1,634 farmers, of which 439 were coffee producers and 1,195 were non-coffee producers. 60 percent of the coffee farmers said they had observed a direct rise in their wellbeing because of the crop. There is a possibility of farmers growing coffee to be richer than those depending on seasonal crops. The study proved that 84 per cent of coffee farmers in Northern Uganda live in rural areas, shows that rise in production of coffee has potential for poverty alleviation in rural areas. In the same study, 75 percent of coffee producers had attended official education meaning that acceptance of extension information skills by coffee farmers are likely to be high.

According to Uganda Coffee Development Authority in their book entitled “Arabica Coffee Handbook”, the research done on coffee shows that coffee offers a host of potential health benefits;

Improves overall health , An analysis of nearly 220 studies on coffee published in the “British Medical Journal” in 2017, found out that coffee farming in a medicine already for it growers . the analysis found out that 17 percent may die early from any cause , 19 percent less likely to die of heart disease and 18 percent less likely to develop cancer than those who drink coffee which is a product of coffee growing(Roy, Tremblay, Robertson, & Houle, 2017).

Protects against type 2 Diabetes, A study by Harvard researchers published in the journal “Diabetologia” tracked nearly 124000 people for 16-20 years. Those who increased their coffee intake by more than one cup a day over four –year period had an 11 percent lower risk of developing Type 2 diabetes as compared to those who decreased their intake of coffee by one cup per day had a 17 percent higher risk of developing the disease (“West Virginia Bd. of Ed. v. Barnette,” 1943).

2.4 Negative socioeconomic contribution of coffee farming.

Coffee farming, in some cases, can have negative socioeconomic contributions. Issues may include low wages for coffee farmers, poor working conditions, and environmental concerns such as deforestation for coffee plantations. Additionally, fluctuations in coffee prices can impact the income stability of farmers, leading to economic challenges in coffee-producing regions according to (“Roberts v. United States Jaycees,” 1984)

Low Wages: Coffee farmers often receive low wages for their labour. This is due to various factors, including middlemen in the supply chain taking a significant share of the profits(Bovet & Martha, 2000). As a result, many coffee farmers struggle to make a decent living from their hard work.

Poor Working Conditions: In some regions, coffee farmers may face challenging working conditions, including long hours and limited access to essential resources(Valkila & Nygren, 2010). Lack of proper infrastructure and support systems can contribute to the difficulties faced by those involved in coffee farming.

Environmental Impact: The expansion of coffee plantations may lead to deforestation, impacting biodiversity and disrupting ecosystems(G. Tadesse, Zavaleta, Shennan, &

FitzSimmons, 2014). Additionally, some coffee farming practices involve the use of pesticides and fertilizers, which can harm the environment and affect the health of both farmers and nearby communities.

Price Volatility: Coffee prices are subject to significant fluctuations in the global market. When prices are low, farmers may struggle to cover their production costs, leading to financial instability(Bozzola et al., 2021). This volatility can hinder long-term economic development in coffee-producing regions.

Addressing these issues requires a comprehensive approach involving fair trade practices, sustainable farming methods, and efforts to improve the livelihoods of coffee farmers.

Debt and Dependency: Some coffee farmers face high levels of debt due to upfront costs for inputs like seeds, equipment, and fertilizers(Mauro, 2010). This debt can create dependency on lenders and perpetuate a cycle of poverty.

Land Ownership Challenges: In certain regions, issues related to land tenure and ownership can arise, leading to disputes and insecurity for coffee farmers(Pritchard, 2016). This can hinder long-term investments and development in the sector.

Limited Access to Education: Families involved in coffee farming may struggle to afford education for their children. Limited access to education can perpetuate a cycle of poverty and hinder social mobility in coffee-producing communities.

Health Concerns: Exposure to pesticides and other chemicals used in coffee farming can pose health risks to farmers and workers(Hutter et al., 2018). Limited access to healthcare further exacerbates these concerns, impacting the overall well-being of the community.

Gender Inequality: Women in coffee-producing regions often face gender-based discrimination, both in terms of access to resources and fair compensation(Kangile et al., 2021). This inequality contributes to broader societal challenges.

Market Dependency: Regions heavily reliant on coffee as a primary economic activity can be vulnerable to market fluctuations(Guido, Knudson, Finan, Madajewicz, & Rhiney, 2020). A decline in coffee prices can have severe economic consequences for these communities.

Lack of Diversification: Overdependence on coffee as a cash crop can limit economic diversification in these regions(Godoy & Bennett, 1988). Diversification is crucial for building resilience against market uncertainties.

Social Disparities: Disparities in wealth distribution may arise within coffee-producing communities, with some benefiting more than others. This can lead to social tensions and divisions (Browning & Moayyad, 2017).

Climate Change Vulnerability: Coffee farming is highly sensitive to climate conditions. Climate change impacts, such as unpredictable weather patterns, can adversely affect crop yields and jeopardize the livelihoods of coffee farmers.

2.5 The problems facing the coffee farmers

Lack of access to agricultural inputs, such as fertilizer, is another constraint to coffee farmers. Fertilizer use among Ugandan farmers stands at an average of one kilogram per hectare, much lower than the sub-Saharan Africa average of eight kilograms per hectare (Pender, Place, & Ehui, 1999). Moreover, fertilizer application has been found to vary according to land tenure type, with the highest rates applied on plots under freehold tenure (Fenske, 2011).

Lack of quality extension services has exacerbated the conditions perpetuating poor and unsustainable agronomic practices (Krznaric, 2006). Better extension services to the coffee sector enhances productivity through improved farmer knowledge on disease-resistance coffee seed varieties, fertilizers and more efficient crop production methods (T. Tadesse, Tesfaye, & Abera, 2020).

Inadequate financing is the most pressing challenge facing coffee farmers, affecting everything from productivity-boosting agronomic inputs to post-harvest processing infrastructure. Good inputs and farming techniques lead to better farm performance and export growth (Schneider, 2006). This underlines the significance of availing cheap credit to coffee farmers for investments in either agricultural technology or other forms of inputs (Ejigie, 2005). Lessons from other high-producing countries such as Brazil underscore the significance of improved financing delivery mechanisms in the coffee sector, which allows farmers access to credit facilities that improve mechanization and irrigation, better access to effective fertilizers that boost output, and storage and warehousing facilities (Tandason, Bah, George, Musa, & Sheriff, 2023).

Social disparities have negative implications for productivity, and in turn, levels of poverty. While it is predominantly women who are involved in the agricultural work, according to the (Özçatalbaş & Sogué, 2021), an average five-person smallholder

household in Uganda is male-headed, with less than one third of family farms headed by a female, highlighting the gender disparity in the sector. Farmers' level of education rarely exceeds primary level, contributing to the 27 % of smallholders already living below the national poverty line and exacerbating obstacles to increased productivity and competitiveness (Dixon, Gibbon, & Gulliver, 2001).

Diversionsary Farming Enterprises; Coffee production and land under coffee has been lost to diversionsary farming enterprises that keep coming up now and then. Coffee farmers are sometimes duped into switching from coffee to new crops with promoters purporting that they will give quicker and better returns(Nsibirwa, 2010).

Prolonged Price Depression; The sharp fall in coffee prices at the turn of the century/millennium resulted in many coffee farmers abandoning their coffee fields in search for other alternatives. This was aggravated by the spread of Coffee Wilt Disease (CWD) which wiped out many coffee trees. Because of the then low prices, coffee farmers did not even bother to minimize the effect of CWD, this led to a significant decline in coffee volumes.

Population Growth and Land Shortage; According to the United Nations (2009) population estimates, Uganda's population using the median variant grew from 5, 158,000 in 1950 to 33,797,000 in 2010 (Nsibirwa, 2010). With 77% of its population was under the age of 30 in 2005 and with an annual population growth rate of 3.2 percent, the impact of ongoing high population growth has stayed virtually the same since 1975(Demena, 2005). Consistently high fertility rates in Uganda for decades have produced the youngest age structure in the world. Uganda's population is currently growing by about one million people per year, and the continually larger size of youth cohorts reaching reproductive age ensures that given the force of demographic momentum, Uganda will see high rates of population growth for decades to come.

2.6 The strategies to improve coffee farming

Undertaking Coffee Promotion Activities; There are proposals for Ugandan coffee to target the less-contested markets of Korea, China, Japan, Middle East, Russia, and East Europe where there is evidence of market opportunities and good price history for Ugandan coffee (Behuria, 2020). Yet, the top destinations for Uganda's coffee is the EU

which along with Switzerland accounts for more than 80 percent of its coffee exports, followed by Sudan with 15%. Less than five percent of coffee goes to other destinations.

Establishing a Coffee Auction; The introduction of a coffee auction has been often argued as a way to increase marketing efficiency, especially price transparency. Given that an auction would be owned and managed by the private sector, the key issue is whether there are policy-related impediments preventing the private sector from introducing it.

The Coffee Replanting Program; The replanting program was introduced in 1992/93 with the objective to enhance the productivity of the sector by replacing old Robusta coffee trees with newer, high yielding varieties (free of charge) at the rate of 5 percent per annum, and to expand the area under Arabica. The program has been administered by UCDA, which contracted out the production and delivery of seedlings to about 900 private nurseries. During the last 12 years, a total of 135 million trees have been distributed 101 million Robusta and 34 million Arabica.

Expanding Specialty Coffee; The last decade has witnessed the emergence of a number of non-traditional marketing channels in the global coffee market (Giovannucci & Koekoek, 2003). These new “coffees” come under a variety of names such as organic, fair trade, eco-friendly, traceable, sustainable. The expansion of such coffees has two dimensions (Bozzola et al., 2021). One of the dimensions is sustainability which is primarily driven by social concerns, including higher prices received by coffee growers and effects on the environment.

Introducing Value Addition, such as roasting instant coffee manufacturing is being done to add income through employment generation and increasing of increasing prices received by growers through the direct relationship between growers and roasters (Anderson, 2017).

Increasing access to improved seeds and planting materials as well as fertilizers, is critical to increasing productivity and closing yield gaps. The use of fertilizers is particularly important for realizing the genetic potential of improved planting materials. There is consensus among agricultural experts that the high quality seed of improved coffee varieties is considered the basic input for increasing agricultural output and achieving self-sufficiency in food production. The effectiveness of other inputs, like

fertilizers, pesticides and irrigation depends largely on the use of quality seeds. (Mujeyi, Mudhara, & Mutenje, 2020).

Coffee farmers have been encouraged to form associations and work collectively in farmers groups. This enables them to increase production volume more easily and market their produce together. Each group selects a leader who receives and shares training in improved farming techniques

CHAPTER THREE: METHODOLOGY

3.1 Introduction.

The main aim of this study was to explore the impact of coffee farming on the socio-economic development of Buwalasi sub-county, Sironko district. This chapter covers a detailed description of selected methodology to be used which therefore involved research design, study population, target population, sample size determination, sampling technique, data collection methods and Data management and analysis.

3.2 Research design.

The study used a cross-sectional study design in which both quantities and qualitative approaches were used to assess the impact of coffee farming on the socio-economic development of Buwalasi sub-county, Sironko district. The benefit of the qualitative approach was that the information which was obtained was richer and contained a deeper insight into the phenomenon under study.

3.3 The study population.

The study population consisted of the farmers in Buwalasi sub-county, the District agricultural officer and the District Community Development Officer (DCDO). The above people were selected because they were the most knowledgeable on the growing of coffee.

3.4 Sample Size

The study targeted coffee farmers of different age and sex structure, with different education and social-economic backgrounds. I moved within Buwalasi sub-county targeting a population of 65 coffee farmers among whom the educated and young in age were subjected to questionnaires while those getting older in age were subjected to interviews.

3.5 Procedure of data collection

I obtained an introductory letter from the supervisor seeking permission from Authorities of Buwalasi sub-county, Sironko district to allow me conduct my research study in the area of jurisdiction. In addition, I also carried an Identification card of the university, during the data collection process, I asked permission from respondents to participate in the study before giving them the questionnaire.

3.6 Data collection methods

3.6.1 The questionnaire method.

The researcher gave a semi-structure questionnaire to each respondent .The questionnaire included both open and closed ended questions. That is; Factors facilitating coffee farming in Buwalasi sub-county, what was the role of women in coffee farming in Buwalasi sub-county, Give some of the neighbouring sub-counties of Buwalasi sub-county and the role of Bugusege coffee farm on the socio-economic development of Buwalasi sub-county.

3.6.2 The interview method.

Information on problems facing coffee farmers in Buwalasi sub-county and strategies for improved coffee farming in Buwalasi sub-county were obtained through face to face interactions also known as sinterview method where questions were asked concerning the intended information by the researcher to the respondents.

3.6.3 Observation method.

The researcher used sight to see what was happening in real life situation and then classified and recorded. The justification for observation method was that; Researchers can formulate their own version of what was occurring, independent of the participants.

3.7 Data Analysis.

Data obtained from the field using a questionnaire guide was edited and coded. Then the data was entered in the statistical Package for Social Sciences (SPSS) version 25. The researcher then computed the data and represented it in terms of descriptive statistics with graphs, frequency and percentage counts.

3.8 Limitations

Access- to Participants: Obtaining access to coffee farmers in Buwalasi sub-county posed challenges due to factors such as geographical remoteness, language barriers, or mistrust towards researchers.

Sample Size: Limited resources and time constraints restricted the ability to gather a sufficiently large sample size, potentially affecting the generalizability of findings to the broader coffee farming community.

Data Quality: Reliance on self-reported data from farmers introduced biases or inaccuracies, particularly regarding sensitive topics such as income or farming practices.

External Factors: External factors such as weather conditions, market fluctuations, or policy changes influenced the outcomes of the study, making it difficult to isolate the effects of specific variables.

Researcher Bias: Personal biases or preconceptions of the researcher inadvertently influenced data collection, analysis, or interpretation, impacting the validity of the study.

3.9 Delimitations:

Geographical Scope: The study focused exclusively on coffee farming in Buwalasi Sub County within Sironko district, limiting the generalizability of findings to other regions or agricultural contexts.

Time Frame: The study was conducted within a specific time frame, potentially overlooking long-term trends or seasonal variations in coffee farming practices and outcomes.

Language and Cultural Context: The research assumed a certain level of familiarity with the local language and cultural norms of coffee farmers in Buwalasi Sub County, which impacted communication and understanding during data collection.

Methodological Approach: The study employed specific research methods such as surveys or interviews, omitting alternative approaches such as experimental trials or participatory action research.

Resource Constraints: Limited resources in terms of funding, equipment restricted the scope or depth of the study, influencing the research design and outcomes.

CHAPTER FOUR: DATA PRESENTATION, INTERPRETATION AND ANALYSIS

4.1 Introduction

This chapter presents the results and findings from the research conducted in Buwalasi Sub County in Sironko district. Results of the factors facilitating coffee growing, positive and negative contributions of coffee growing, problems facing coffee farmers and strategies to improve coffee farming in Buwalasi Sub County in Sironko district.

Information gathering was done by using observation, questionnaire, interview recording and later tabulation.

4.2 Factors facilitating coffee growing in buwalasi subcounty in sironko district.

To find out the factors facilitating coffee farming, respondents were asked to state the factors that could have made most people in Buwalasi to get involved in coffee farming. As a researcher I went ahead to find out the role of women in coffee farming in Buwalasi sub county Sironko district as guided by the questionnaire to natives particularly those who can read, write, local leaders and the sub county community development officer(CDO) as seen in appendix 1

Table 1: Factors Facilitating Coffee Farming in Buwalasi Subcounty in Sironko District

FACTORS FACILITATING COFFEE GROWING	RATINGS IN PERCENTAGES (%)
Existence of coffee farming cooperatives like BCU(Bugisu Cooperative Union)	12
Presence of family labour	29
Good political will	11
Availability of fertile soils	23
Existence of plenty of rainfall	25

Source: Research field findings as April 2024

Table 1 revealed that the existence of reliable rainfall was the major factor contributing to coffee farming in the sub county as this was evidenced with the largest percentage response rate of 25, this was attributed to their proximity to mountain ranges like that of mountain Elgon, embracing tree planting resulting into plantation forests with the advantage of their contribution of rainfall formation hence contributed to coffee growing.

The existence of farming cooperatives particularly Bugisu Cooperative Union (BCU), created market and increased prices for coffee which enabled farmers to improve on their standards of living and also being able to educate their children through the income earned.

The local council leaders of various villages also noted that the existence of good political will reflected by provision of seedlings , fertilizers and trainings offered by Community Development Officers and his team led to continuous coffee farming in Buwalasi sub county due to the knowledge empowerment given to the farmers.

Plate 1: Health coffee plantations due to favorable factors facilitating coffee growing in Buwalasi sub county, Sironko district.



Source: Research field findings, April 2024

4.2 Positive and negative socio-economic contributions of coffee growing in buwalasi subcounty, sironko district

4.2.1 Positive socio-economic contributions of coffee growing

The respondents were asked to discuss the positive socio-economic contributions of coffee growing in Buwalasi subcounty, Sironko district. This was clearly stipulated in both the questionnaire and the interview guide questions in appendix 2. However, some of the responses from farmers included: Diversification of their earnings, employment to them, and urbanization of centers like Bugusege, Busamaga among others, and also improved their standards of living. The local leaders added that coffee farming also contributed to revenue to the government, international trade and led to development of cooperatives like Bugisu Cooperative Union (BCU)

Plate 2 Below shows development of trading centres in Buwalasi Sub County, sironko district.



Source: Research field findings as of April 2024

This research revealed that trading centers developed including Kama trading center, Namayonyi trading center among others with their associated socio-economic developments attached like employment opportunities.

Plate 3: Shows diversification of coffee farming with other crops like bananas tomatoes and poultry rearing.



Source: Research findings as of April 2024

The research also revealed that coffee farmers involved in other activities like poultry, growing of other crops including bananas, tomatoes. However, coffee farming always took the lead as a commercial activity in Buwalasi subcounty, Sironko District and about 87% of the sampled population were typically coffee farmers of the villages within the subcounty including Makonge village, Kama village, Busamaga village, Muwoza village.

4.2.3 Negative socio-economic contributions of coffee growing in buwalasi subcounty, sironko district

The respondents were as well asked to state the negative socio-economic contributions of coffee growing in Buwalasi Sub County; this was still with the guide of questionnaire and interview method and they included the following income inequality, land degradation, social displacement, limited diversification, health impacts, environmental degradation, water scarcity, cultural erosion among others. These adverse contributions were attributed to the continued low level developments in Buwalasi subcounty. They are however more elaborated with their estimated level of effects on the table below.

Table 2: Negative Socio-economic Contributions of Coffee Growing in Buwalasi Subcounty Sironko, District.

	ESTIMATED LEVEL OF THEIR EFFECTS IN DEGREES.
Income inequality	101
Land degradation	66
Social displacement	23
Limited diversification	08
Water scarcity	14
Cultural erosion	92
Health impacts	18
Environmental degradation	38
Total	360

Source: Research field findings as April 2024

Table 2 revealed that income inequality was the leading hindrance to coffee growing as evidenced with the most high response rate of 101, this was followed by cultural erosion which presented a response rate of 92, land degradation with a response rate of 66, environmental degradation with 38, social displacement a response rate of 23, health impacts with 18 response rate, water scarcity with 14 and limited diversification with 8 as the response rate. This was further represented on the bar graph as below.

Figure 3: Negative Socio-economic Contributions of Coffee Growing in Buwalasi Subcounty.

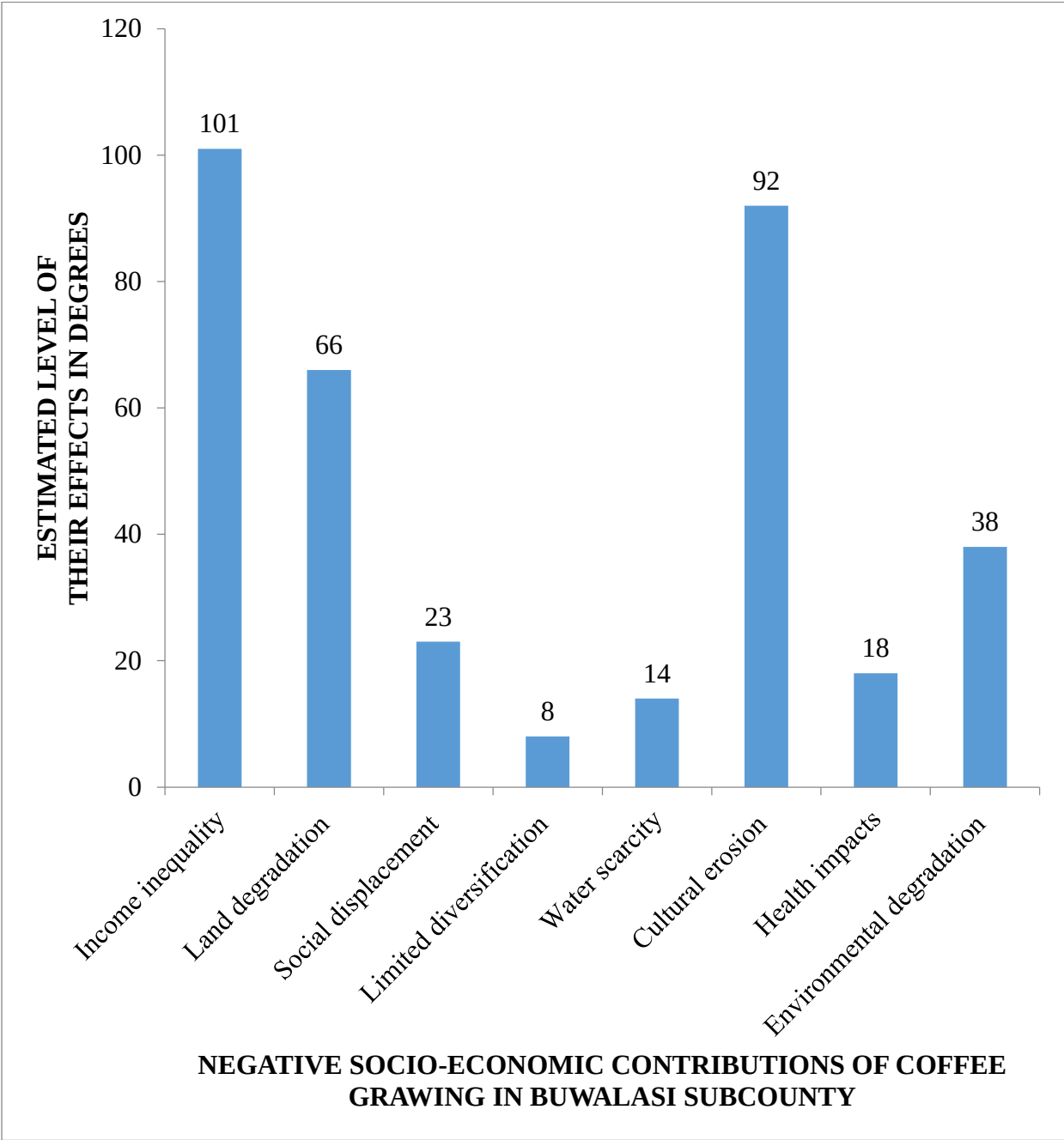


Plate 4: Interaction between the researcher and respondent concerning negative socio-economic contributions of coffee farming in Buwalasi subcounty, Sironko District.



Source: Research field findings, April 2024

4.3 PROBLEMS FACING COFFEE FARMERS IN BUWALASI SUBCOUNTY, SIRONKO DISTRICT.

Coffee farmers were tasked by the researcher to discuss the problems they always face during their activities of coffee growing in Buwalasi subcounty in their interactions with him. Here basically the researcher used interview method to obtain his intended information, coffee farmers revealed that some the problems they faced included lack of access to market , poor infrastructures ,pests and diseases ,climate change , limited access to finances ,price fluctuations , limited extension workers ,land fragmentations , post-harvest losses ,limited access to inputs like fertilizers ,seedlings ,pesticides , youth migrations ,policy and regulatory challenges and gender inequality among others. This information is further more represented on the tables as follows while applying a chi-square (χ^2)

Table 3: Problems Facing Coffee Farmers in Buwalasi Subcounty, Sironko District.

PROBLEMS FACED BY COFFEE FARMERS	SAMPLE POPULATIO N	YES PERCENTAGE (EXPECTED)	NO PERCENTAGE (OBTAINED)	CHI- SQUARE (χ^2)
Price fluctuations	65	60	40	400
Pests and diseases	65	97	03	8836
Climate change	65	34	66	1024
Limited market access	65	75	25	2500
Poor infrastructures	65	87	13	5476
Limited extension workers	65	45	55	100
Land fragmentations	65	90	10	6400
Poor access to finances	65	51	49	4
Limited access to inputs	65	76	24	2704
Gender inequality	65	19	81	3844
Post-harvest losses	65	37	63	676

Source: Research field findings, April 2024

Table 3 revealed that the leading problem faced by coffee farmers was pests and diseases as evidenced with a percentage response rate of 97. The other problem was land fragmentation which presented a percentage response rate of 90. It was also revealed that poor infrastructure is another problem attributing it to poor roads presenting a percentage response rate of 87. The study also revealed that there was a problem of limited access to agricultural inputs such as fraternizers, seedlings and startup capital as this problem was ranked fourth in the construct with a percentage response rate of 76. In a related response, farmers revealed that they had poor access to finances which would help them to prepare their gardens as well as help in the planting and weeding seasons until the time of harvest, this problem had a response rate of 51 percent. The farmers went ahead to reveal that limited market access for their products was a serious problem in the line of their work, this problem was represented with a response rate of 75. Related to this was the fact that even in the fewer markets that were accessible, there was a problem of price fluctuations as this problem had a response rate of 60 percent. This implied that

farmers could fetch little income out of their products with no bargaining power. The study also revealed that there was a problem of climate change which poses a serious threat to the farmers.

Plate 5: below shows a coffee tree attacked with pests and diseases resulting in yellowing of coffee leaves, as described by coffee farmers who related this disease to coffee wilt disease.



Source: Research field findings, April 2024

4.4 Strategies to improve coffee farming in buwalasi subcounty, sironko district.

To find out the strategies which would be used to improve on coffee farming , coffee farmers were asked to bring out their suggestions through an interaction with the Researcher for the problems faced in the coffee growing activities and this was achieved through the guidance of questionnaire to the elites and interview method on the old in age but doubles as illiterates as well they included; provision of soft loans by government, application of fertilizers both organic and inorganic ,spraying of coffee plantations , construction and maintenance of roads, plantation of trees as to mitigate climate related

issues, strengthen extension services, Diversification, Access to market centres etc. were to be done as to recognise a difference in coffee farming. This research was represented on the table below for more understanding and harmonising his (Researcher) data collected.

Plate 6: shows an interaction between the researcher and respondents concerning the strategies of improving coffee farming in Buwalasi subcounty, Sironko District.



Source: Research field finds, April 2024

Table 4: Strategies To Improve Coffee Farming in Buwalasi Subcounty Sironko District.

STRATEGIES TO IMPROVE COFFEE FARMING IN BUWALASI SUBCOUNTY	OPINION OF COFFEE FARMERS	SAMPLE POPULATION	Number of coffee farmers aged between (25-50)	Number of coffee farmers aged between (51-74)	PERCENTAGE RANKINGS (%)
Application of fertilizers	Strongly agree	65	64	62	97
Spraying of coffee plantations	Strongly agree	65	58	51	89
Construction and maintenance of roads	Agree	65	47	45	71
Diversification	Neutral	65	34	34	50
Strengthening extension services	Strongly agree	65	60	63	78
Provision of soft loans	Disagree	65	11	26	39
Access to market centres	Agree	65	44	35	65

Source: Research field findings April, 2024

Table 4.4 revealed that 97%, 89% and 78% of the respondents are contented and strongly agree that application of fertilizers, spraying of coffee plantations and strengthening extension services respectively play a very crucial role in coffee farming in Buwalasi subcounty, Sironko District.

In general, the information above shows coffee farmers' opinions on strategies basing on their experience in terms of age spent actively involved in coffee growing.

Plate 7: Shows health coffee plantation where some of the strategies above were applied.



Source: Research field findings as of April 2024

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion of the findings, conclusions and recommendations from the research study conducted in Buwalasi Sub county Sironko District

5.2.1 Discussion on factors facilitating coffee growing in Buwalasi subcounty sironko district.

According to the study findings, Coffee Farming cooperatives such as the Bugisu Cooperative Union have played a major role in promoting coffee farming through knowledge sharing, resource pooling, and market access for coffee farmers. This is in line with Agholor, 2013 who suggested that cooperatives ease farmers' access to support services like inputs, extension, financial capita and also promotion of cohesion, and knowledge sharing hence enabling farmers to address some of the challenges that affect coffee production.

Good Political Will was sighted as another contributing factor, in which respondents suggested that Political support and favourable policies play a crucial role in fostering conducive environment for coffee farming, this finding resonates with Akudugu et al, (2012) who revealed that 80% of surveyed farmers in his study acknowledged the positive impact of government initiatives, such as subsidies, extension services, and market facilitation, on their coffee production and profitability. The study respondents also revealed that family labour contributes significantly to the operational efficiency and cost-effectiveness of coffee farming.

Availability of Fertile Soils, The presence of fertile soils in Eastern Uganda provides an ideal environment for coffee cultivation, ensuring optimal growth and yield. Research by (leiserowitz et) estimates that approximately 90% of coffee farms in the region are situated on soils rich in organic matter and essential nutrients, contributing to high-quality coffee production

Existence of Plenty of Rainfall, Adequate rainfall is essential for coffee farming, and Eastern Uganda benefits from abundant precipitation, particularly during the rainy seasons. According to data from the Uganda Meteorological Authority (2007), the region receives an average annual rainfall of 1200-1500 mm, with rainfall distribution conducive to coffee growth and development.

5.3 Discussion on the positive and negative contributions of coffee farming in Buwalasi sub-county in Sironko district.

Diversification within the coffee farming sector enhances resilience and income stability for farmers as in (plate 4.2.2). Research conducted suggests that diversifying coffee farms with shade trees, intercropping, or incorporating beekeeping can improve soil health, pest management, and overall farm productivity, contributing to long-term sustainability.

Employment, Coffee farming in Buwalasi subcounty provides significant employment opportunities, particularly within in villages of Kama, Makonge, and Busamaga. This finding is in line with Parrot (2007), who highlighted that the coffee sector employs over 60% of the rural population offering both seasonal and year-round employment in various stages of coffee production, from cultivation to processing and marketing.

Revenue, Coffee farming contributes substantially to household income and local economies in Eastern Uganda. Studies by Staver et (2001) estimate that coffee exports generate over 80% of agricultural revenue in the region, providing crucial foreign exchange earnings and investment for infrastructure development, education, and healthcare.

International Trade, the global demand for Ugandan coffee presents lucrative opportunities for international trade and market expansion. Research conducted indicates that Eastern Uganda exports over 90% of its coffee production to international markets, with key trading partners including Europe, North America, and Asia, fostering economic growth and integration into the global coffee supply chain.

Having discussed the positive impacts of coffee farming, the study went ahead to discuss the negative effects as below:

Coffee farmers are faced by the issue of Land Degradation, Intensive coffee farming practices, such as mono-cropping for long periods and the use of agrochemicals, have led to soil degradation this finding is similar tom that of Zavaleta (2014) who said that expansion and continuous cultivation of coffee year in year out leads to soil degradation hence impacting on the environment. The study further revealed that income inequality was also a disturbing problem, despite being a major cash crop, the benefits of coffee production are unevenly distributed within the community. Large-scale coffee estates often exploit smallholder coffee farmers, paying low prices for their produce. In

Bunakasala village, coffee farmers struggle to make ends meet while larger coffee plantation owners thrive. This results relates to that of Bozzola, 2021 who said that fluctuations in coffee prices make it hard for farmers to cover their production cost. Social Displacement was another challenge attributed to coffee planting because it led to the displacement of indigenous communities and the loss of traditional land rights. In Bunamalera village, ancestral lands have been encroached upon by commercial coffee farms, leading to social tensions and conflicts. Limited Diversification as reflected in plate 4.2.3, Over-reliance on coffee as the primary source of income has hindered economic diversification in Buwalasi. Alternative livelihood opportunities, such as tourism or agroforestry, remain underdeveloped. In Busamaga village, lack of diversification leaves communities vulnerable to fluctuations in coffee prices and market demand. Environmental Degradation, In addition to soil erosion, coffee cultivation has led to deforestation and loss of biodiversity. The clearing of forests to make way for coffee plantations disrupts local ecosystems and threatens indigenous flora and fauna. For instance, in the village of Kama, the conversion of forested areas into coffee farms has resulted in habitat loss for endangered species like the parrots, peagons. Health Impacts, The use of agrochemicals, such as pesticides and fertilizers, in coffee farming poses risks to human health. Exposure to these chemicals can lead to respiratory problems, skin disorders, and other health issues among farmers and nearby residents. In Muwoza village, cases of pesticide poisoning have been reported, highlighting the need for safer agricultural practices and better access to healthcare services. This finding was inline with that of Shennan and Fitzsimmons, 2014 who say that some coffee farming practices involve the use of pesticides and fertilizers which harm the environment and affect the health of both farmers and nearby communities.

Water Scarcity, Intensive irrigation practices and water-intensive coffee processing methods have exacerbated water scarcity in Buwalasi Subcounty. Streams and rivers used for coffee processing become polluted with agrochemical runoff, affecting downstream communities' access to clean water for drinking and sanitation.

Cultural Erosion, The rapid expansion of commercial coffee farming in Buwalasi sub county has eroded traditional cultural practices and social cohesion in Bugisu communities. As younger generations migrate to urban areas in search of employment

opportunities, traditional knowledge and cultural heritage are at risk of being lost. In Busamaga village, efforts to preserve cultural traditions are undermined by the influence of external forces associated with the coffee industry.

5.4 The problems faced by coffee farmers in Buwalasi subcounty Sironko district

Coffee farming particularly in villages of Makonge, Kama, Busamaga of Buwalasi subcounty in Sironko district, faces several challenges that impact both the productivity and livelihoods of farmers.

The study findings revealed that limited access to market information made it difficult for farmers to earn enough income from their produce yet the available market also gives little money for the produced coffee where farmers can not negotiate fair prices for their coffee. Without knowledge of market trends and demand, farmers continue to sell their produce at lower prices or miss out on lucrative opportunities. This finding relates to that of Nsibirwa, 2010 who states that prolonged price depression makes coffee farmers to abandon their coffee fields in search for other alternatives. The study went ahead to reveal that pests and diseases that attack the Coffee plants such as coffee berry disease and coffee wilt disease. These significantly reduce yields and quality if not properly managed, leading to low income and losses for farmers. The other problem was limited access to finance, many coffee farmers in Buwalasi Sub County faced challenges of accessing credit and financing to invest in their farms, purchase inputs like fertilizers and pesticides, or upgrade their equipment. This limited their ability to improve productivity and quality. This relates to Schneider, 2006 who contends that inadequate financing is the most pressing challenge facing coffee farmers, affecting everything from productivity-boosting agronomic inputs to post-harvest processing. Policy and Regulatory Challenges, Inconsistent or restrictive government policies and regulations related to land tenure, taxation, and export licensing created barriers for coffee farmers. Advocating for policy reforms that support smallholder coffee farmers and promote fair trade practices often created a more enabling environment for coffee production. This was also supported by Abera, 2010 that better extension services to the coffee sector enhances productivity through improved farmer knowledge on disease resistance coffee seed varieties, fertilizers and more efficient crop production methods.

Climate Change was another problem cited as this led to unpredictable weather patterns, including irregular rainfall and prolonged droughts, which negatively impact coffee production. Extreme weather events like floods and storms often damage coffee plants and infrastructure. This problem leads to another vice of low prices, Fluctuating global coffee prices and a lack of bargaining power often makes it difficult for farmers to cover production costs and invest in farm improvements or diversification.

Limited Extension Services, Extension services that provide technical advice and support to coffee farmers are often inadequate. Farmers may lack access to information on best agricultural practices, pest management strategies, and new technologies.

Land Fragmentation, due to population growth and inheritance practices results in smaller coffee farm sizes, which can limit economies of scale and hinder productivity improvements. Inadequate diversification, many coffee farmers rely solely on coffee as their primary source of income. The research conducted discovered that lack of crop diversification leaves coffee farmers vulnerable to market fluctuations and risks associated with coffee production. Encouraging diversification into other crops or income-generating activities mitigate these risks.

Limited Access to Inputs, Coffee Farmers face challenges of accessing quality inputs such as seeds, fertilizers, and pesticides. These result in lower yields and decreased profitability, ensuring the availability and affordability of inputs through local distribution networks.

Land Degradation, Unsustainable farming practices, such as mono-cropping and improper soil management, led to land degradation and loss of fertility over time.

Implementing soil conservation measures, promoting agroforestry, and encouraging the use of organic farming practices preserved soil health and productivity.

Gender Inequality, Women play a significant role in coffee production, yet they often have limited access to resources, land ownership, and decision-making power within households and communities. Addressing gender disparities by promoting women's participation in coffee cooperatives, providing training and support, and ensuring equal access to resources contribute to more sustainable and equitable coffee production.

Youth Migration, Many young people in rural areas are migrating to urban areas in search of better economic opportunities, leaving behind aging farming populations. Encouraging

youth involvement in coffee farming through training programs, mentorship initiatives, and entrepreneurship opportunities can help sustain the coffee industry and rural livelihoods.

5.5 Strategies to improve coffee farming in Buwalasi sub county, sironko district

According to the research study, one of the strategies laid for improving coffee farming in Buwalasi Sub county Sironko District was continuous sensitisation of farmers by the by the local leaders and extension workers. This strategy would equip them with various knowledge on coffee farming ranging from the right garden preparation, right pesticides and fertilizers. This relates to Anderson, 2017 who says that educating farmers through their different groups on value addition helps to solve the problem of limited markets. The other strategy proposed in the study was Price Stabilization which could be achieved through establishing farmer cooperatives or associations to collectively negotiate prices and access fair trade markets. Behuria. 2020 stated that undertaking coffee promotion activities for Uganda's coffee in countries like China, Japan, Korea presents better market opportunities for coffee export.

The study further suggested establishing of coffee processing facilities to add value to coffee beans and increase profitability implying that strengthening extension services by training and deploying more agricultural extension officers to work directly with farmers. Improving Infrastructure, Invest in road construction and maintenance to improve transportation of coffee beans to markets and processing facilities. Establish local collection centres to reduce the distance farmers need to travel to sell their produce Access to Market Information, Set up mobile-based platforms or community radio programs to disseminate market information to farmers. Train farmers on market analysis and negotiation skills to help them get fair prices for their coffee.

Pests and Diseases Management, Provide training and extension services on integrated pest management techniques. Distribute disease-resistant coffee varieties and educate farmers on proper crop rotation practices.

Access to Finance, Facilitate access to microfinance institutions or community-based savings and credit groups. Develop innovative financing mechanisms such as input credit schemes or contract farming agreements.

Climate Change Adaptation, Introduce climate-resilient coffee varieties that can tolerate drought and disease. Promote agroforestry practices to improve soil moisture retention and biodiversity.

Land Management, Promote sustainable land management practices such as terracing, contour farming, and cover cropping. Facilitate land consolidation or cooperative farming arrangements to optimize land use and productivity.

Diversification, Provide training and support for farmers to diversify into high-value crops such as fruits, vegetables, or spices. Encourage the establishment of alternative income-generating activities such as beekeeping or ecotourism.

Post-Harvest Handling, Invest in infrastructure for drying, sorting, and processing coffee beans. Provide training on proper post-harvest handling techniques to reduce losses and improve quality.

Gender Inclusivity, Promote gender-sensitive approaches in agricultural programs and projects, ensuring equal access to resources and decision-making opportunities. Establish women-led farmer groups or cooperatives to empower female coffee farmers and address specific gender-related challenges.

Policy Advocacy, Advocate for policy reforms that support smallholder farmers, including land tenure security, tax incentives, and favourable trade policies. Engage with government agencies and policymakers to address regulatory barriers and streamline administrative processes for coffee farming.

Youth Engagement, Develop youth-focused training programs on coffee production, entrepreneurship, and value addition. Create opportunities for youth involvement in coffee farming through internships, apprenticeships, and youth-led initiatives.

Implementing these practical solutions requires collaboration between various stakeholders, including government agencies, NGOs, development partners, private sector actors, and local communities. By working together, it's possible to overcome the challenges faced by coffee farmers in eastern Uganda and promote sustainable and inclusive development in the coffee sector.

5.6 Conclusions

Coffee farming has been a transformative force in Buwalasi sub-county, driving inclusive growth, fostering resilience, and shaping a brighter future for its residents, this research

has provided a comprehensive examination of coffee farming in Buwalasi Sub-county, Sironko District, Uganda. Through a combination of quantitative surveys and qualitative interviews with local farmers the study came up with the following conclusions.

The study concludes that coffee farmers need access to competitive markets that can give them better prices for their produce and allow them to negotiate better prices as this would increase their income levels thereby improving the livelihood of the farmers.

In line with the above, the study concludes that the infrastructure in form of feeder roads and central warehouses should be improved such that transportation of coffee to the urban markets becomes easy and less costly to the local farmers in the region.

Thirdly, coffee farmers ought to have access to cheap financial boosts in form of loans and grants as this would help them throughout the garden preparation processes, buying inputs and maintaining the coffee gardens in the face of the changing environmental conditions and economic challenges.

There should be a move led by cooperative leaders and District agricultural heads to search for better brands of pesticides that can kill the pests and weeds without altering the soil PH as well as fertilizers that can improve yields as this would solve the problem of poor yields and land fragmentation.

5.7 Recommendations

The study makes the following recommendations in line with the conclusions:

The government through the coffee marketing board and cooperatives should source for international markets and engage in obtaining better prices for coffee in order to solve the problem of limited market as well as safeguard coffee farmers from monopoly markets that give them low prices for their produce.

The study recommends that district leads through the works department should prioritise maintenance of the feeder roads that facilitate the movement of coffee produce from the Buwalasi to the urban centres where markets. In the same vein, storage facilities should be improved so as to reduce post-harvest losses.

Provision of financial support to coffee farmers through loans like PDM (Parish Development Model) to all coffee farmers, bank loans like commercial banks at reduced interest rates. Loans shall enable them to purchase inputs like fertilizers, pesticides which contributes to increased coffee production.

Adoption of modern farming methods like use of improved fertilizers like NPK (Nitrogen Phosphorus and Potassium), CAN (Calcium Ammonium Nitrate), ASN (Ammonium Sulphate Nitrate), carrying out mixed farming.

The government should deploy more extension workers especially at subcounty levels particularly agricultural officers who extend services of skills and knowledge to local farmers, creates awareness to community.

5.7 AREAS FOR FUTURE RESEARCH STUDY

The researcher identified potential areas for future research on coffee farming in Buwalasi sub county Sironko district as follows ;

Climate Change Resilience, Investigate the impact of climate change on coffee production in Buwalasi Subcounty and identify adaptive strategies to mitigate its adverse effects.

Gender Dynamics, Conduct a gender-sensitive analysis to examine the role of women in coffee farming and explore gender-specific challenges and opportunities in the sector.

Market Linkages, Explore strategies for strengthening market linkages between smallholder coffee farmers in Buwalasi Subcounty and domestic and international buyers to enhance economic opportunities and ensure fair prices for farmers.

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QUESTIONNAIRE: ASSESSING THE IMPACT OF COFFEE FARMING ON THE
SOCIOECONOMIC DEVELOPMENT OF BUWALASI SUBCOUNTY IN SIRONKO
DISTRICT.

A CASE STUDY: BUWALASI SUBCOUNTY, SIRONKO DISTRICT.

RESEARCHER: MR. MAFABI NATHAN WILSON

BACKGROUND INFORMATION;

i) Information about the interviewee

Name.....

Gender:

a) Male

b) Female

Date

ii) Residence

1.0 Name of parish.....

2.0 Name of village.....

iii) Work profile of the interviewee

1 Farmer.....

2 Community leader.....

3 Others specify.....

SECTION: SOCIO-ECONNOMIC DEVELOPMENT OF COFFEE FARMING IN
BUWALASI SUBCOUNTY

1a) Are there some factors that have facilitated coffee growing in Buwalasi
subcounty, sironko district?

Yes.....

No.....

1b) If yes, then please state them;

a)

.....

b)

.....

c)

.....

d)

.....

e)

.....

2. Do you think coffee farming in this Subcounty (BUWALASI SUBCOUNTY) has
presented both positive and d negative contributions in this society?

Yes.....

No.....

If yes, elucidate;

.....

.....

.....

.....
.....
3 a) What problems do you people face as farmers of coffee growing in this subcounty (BUWALASI SUBCOUNTY) sironko district.

a)

.....

b)

.....

c)

.....

d)

.....

3b) What have you as coffee farmers of Buwalasi subcounty put in place to improve on coffee farming in this subcounty.

a)

.....

b)

.....

c)

.....

d)

.....

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INTERVIEW GUIDE: ASSESSING ON THE IMPACT OF COFFEE FARMING ON THE SOCIOECONOMIC DEVELOPMENT OF BUWALASI SUBCOUNTY IN SIRONKO DISTRICT.

A CASE STUDY: BUWALASI SUBCOUNTY IN SIRONKO DISTRICT

RESEARCHER: MR. MAFABI NATHAN WILSON

1. What is your name?
2. What do you always do to earning a living?
3. In which village do live?
4. Do also engage in coffee farming as an activity for earning a living? If yes, what factors have facilitated coffee farming in your area?
5. What could be the positive and negative contributions of coffee farming in Buwalasi subcounty being your area of residence?
6. What problems do you and other farmers face in coffee farming in Buwalasi subcounty, sironko district?
7. Discuss the strategies to improve coffee farming in Buwalasi subcounty in sironko district.

APPENDIX.....3

OBSERVATION CHECKLIST

- a) Kind of road transport and transport means used specifically Buwalasi subcounty
- b) What type of vegetation cover in Buwalasi subcounty
- c) Nature of the soils in the Buwalasi subcounty

Other socioeconomic activities besides coffee farming in Buwalasi subcounty