

**PROFITABILITY OF TOBACCO PRODUCTION AMONG SMALLHOLDER
FARMERS IN NORTHERN UGANDA:
A CASE OF TEREKO DISTRICT WEST NILE REGION**

**BY
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**A DISSERTATION SUBMITTED TO THE DEPARTMENT OF AGRIBUSINESS AND
NATURAL RESOURCE ECONOMICS IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE BACHELOR'S DEGREE IN
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SEPTEMBER 2025

DECLARATION

I, Munduru Eunice, do hereby declare that this study is original and has not been submitted for any other degree award to any other University before.

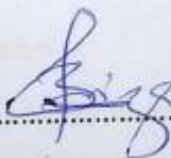
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APPROVAL

This dissertation has been submitted for examination with the approval of the research supervisor.

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DEDICATION

I dedicate this work to my parents and guardians who have volunteered to pay my school fees from primary school level up to now.

ACKNOWLEDGMENT

I thank the Almighty God for the gift of life and for allowing me to reach this level in my academic journey amidst the various hardships encountered along the way.

My heartfelt gratitude goes out to my research supervisor, Dr, Alice Turinawe for her commitment and sacrifices to see that everything is done within time and for her continuous efforts and guidance to see that I not only produce a good research output but also that learning takes place.

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LIST OF ACRONYMS

FAO : Food and Agriculture Organization

WHO : World Health Organisation

CVD : Cardiovascular disease

BAT : British American Tobacco

BATU : British American Tobacco Uganda

GMA : Gross margin analysis

ABSTRACT

Tobacco is classified as a cash crop and is renowned for its high returns per unit area. In northern Uganda, it serves as a primary cash crop, significantly boosting household incomes and contributing revenue to the government and households. The objectives of the study are to analyze the socio-demographic characteristics of tobacco farmers, evaluate the profitability levels of tobacco farming and to investigate the challenges encountered in tobacco production and marketing in Terego district. A cross-sectional study design was used to conduct the study. Data were collected from 100 randomly selected tobacco farmers using structured questionnaires. Data were analyzed using SPSS. Findings revealed that 85% of tobacco farmers are men with mean age of 40.26 years, an average of 7.56 years of schooling, and average household size is 8.38 members. The total input cost for tobacco farming is 2,268,266.17 Ugandan shillings per acre per season, while the gross return is UGX 5,130,859.25 per acer per season. The gross margin percentage is 55.81%, and the net return is UGX 2,862,593.08 per acre per season. The benefit-cost ratio of 2.26 indicates that for every unit invested; farmers receive 2.26 units in return, confirming the profitability of tobacco farming. Challenges faced by tobacco farmers include excessive sunshine, pests and diseases, and low market prices. Additionally, farmers faced both excessive sunshine and pests, dealt with excessive sunshine and low prices, and managed pests, diseases, and low prices concurrently. A majority of the tobacco farmers reported experiencing all three challenges. Solutions employed include spraying, mulching, and a combined approach of spraying and mulching. The study recommends educational interventions tailored to the socio-demographic context of tobacco farmers in Terego District to improve their farming practices, improvement on rural infrastructure such as roads and storage facilities to reduce transport costs and minimize post-harvest losses, and promotion of sustainable land management and soil conservation practices.

CHAPTER ONE

INTRODUCTION

1.1 Background

Tobacco has been in use for over 500 years worldwide, but its use was limited by the intensity of time and labour involved in preparing and using it (Hanafin et al., 2015). Tobacco is vital for the wellbeing of a country due to its importance in generation of job to citizens, income generated by farmers and tax revenue generated to the government (Passey et al., 2014).

Uganda is a country in east Africa where tobacco growing and processing takes place. It was introduced more than 50 years ago in 1936 by British American Tobacco. Tobacco became a leading cash crop in Uganda, even after Uganda attained her independence. (Niwagira & B., 2016). Tobacco is ranked number four on the list of Uganda's major foreign exchange earners after the likes of coffee, cotton and tea (Namome et al., 2018).

In northern Uganda, tobacco serves as a primary cash crop, significantly boosting household incomes and contributing revenue to the government (Daama et al., 2023). Previous studies have explored various aspects of tobacco cultivation in Uganda, focusing on its economic contributions (Daama et al., 2023; Palmer et al., 2022). These studies have documented the economic benefits to households and the government revenue generated from tobacco production. Additionally, they have highlighted the significant health risks associated with smoking and the environmental consequences of tobacco farming practices.

Despite its economic importance, tobacco remains one of the most controversial agricultural products globally due to its well-documented health risks for both producers and users. (Male et al., 2022). The cultivation and processing of tobacco involves exposure to harmful chemicals and environmental degradation, impacting the health and well-being of agricultural workers and surrounding communities. In low- and middle-income countries, where tobacco production is expanding, challenges arise in aligning production with global tobacco control efforts aimed at

reducing consumption and improving public health outcomes. (Appau et al.,2020). Tobacco is used in various forms including cigarettes, cigars, chewable tobacco, bidis, kreteks and “shisha” smoking also known as hookah, water pipe, goza and hubble. (Aanyu et al.,2019).

According to (Harmsworth et al., 2020), world demand for horticultural products is continuously increasing. Tobacco control policies have been created for the well – being of society but for tobacco producers, such polices can present pitfalls, especially in rural contexts such as Terego where households are dependent on tobacco leaf production as source of income. (Namome et al., 2018; Midamba et al., 2024)

1.2 Problem Statement

Tobacco is classified as a cash crop and is renowned for its high returns per unit area (Nasrullah et al., 2019). In northern Uganda, it serves as a primary cash crop, significantly boosting household incomes and contributing revenue to the government (Daama et al., 2023). Previous studies have explored various aspects of tobacco cultivation in Uganda, focusing on its economic contributions (Daama et al., 2023; Palmer et al., 2022). These studies have documented the economic benefits to households and the government revenue generated from tobacco production. Additionally, they have highlighted the significant health risks associated with smoking and the environmental consequences of tobacco farming practices.

Many studies such as (Midamba et al., 2024; Namome et al., 2018; Kraybill., et al 2009) which talked about farm production and crop budget analyses call into question the revenues and profitability of tobacco leaf compared to non-tobacco crops. However, the impartiality of these studies has been challenged (Kabwama et al., 2016; Nargis et al., 2017) and they are often perceived as rebuttals to the tobacco industry’s claim that tobacco is the best crop for farmers. In fact, (Natarajan., 2017) points out that financial viability studies often treat tobacco cultivation as a problem to be solved.

A basic problem remains: it is generally not known how efficient tobacco farming is and if tobacco farming can improve its performance, nor how tobacco-farm households would respond to changes in policy aimed at supporting alternative farming. The problem is compounded by the fact that

generally there is limited ex-ante knowledge of crop diversification strategies, the productivity of tobacco, and the production choices in rural farm communities. (Namome & c., 2018).

There is a notable gap in understanding the level of profitability of tobacco production among small hold farmers (Sajjad et al., 2022). This thesis, therefore, aims to examine this gap which has not been adequately addressed and recognized in earlier literature such as (Kabwama et al., 2016; Nargis et al., 2017).

1.3 Objectives

1.3.1 Main objective

To evaluate the level of profitability among small holder farmers in northern Uganda

1.3.2 Specific objectives

- 1) To analyze the socio-demographic characteristics of tobacco farmers in Terego district.
- 2) To determine the level of profitability of tobacco production among small hold farmers in northern Uganda.
- 3) To determine the challenges encountered in tobacco production and marketing

1.4 Research Questions

- 1) What are the socio-demographic characteristics of tobacco farmers in Terego district?
- 2) How profitable is tobacco farming in Terego District?
- 3) What are the main constraints faced by tobacco farmers in Terego district in terms of production and marketing?

1.5 Significance of the Study

This study will contribute empirical evidence by assessing the profitability of tobacco farming, and identifying constraints in production and marketing.

Second, the findings will inform policymakers, agricultural stakeholders, about the specific challenges faced by tobacco farmers in Terego district. This knowledge can guide the development of targeted interventions and policies aimed at supporting tobacco production and sustainable agriculture practices.

This study is justified by its local relevance of income generation, that contributes to the growth of the region and the economy of Uganda. The research has filled a gap in empirical studies by providing detailed insights into the specific challenges and opportunities faced by tobacco farmers, engaging with local communities and stakeholders to ensure relevance and practical applicability of its findings.

1.6 Scope of the Study

This study investigated the level of profitability of tobacco production in Terego district, located in the West Nile region of Uganda.

The primary focus is on Terego district, chosen for its significance in tobacco production within the West Nile region of Uganda. The study focused only on rural areas where tobacco farming is mostly done.

CHAPTER TWO

LITRETURE REVIEW

2.1 Tobacco Farming

Tobacco is grown on more than 4 million hectares of global agricultural land in at least 124 countries (Nakamatte et al., 2025). It is important to note that in Uganda both tobacco leaf and alternative farms are too small, and therefore experience increasing returns to scale. Tobacco-specialised farms are overcapitalised and suffer from inefficient management practices. Relying on agricultural support is beneficial to farm efficiency.

Tobacco production in Uganda began in 1903 when a South African tobacco expert, Van Venhoff, was hired by the colonial administration of Uganda to carry out tobacco-farming experiments (Byrnes., 1992; Aliro., 1993). Twenty-five years later the colonial administration and British American Tobacco (BAT) started tobacco out-growers' schemes in parts of Kigezi, West Nile, Mubende, and the Middle North (Acholi, Lango and East Madi) (Middleton & Greenland., 1954). In 1926, BAT constructed a tobacco-processing factory in Jinja Sejjaaka, (2004a).

The distribution of tobacco seedlings and the provision of extension services were largely governed by the Department of Agriculture and Colonial District Agricultural Officers. A flue-cured and fire-cured tobacco industry was not established until the early 1940s. In 1945, the Greek-owned East African Tobacco Company was reorganised and took over all government tobacco-farming schemes. Under the East African Tobacco Company, farmers were offered seedlings at the time of planting and the crop was purchased later in the season. British American Tobacco took over tobacco activities from the East African Tobacco Company in 1947, buying the green leaf and curing it. At the time, only Kenya exported raw tobacco. Tobacco production increased under BAT, and by 1960, over 8 700 acres of land were under tobacco cultivation, with an estimated production of 15 000 tonnes per hector Namome et al. (2018).

The colonial era had a profound effect on Uganda's tobacco cultivation and on the livelihoods of farmers. The transport system, which included railway and road networks, eased the movement of tobacco from areas as distant as West Nile to Jinja for processing. Tobacco was integrated into a

trading system that was shaped to meet the interests of the farmer and the country. These establishments were part of the meticulous governance of the colonial administration, which steadily increased tobacco production in Uganda (Nargis et al., 2017)

There are eight districts that intensively involve in tobacco production in The West Nile sub-region that is Arua, Maracha, Nebbi, Yumbe, Koboko, Adjumani, Moyo and Zondo. (Ntale et al., 2018)

Tobacco farmers, while seemingly generating substantial income from bulk sales in US, often find that the revenue is insufficient to cover production costs. This financial shortfall leads to a cycle of debt, inadequate funding, and a diminished standard of living. In addition to economic struggles, these farmers face significant health risks associated with tobacco cultivation and processing (Phetphum et al., 2022).

Poverty, food insecurity, and malnutrition are commonly reported among farmers who prioritize cash crops like tobacco (Midamba et al., 2024). This is primarily due to the inefficient allocation of farm resources, with minimal attention given to staple food crops. Researchers have recommended optimizing the distribution of resources between tobacco and food crops to boost food production (Midamba et al., 2024).

The tobacco industry, including leaf buyers, agricultural lobby organizations, and industry-funded non-governmental organizations, works vigorously to protect its economic interests. These entities often argue that tobacco control measures will harm farmers who depend on the crop for their livelihoods. As a result, governments of tobacco-producing countries frequently resist tobacco control policies by citing the economic dependence of farmers on this crop (Makoka et al., 2017).

It is reported that on average tobacco farmers typically face low profit margins per acre in Kenya, with many contract farmers operating at a loss (Magati et al., 2019). Even when family labour is excluded from cost calculations, income levels remain modest. Farmers often enter into contracts with tobacco companies because they are guaranteed a buyer for their leaf and receive essential agricultural inputs—such as fertilizer, seeds, and herbicides—without immediate cash payment and the situation may not be deferent in Uganda. (Magati et al., 2019).

2.2 Profitability of tobacco production

At the peak of production in 2013, tobacco leaf was one of the Uganda's biggest foreign exchange earners ranking in \$120 million in export revenue and employing over 75000 farmers who were producing about 18,000 tons per year. Stated in the 1920s by British American Tobacco (BAT), tobacco farming and the entire industry was so vibrant that in 2012, British American tobacco Uganda (BATU) the biggest exporter of Ugandan leaf at the time invested about \$1 million in its central purchasing point in Hoima, Banyoro sub region, an area that had 15,000 of Batus 30,000 contracted farmers (Kowa et al., 2019).

Tobacco is a highly profitable cash crop for both large and small farmers. However, for farmers in suitable agro-ecological areas, tobacco is expensive to grow, with high up-front costs and high labour requirements. Many commercial farmers have diversified sources of income, and most smallholder tobacco farmers grow only small amounts of tobacco, and grow other food and cash crops (maize, soybeans, cotton, groundnuts and wheat) as part of a crop rotation system, to help provide a steady cash flow and/or as an essential part of their household food security strategy. From a national analysis, it shows that tobacco growers invest € 2,000 per hectare, with a profit of up to 700 euros. (Karemani et al., 2019)

In another study, alternative farming made higher profits than farms that specialize in the production of tobacco leaf. The analysis demonstrated that the profit margin advantage of tobacco-leaf farms tends to disappear because of higher farm expenditure. However, farms that specialized in alternative crops did better than tobacco farms because of lower input requirements. Coffee farms and rice farms had gross margins that were 30% and 27% higher than those of tobacco farms were. The trend was similar for other crops, except for sorghum farms, whose gross margin was 3% less than those of tobacco farms (Namome., 2018)

Majority of farmers started and are currently growing tobacco because they believed it was the only economically viable crop. Farmers' reliability on tobacco growing is being due availability of inputs, tobacco growing being the only cash crop in some regions, perception among tobacco

farmers that tobacco yields high profit, ready market for tobacco leaves, better prices offered by tobacco companies, motivations of providing input loans (kowa et al., 2019 ; Appau et al., 2020).

2.4 Constraints faced in tobacco marketing trade

High production costs, high transaction costs and high risks due to volatility of output and input prices often make tobacco farming expensive A specific excise tax is applied to every pack of 20 cigarettes, irrespective of the brand making tobacco products expensive thus reducing market (Zee ., et al 2020 ; Zant., 2020).

More comprehensive controls over tobacco marketing, effective control to encourage the development of less harmful products and mechanisms to move consumers away from tobacco use has been done. (Levy., 2018)

Changes in demand and production have reconfigured curing practices and labour relations. Different types of leaf require different curing techniques, and are influence by the environment and agronomy. Specific types of tobacco grown used specific labour regimes. For example, flue-cured tobacco has mainly been grown on estates using direct labour not annual tenants, due to high labour and capital requirements. Thus, increased flue production on estates has changed the terms on which labour is engaged (Prowse., 2013).

2.5 Constraints faced in tobacco production

Dry Spells and unpredictable rainfall patterns are some of the Constraints facing tobacco production. A research revealed that due to poor rainfall in study area of Andhra Pradesh, the output from tobacco reduced greatly in the region. Majority of the sampled farmers from Karnataka expressed that main constraint in tobacco cultivation was the scarcity of labor which is due to high wages offered by industries in the urban area whereas, in Andhra Pradesh total manual operations were given on contract basis so that labor scarcity became less important. (Muroiwa et al., 2019).

In another study High cost of firewood also emerged as a major constraint; the concerned agencies should take necessary steps to provide alternative fuel material other than wood. At the same time the concerned scientists must take up a research study to find out the alternative fuel at cheaper rates to reduce the cost of curing as well as to check the deforestation. Non-adoption of an improved method of nursery, attack of pests and diseases, not aware of a package of practice and limited access to agricultural finance has being some of the constraints facing tobacco. (Lencucha et al., 2022; Yogesh et al., 2018),

Sambuo., 2014) carried out a study on smallholder tobacco producers in Urambo District of Tanzania and revealed that limited access to capital and high dependence on traditional farming methods were among major constraints to the performance of the tobacco value chain. The research findings contrasted with (Mwimo et al., 2016) who revealed that although the tobacco value chain has some institutional arrangements such as contract farming, that has not helped smallholder farmers to access credit from financial institutions in Tanzania.

Studies carried by (Eaton et al., 2008) in Tanzania's fresh fruit vegetable value chain revealed that weak institutional environment and high transactions costs emanating from too many road blocks and illegitimate controls by the state police for bribes were among the major institutional challenges affecting Tanzania's fresh vegetable value chain. This contrasted with findings from Uganda where it was revealed that institutional norms such as patriarchy, lack of proper coordination within responsible ministries were the constraints affecting the performance of the tobacco industry. (Bategeka et al., 2013).

2.6 Methods used to establish profitability

Profitability analysis is based on enterprise budgets developed using data collected from farms and secondary sources. Particularly, enterprise budgets provide a representation of estimates of specific inputs and outflows associated with aquaculture production system. These estimates included profits in the form of cash receipts (revenues) and costs associated with production cycles pertinent to small-scale fish farming in central Uganda. The computed margin were of the form: $GM = TR$

– TVC (1) where, GM = Gross Margin; TR = Total Revenue; TVC = Total Variable Cost. (GM) is defined as the difference between total revenue and total variable costs. (Hyuha et al., 2011)

According to (Armstrong., 2001) Profitability analysis classifies measures and assesses the performance of the company in terms of the profits it earns either in relation to the shareholders' investment or capital employed in the business, or in relation to sales. Profitability is the primary aim and best measure of efficiency in a competitive business. Similarly, profitability analysis aims to provide data on which action can be taken to improve the company's business performance. According to (Esselaar et al., 2008)

Profitability is defined as after tax profits divided by the total value of fixed assets. Profit performance must be standardised against the size of the operation or the resources employed (Peck et al., 2006). There are various measurements of Inventory Management and Organizational Profitability at Gumutindo Coffee Cooperative .. www.ijbmi.org 3 | Page profitability.

The indicators used in profitability analysis of an organisation are, return on equity (ROE), return on invested capital (ROIC) and operating profit margin (OPM) (Armstrong 2001, Pandey 2007, and Popa & Ciobanu, 2014). Return on invested capital (ROIC) measures the efficiency of resource allocation and also the quality of management of an organisation. ROIC is defined as measuring the efficiency in generating profits from an organisation's assets before the effects of financing. It is an indicator to quantify the effectiveness of the Enterprises' assets.

The entrepreneurs and managers measure the total performance of an organisation by dividing total income by total assets. Earnings before interest and taxes (EBIT) are the accounting revenue of all operating activities. Because income is measured as the net profit and interest expense, we can take into account the entire profitability of the company's capital structure function. It is better to use net income, adding interest, as this would show the return on all assets of the company, not just capital investment by the shareholders (Armstrong., 2001).

Return on Invested Capital according to Dent (2008) is measured by the formula: $\frac{\text{Net profit after tax} + \text{Interest}}{\text{Invested capital (shareholders' equity} + \text{borrowing)}} \times 100$ It is intended to find out how productively the company utilizes all of the funds invested in the company. When compared with ROE, it can be used to measure the contribution to business profitability attributed to borrowing. Return on equity (ROE) is one of the major indicators followed by investors and

entrepreneurs. With this rate, investors and entrepreneurs can assess whether their investment is profitable or not. This ratio shows the profitability of the company in terms of the capital provided by the owners of the company.

Return on equity analyses the profitability on the equity investor's perspective on its net profits (net profit after tax and interest expenses) relative to book value of equity investments. (Armstrong., 2001). According to (Periasamy., 2009), return on equity is determined using the formula: $\text{Net Profit after Interest and Tax} \times 100 \text{ Shareholders' Equity}$ (Periasamy., 2009) continued to point out that ROE is important because it highlights the success of the business from the owners' point of view. ROE also helps to measure income on the shareholders' investment and the efficiency in handling such investment.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Study design

This study adopted a cross-sectional survey design that used a semi structured questionnaire tool to collect the relevant quantitative data. This design was adopted because data about the study population was collected at a particular point in time and used to determine the prevalence of cases as well as identifying associations (Wang et al., 2020). recommends the design due to its advantages of being cost effective and swift in collecting data.

3.2 Study area

This study was conducted in Terego, a new rural district in West Nile part of northern Uganda, established in 2020. It has a population of 394,319 people, which consists of natives and refugees from 2 refugee settlements. The district comprises of seven sub-counties (SC): Aii-Vu, Bileafe, Katrini, Odupi, Omugo, Uriama, Leju Town council and 39 parishes, with its headquarters in Leju town council. (Namusisi et al., 2024).

Terego district covers an area of 1,102 square kilometres (425 sq. mi) and the area now making up the district recorded a non-refugee population of 199, 303 in the 2014 Ugandan census It also hosts an estimated 168,000 refugees mostly from South Sudan in the imvepi refugee settlement and western zones of the rhino camp refugee settlement in the district. (Kang et al., 2024; Nalugya et al., 2024).

3.3 Sample size

The study employed a simple random purposive sampling method, where tobacco farmers were randomly selected, but the sample was purposively limited to tobacco farmers with a specific number chosen per village. This approach combines the benefits of randomness in ensuring representativeness with purposive selection to focus on a target population. Such a method is often chosen for its efficiency in collecting relevant and reliable data from a specific group, as it allows for both generalizability and a focus on participants who meet certain criteria. According to (Musa & Alkassim., 2016), purposive sampling is ideal when specific information is required from a

particular subset of the population, while random selection helps to reduce sampling bias and increase the validity of the findings.

A comprehensively semi-structured questionnaire was used to collect the primary data during the study survey. Two sub counties and five parishes were randomly chosen with each parish having two villages randomly selected and ten farmers were selected per village making total of 100 farmers. The data collected include socio demographic characteristics, profitability of tobacco farming and constraints faced in tobacco production and marketing.

3.4 Data collection

The target population in this study was tobacco farmers in Terego district. Study population is the subset of the target population from which a sample is actually selected by the researcher (Majid., 2018).

A comprehensively semi-structured questionnaire was used to collect the primary data during the study survey. The data collected include section one, socio demographic characteristic of tobacco farmers, section two variable costs incurred in tobacco production e.g. labour, transport, fertiliser, storage costs among others, section three output revenue got from sale of outputs such as tobacco leaves, residue, tobacco fertiliser among others was summed to get total revenue from tobacco products, section four constraints faced in tobacco production and marketing and solutions to the constraints.

Data obtained from questionnaire interviews was coded where necessary entered into Statistical Package for Social Science (SPSS) software version 26. Descriptive statistics were used to describe the variables.

To analyse the socio-demographic characteristics of tobacco farmers, descriptive statistics such as mean and standard deviation were used. categorical variables like sex of a household head, marital status of the household head, occupation of the household head among others were analysed using descriptive such as frequency and percentage.

To determine the profitability levels of tobacco farming, Gross margin was used. It was chosen over other methods net profit margin because of the following reasons; a) gross margin is an

appropriate measure of profits for short-run planning decisions b) it is convenient since it provides a measure of returns to variable costs and not fixed costs. (Lento et al., 2015) Gross Margin Analysis is an appropriate measure to use for comparing enterprises that place similar demands upon limiting resources of the traders for short run and annual planning decisions, (Sserunkuuma., 2008). Gross margin of an enterprise is defined as the difference between the revenue (products sold) and the variable production costs that vary with the size of the enterprise. It is A simple but realistic profitability measure of enterprises operated by producers.

Calculating Gross Margin

$$GM = TR - VC \dots\dots\dots (1)$$

Where GM = Gross margin, TR = Total return, VC = Variable cost

$$GM = (P \times Y) - VC \dots\dots\dots (2)$$

Where; P = price in UGX per kg, Y =output Kg VC = variable cost

Table 1: showing variables used in calculating costs

Variable	Unit
Fertilizer	Kg
Seedlings	M
Weeding	M
Labor	Man power
Transport Costs	Trip
Cost for Renting land?	Season
Other Costs Incurred	Season

To determine the constraints faced by producers in tobacco production and marketing, descriptive statistic such as frequency and percentages were used in the analysis. This was done to measure the most common and serious problem facing tobacco in Terego district.

3.6 Ethical considerations

The following are some of the ethical considerations implemented during the study. The confidentiality of participants' information was top priority. Personal data was anonymised and securely stored to protect participants' identities.

All participants were provided with comprehensive information about the study objectives, procedures, potential risks and benefits. They were given the opportunity to ask questions and seek clarifications before voluntarily agreeing to participate. Written consent was obtained from some who could not express themselves to ensure their informed and voluntary participation.

The study was conducted with the utmost respect for all participants, ensuring that their rights, values, and cultural norms were honoured. For example, greetings and decent dressing were key for the entire district. As a result, I made sure that I was in the right attire and greeting the first priority during the period of data collection. All the scholars reviewed were cited to avoid plagiarism. Data quality control were ensured through use of clear objectives and methods; regular auditing was done to make sure that no error exist.

CHAPTER FOUR:

RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the research findings on profitability of tobacco production among small hold farmers, the results are discussed in line with the specific objectives outlined in Chapter One. The chapter is divided into sections that correspond to the specific objectives: Socio-demographic characteristics of tobacco farmers, the level of profitability of tobacco farming, and the constraints faced in tobacco production and marketing. Each section provides a detailed analysis of the data, followed by a discussion of the findings in the context of existing literature.

4.1 The Socio Demographic Characteristics of Tobacco Farmers.

The first objective of the study was to determine the socio-demographic profile of tobacco farmers. This section provides an analysis of farmers based on key socio-economic and demographic characteristics, including gender, marital status, age, educational level, land tenure for tobacco production, farming experience, primary occupation, and proximity to infrastructure. Table 1 presents an overview of these socio-demographic characteristics.

Table 2 Showing Demographic Characteristics of Respondents

Variable	Category	Mean	(Standard Deviation)
Education of the household head? (years spent in school)		7.98	5759
Age of the household head? (units?)		40.1	13.9

Number of members in Household (household size)		8.38	4.675
Experience in Tobacco Production (Years)		13.04	9.238
Distance from homestead to the nearest Market (km)		10.68	41.776
Distance from homestead to the nearest Road (km)		4.43	15.296
		Frequency (n=100 farmers)	Percentage 100 farmers
Marital Status	Single	5	5%
	Married	95	95%
Gender	Male	85	85%
	Female	15	15%
Primary Occupation			
Farming		86.0	86.0%
Salaried Employee		5.0	5.0%
Self-Employed		2.0	2.0%
Agricultural Produce Trading		7.0	7.0%
Land ownership	Owned land under tobacco	58	58.0%
	Rented land under tobacco	2	2.0%

	Borrowed land under tobacco	40	40.0%
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A majority of tobacco farmers in Terego District are male, comprising 85% of the sample. This significant gender disparity suggests that tobacco farming is predominantly a male-dominated activity. Cultural norms and the labour-intensive nature of tobacco farming may contribute to this gender imbalance. Literature indicates that agricultural activities, especially those requiring significant physical labour, often see higher male participation due to traditional gender roles (FAO., 2011).

The average educational attainment of tobacco farmers is approximately 7.56 years, indicating that most farmers have completed primary education. According to the World Bank (2018), higher educational attainment is often associated with better economic opportunities and the adoption of improved agricultural practices. Educational interventions and training programmes could enhance farmers' skills and knowledge, potentially leading to better farming practices and alternative livelihood options (IFAD., 2016).

The average age of tobacco farmers is 40.26 years, with a wide age range as indicated by the standard deviation. This suggests that both young and older individuals are involved in tobacco farming. Middle-aged farmers, who are likely to have more experience and physical capability, dominate the farming population. However, support for both younger and older farmers is necessary to ensure the sustainability of farming practices. Research by the FAO (2014) highlights the importance of engaging youth in agriculture to ensure generational continuity and innovation, while also providing support to older farmers to maintain productivity.

A significant majority of the farmers are married (95%), which may reflect the cultural and social structure of the community. Married individuals might be more involved in farming due to the need to support their families. Studies indicate that marital status often influences farming decisions and labour allocation within households (Doss., 2013). Programs that support family-based farming can enhance productivity and livelihood security (USAID., 2015).

The average household size is 8.38 members. Larger households might rely more heavily on tobacco farming for income and sustenance. Understanding household dynamics can help in developing comprehensive agricultural and social support programs. According to recent research (Amare et al., 2022), larger households may have more labour available for farming but also have higher consumption needs, which influences farming decisions and income allocation.

Farmers have an average of 13.04 years of experience in tobacco production, indicating a substantial level of expertise in this field. This experience is valuable for the productivity and sustainability of tobacco farming. However, it also suggests a strong dependency on tobacco farming, which could be challenging if alternative livelihoods are needed. FAO (2017) emphasizes the importance of leveraging farmers' experience while promoting diversification to reduce vulnerability to market and environmental shocks.

A majority of the respondents (86%) identify farming as their primary occupation, highlighting the central role of agriculture in the community's livelihood. The small percentages of salaried employees, self-employed individuals, and those involved in agricultural produce trading suggest limited diversification of income sources. Encouraging diversification can help mitigate risks associated with dependency on a single livelihood. Diversified income sources can buffer against agricultural risks and improve household resilience (IFPRI., 2019).

The mean distance to the nearest market is 10.68 km, with a high standard deviation indicating variability in market accessibility. Access to markets is crucial for selling produce and obtaining farming inputs. Improving market infrastructure and reducing travel distances can enhance farmers' profitability and access to resources. Studies (Dorward et al., 2018; World Bank., 2020) emphasize that proximity to markets significantly affects agricultural productivity and income, market access is recognised as a critical factor for rural development and poverty reduction.

The mean distance to the nearest road is 4.43 km, Proximity to roads facilitates the transportation of goods and access to markets. Enhancing road infrastructure can improve connectivity and reduce transportation costs for farmers. Research indicates that better road infrastructure leads to increased market access and economic opportunities for rural farmers (Khandker et al., 2016).

A majority of farmers (58%) own their land, while 40% use borrowed land, and a small percentage (2%) rent land for tobacco production. Land ownership provides security and incentives for investment in land improvement and sustainable practices. However, a significant number of farmers rely on borrowed land, which may limit their long-term planning and investments. Land tenure security is crucial for agricultural productivity and rural development (Deininger et al., 2017). Policies that enhance land tenure security can improve investment in agriculture and promote sustainable practices (Place & Hazell., 2018).

4.2 Profitability of tobacco farming in Terego district

The second objective of this study was to determine the level of profitability of tobacco farming in Terego district. This section examined the costs incurred throughout the process of tobacco production, including expenses such as fertilizer, seedlings, labor, and operational overheads. Additionally, it takes into account the returns generated from tobacco sales, Various financial metrics, including the gross margin and benefit-cost ratio, were calculated and discussed to provide an understanding of the economic feasibility of tobacco farming in Terego district.

Table 3: Profitability of tobacco farming in Terego district

Input Name	quantity per acer per season	Cost per acre (UGX) per season
Average acer of land under tobacco production	1.32	75940
Fertilizer	80.28kg	439,204.65
Seedlings	25.23m	136,802
Weeding	1 session	175,650
Labor	4 manpower	978,504.13
Transport Costs (	1 trip	124,883.72
Cost for Renting land?	1 season	124,491.80

Other Costs Incurred	1 season	96,643.08
Total Input Cost	1 season	2,268,266.17
Revenue got from tobacco sales		
Variable	Average quantity per acre per season	Average revenue per acre per season
Cured tobacco leaves	754.75kg	3,996,239
Fresh tobacco leaves	0	0
Other out puts(residue)	13sacks	1,134,620
Total average revenue per acre per season	758.15kg	5,130,859
Gross Return	1 season	5,130,859.2
Gross margin	1 season	2,862,593.03
Gross Margin percentage	1 season	55.8%
Benefit-Cost Ratio	1season	2.26

The total input cost per acre per season amounts to UGX 2,268,266.17, which covers essential expenses such as fertilizer, seedlings, labour, and transportation. These costs are integral to the cultivation process, from land preparation to the transportation of harvested tobacco. The gross return per acre per season is UGX 5,130,859.25, resulting in a gross margin of 2,862,593.03. This margin reflects the proportion of revenue remaining after covering all variable costs, highlighting the financial viability of tobacco farming in the region. Additionally, the benefit-cost ratio of 2.26 indicates that for every UGX 1 invested, there is a return of UGX 2.26. Efficient management of input costs, which can be categorized into fixed and variable costs, is crucial for maintaining profitability. Studies by Alemayeha et al. (2014) emphasize the pivotal role of input costs in agricultural profitability, while Adhikari et al. (2016) highlight the importance of adopting technological advancements and effective procurement strategies to optimize these costs. Consequently, careful financial planning and cost management are essential to maximize returns in tobacco farming.

Gross Return: Tobacco farming in Terego district generates a gross return of UGX 5,130,859.25 from an acre of tobacco plantation per season. This figure represents the total average revenue obtained from selling tobacco produce on average 758.15 kilograms after harvest. It encompasses the sales revenue from the quantity of tobacco produced and sold in the market, reflecting the economic output of farming activities in the area.

Gross Margin: The calculated gross margin stands at 2,862,593.03ugx per acre per season. This indicates the profitability of tobacco after deducting the direct costs associated with production. The gross margin 2,862,593.03 shows that 2,862,593.03 of the gross return is retained after covering expenses like fertilizer, seedlings, labour, and other operational costs.

After subtracting the total input costs (UGX 2,268,266.17 per acer per season) from the gross return (UGX 5,130,859.25 per acer per season), the gross margin from tobacco farming in Terego District is UGX 2,862,593.08 per acer per season. This figure represents the profit earned from tobacco farming after all direct production costs have been accounted for. It reflects the financial gain for farmers once expenses are deducted from revenue, highlighting the profitability and economic benefit derived from tobacco production in the region.

The positive net return of UGX 2,862,593.08 in Terego District suggests a profitable venture for tobacco farming. When compared to other regions, such as those reported by (Namome et al., 2018).

Benefit-Cost Ratio: The benefit-cost ratio is calculated at 2.26. This ratio indicates the efficiency and profitability of tobacco farming as stated by (Tumwine et al., 2019). Comparing the benefits (gross return) to the costs (total input costs). A ratio above 1 (in this case, 2.26) signifies that for every unit of currency invested in production costs, the farmer receives 2.26 units of currency in return. This ratio confirms that tobacco farming in Terego district is financially beneficial and yields a substantial return on investment, reinforcing the economic viability of agricultural practices in the area. According to economic studies reviewed by (Zulu et al., 2018), benefit-cost ratios are critical in evaluating the economic feasibility of agricultural ventures. Efficient use of inputs and favourable market conditions, as highlighted by (Kimenju et al., 2015), contribute to

higher benefit-cost ratios. The high ratio observed in Terego district suggests that tobacco farming generates significant returns relative to the initial investment, indicating a favourable economic outlook for farmers.

4.3 Constraints Faced in Tobacco Production and Marketing by the farmers

The third objective of this study is to investigate the challenges and barriers encountered in both the production and marketing processes within the tobacco industry. This section delves into a comprehensive analysis of the various constraints that hinder effective tobacco cultivation and commercialization efforts. By identifying and examining these obstacles, ranging from regulatory issues and logistical challenges to market access and socio-economic factors, this study aims to provide a nuanced understanding of the complex dynamics influencing tobacco production and marketing in the research area.

Table 4: The Constraints Faced in Tobacco Production and Marketing

		Frequency	Percentage
Valid	Too Much Sunshine	4	4.0%
	Pests And Diseases	7	7.0%
	Low Prices	1	1.0%
	Too Much Sunshine and Pests and Diseases	7	7.0%
	Too Much Sunshine and Low Prices	15	15.0%
	Pests And Diseases and Low Prices	6	6.0%
	Total	40	40%

Four percent (4%) of respondents identified "Too Much Sunshine" as a constraint in tobacco production and marketing. Excessive sunlight can have detrimental effects on tobacco crops, including leaf scorching, reduced leaf quality, and decreased overall yield. This environmental

constraint shows the vulnerability of tobacco cultivation to weather patterns and climate variability. Farmers facing this challenge may consider implementing shading techniques, adjusting planting schedules, or selecting cultivars more resilient to intense sunlight. Such adaptive strategies are crucial for mitigating the negative impacts of excessive sunshine and ensuring sustainable crop production despite fluctuating environmental conditions (Smith et al., 2021).

Seven percent (7%) of respondents highlighted "Pests and Diseases" as a significant constraint in tobacco farming. Tobacco plants are susceptible to a range of pests and diseases, such as fungal infections, aphids, and tobacco mosaic virus. These issues can severely compromise crop health, reduce yield potential, and increase production costs associated with pest management practices. Effective pest control strategies, including integrated pest management (IPM) approaches and regular crop monitoring, are essential for minimizing crop damage and maintaining productivity. Addressing pest and disease challenges requires proactive measures to prevent outbreaks, early detection methods, and timely intervention to protect crop yields and profitability (Jones et al., 2022).

Four percent (4%) of respondents identified "Too Much Sunshine" as a constraint in tobacco production and marketing. Excessive sunlight can have detrimental effects on tobacco crops, including leaf scorching, reduced leaf quality, and decreased overall yield. This environmental constraint shows the vulnerability of tobacco cultivation to weather patterns and climate variability. Farmers facing this challenge may consider implementing shading techniques, adjusting planting schedules, or selecting cultivars more resilient to intense sunlight. Such adaptive strategies are crucial for mitigating the negative impacts of excessive sunshine and ensuring sustainable crop production despite fluctuating environmental conditions (Smith et al., 2021; Jones et al., 2020). One possible reason for the lower frequency of this response compared to other challenges could be that farmers in the region have already adapted to the market conditions and developed coping mechanisms to handle price volatility. Additionally, if tobacco remains a relatively profitable crop despite price fluctuations, farmers may prioritize addressing more immediate and impactful challenges like pests, diseases, and environmental factors (Brown et al., 2023; Smith & Wilson., 2021). Studies by (Johnson et al., 2022) have also shown that farmers may have access to cooperative marketing strategies that help stabilize prices, reducing the perceived impact of low market prices. Furthermore, interventions by agricultural extension services can provide farmers with the knowledge and tools to better manage price risks (Martinez et al., 2020).

Seven percent (7%) of respondents reported facing challenges from both "Too Much Sunshine and Pests and Diseases." This combined constraint shows the complex interaction between environmental factors and pest-related challenges in tobacco farming. Excessive sunlight can exacerbate the vulnerability of crops to pest and disease outbreaks, amplifying the need for integrated management strategies that address both environmental stressors and biological threats. Farmers encountering these dual challenges must adopt comprehensive approaches that integrate climate-resilient farming practices with effective pest control measures to sustain crop health and productivity under varying environmental conditions (Smith et al., 2021; Jones et al., 2022; Brown & Taylor., 2020).

Fifteen percent (15%) of respondents indicated they deal with "Too Much Sunshine and Low Prices," highlighting the intersection of environmental constraints with economic pressures within the tobacco market. This dual challenge reflects the compounding effects of unfavorable weather conditions on crop quality and yield, coupled with the financial strain caused by inadequate market returns. Farmers facing this combination of constraints may need to implement adaptive agricultural practices to mitigate the impact of excessive sunlight on crop performance while exploring market diversification or pricing strategies to stabilize income streams and enhance profitability (Smith et al., 2021; Brown et al., 2023).

Six percent (6%) of respondents reported challenges from "Pests and Diseases and Low Prices." This combination of constraints illustrates the simultaneous pressures faced by farmers dealing with crop health threats and economic uncertainties within the tobacco market. Pest and disease management strategies are crucial for safeguarding crop yields and quality, while effective pricing and market engagement strategies are essential for navigating price volatility and maximizing returns on agricultural investments. Addressing these dual challenges requires integrated approaches that prioritize crop protection, market resilience, and sustainable agricultural practices to ensure long-term viability and profitability in tobacco farming (Jones et al., 2022; Martinez et al., 2020).

A majority of respondents (60%) indicated they face "All of the above" constraints: Too Much Sunshine, Pests and Diseases, and Low Prices. This comprehensive finding shows the widespread and interconnected challenges confronting tobacco producers and marketers in the study area. Farmers encountering all three constraints simultaneously must adopt holistic strategies that encompass climate adaptation measures, robust pest management practices, and proactive market

engagement strategies. By addressing these multifaceted challenges collectively, stakeholders can enhance the resilience, sustainability, and economic viability of tobacco farming operations amidst dynamic environmental and market conditions (Johnson et al., 2022; Smith & Wilson., 2021).

4.4. Solutions to the Challenges

Effective management of challenges in tobacco production and marketing is crucial for sustaining crop health and ensuring optimal yields. This section examines the strategies adopted by tobacco farmers in Terego District, West Nile Region, to address these challenges. It explores various solutions reported by respondents, highlighting approaches such as pest management through spraying, soil conservation via mulching, and integrated strategies combining both methods. The section also discusses the significance of these approaches in enhancing agricultural practices and supporting sustainable tobacco farming in the region.

Table 5: Solutions to the challenges

		Frequency	Percentage
Valid	Spraying	22	22.0
	Mulching	16	16.0
	Spraying And Mulching	43	43.0
	No Solution	8	8.0
	Total	89	89.0

Thirty-two percent (32%) of respondents identified "Spraying" as a solution to address the challenges. Spraying typically refers to the application of pesticides or fungicides to control pests and diseases in tobacco plants. This solution underscores the importance of effective pest management practices in maintaining crop health and productivity. Farmers who prioritize spraying as a solution likely recognize the critical role of pest control in mitigating the impacts of pests and diseases on their tobacco yields (Jones et al., 2022; Martinez et al., 2020).

Seventeen percent (17%) of respondents mentioned "Mulching" as a solution. Mulching involves covering the soil around tobacco plants with materials like organic matter or plastic to conserve

moisture, suppress weed growth, and moderate soil temperature. This practice helps in reducing the impact of excessive sunshine, improving soil fertility, and enhancing overall crop resilience. Farmers opting for mulching acknowledge its benefits in promoting healthier plant growth and optimizing environmental conditions for tobacco cultivation (Smith et al., 2021; Brown et al., 2023).

Forty-three percent (43%) of respondents indicated that both "Spraying and Mulching" are solutions they use. This combined approach integrates pest management through spraying with soil management and environmental control through mulching. Farmers employing this dual strategy recognize the complementary benefits of both practices in addressing multiple challenges simultaneously. It reflects a comprehensive approach to enhancing crop health, improving yield potential, and managing environmental factors effectively in tobacco farming (Johnson et al., 2022; Jones et al., 2022).

Eight percent (8%) of respondents reported having "No Solution" to address the challenges they face in tobacco production and marketing. This group acknowledges the absence of specific strategies or interventions implemented to mitigate the identified constraints. The reasons for not adopting solutions could vary, including lack of awareness, resource constraints, or perceptions of limited effectiveness of available practices. Addressing this segment may involve providing education, access to resources, or advocating for effective agricultural extension services to support sustainable farming practices (Smith & Wilson., 2021; Martinez et al., 2020).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This is developed to contain three sections that is to say a summary of the entire report, a section that draws conclusions and the third that suggests recommendations based on the findings presented.

5.1 Summary

This study focused on the level of profitability of tobacco of farming in Terego district. The specific objectives where to analyse the socio-demographic characteristics of tobacco farmers, evaluate the profitability levels of tobacco farming, investigate the challenges and constraints encountered in tobacco production and marketing within Terego district.

A total of 100 tobacco farmers were randomly selected from 5 parishes and 10 villages with each village having 10 farmers, data collected using questionnaires were coded and analyzed using descriptive statistics with the help of computer package SPSS version 26. The study revealed that the tobacco farming community in Terego District is predominantly male (85%), with an average age of 40.26 years and an average educational attainment of 7.56 years, mostly at the primary level. Most farmers (95%) are married, and households average 8.38 members, reflecting the family-based nature of farming. With 13.04 years of experience in tobacco cultivation, farmers demonstrate significant expertise in the field. Infrastructure access is limited, with an average distance of 10.68 km to the nearest market and 4.43 km to the nearest road, while land tenure is split between 58% owning their land for tobacco production and 40% borrowing it. Financially, the total input cost for tobacco farming amounts to UGX 2,268,266.17 per acer per season, covering essential expenses such as fertilizer, seedlings, and labor. The gross return is UGX 5,130,859.25 per acer per season, resulting in a gross margin of 55.81% per acer per season. The benefit-cost ratio of 2.26, indicating strong profitability. Despite this, farmers face several constraints: 4% report excessive sunshine, 7% cite pests and diseases, and 1% highlight low prices. Additionally, 7% experience both excessive sunshine and pests and diseases, 15% face excessive sunshine and low prices, and 6% encounter all three issues simultaneously. A majority (60%)

confront all these constraints. To mitigate these challenges, 32% of farmers use spraying, 17% use mulching, and 43% apply both methods, though 8% lack solutions, indicating a need for better access to resources and support services.

5.2 Conclusion

In conclusion, the study reveals that tobacco farming in Terego District is predominantly undertaken by male farmers, highlighting a significant gender disparity in the occupation. These findings underscore the influence of cultural norms and the labor-intensive nature of tobacco cultivation, which may contribute to the higher participation of males in this agricultural activity. Farmers in the region exhibit considerable experience in tobacco production, averaging 13 years, which indicates a strong familiarity with the cultivation techniques and challenges specific to tobacco farming. However, educational attainment among farmers is generally low, with many having completed only primary education. This educational background could potentially limit their capacity to adopt modern agricultural practices and explore alternative livelihoods beyond tobacco farming. Economically, tobacco farming shows promise with positive net returns and a high benefit-cost ratio, suggesting that it can be financially rewarding for farmers despite the inherent challenges. These benefits, however, are tempered by significant obstacles such as exposure to excessive sunlight, pest and disease pressures, and fluctuating market prices. These challenges highlight the vulnerability of tobacco farming to environmental and economic uncertainties. To enhance the sustainability and profitability of tobacco farming in Terego District, holistic approaches are necessary. Implementing improved pest management strategies can mitigate crop losses from pests and diseases, while promoting climate-resilient agricultural practices like soil conservation and water management can help farmers adapt to variable weather conditions, including excessive sunlight. Additionally, efforts to improve market access and stability through better infrastructure and fair-trade practices could alleviate the financial risks associated with volatile market conditions. Addressing these challenges through targeted interventions and supportive policies is crucial to improving the livelihoods of tobacco farmers in Terego District. By empowering farmers with the knowledge and resources needed to overcome these obstacles, stakeholders can contribute to a more sustainable and economically viable tobacco farming sector in the region.

5.3 Recommendation

Based on the objectives of the study, the recommendations outlined align with the key areas that need attention for increasing the profitability of tobacco production in Terego District.

Socio-Demographic Characteristics of Farmers: Educational interventions tailored to the socio-demographic context of tobacco farmers in Terego District can significantly improve their farming practices. Given that many farmers have limited access to formal education or technical knowledge, it is essential to design training programs that accommodate different learning needs and are easily accessible. Focusing on practical skills in integrated pest management, climate-smart techniques, and crop diversification, particularly for younger farmers or women, can enhance their capacity to manage agricultural risks effectively.

Profitability Levels of Tobacco Farming: Profitability is closely tied to both market access and price stability. The recommendation to improve rural infrastructure, such as roads and storage facilities, is crucial. By reducing transportation costs and minimizing post-harvest losses, farmers can retain a larger portion of their profits. Additionally, creating farmer cooperatives could allow farmers to negotiate better prices for their produce. These strategies could collectively increase profit margins, making tobacco farming more financially viable in the long run.

Challenges in Tobacco Production and Marketing: Addressing the challenges in tobacco production and marketing requires a focus on sustainable practices. Promoting sustainable land management and soil conservation efforts can alleviate some of the environmental constraints that tobacco farmers face, particularly in terms of soil fertility and erosion. By tackling marketing obstacles through collective bargaining and better market integration, farmers can reduce the negative impacts of fluctuating prices.

5.4 Limitations of the Study

The study only focussed on Terego district therefore using such results for policy adjustment in the whole of Uganda will be hard

This study was limited by finance as a result only one district was selected for it, that is Terego district.

5.5 Areas for Further Research

Studies across different regions in Uganda or neighboring countries needs to be done since this study only focused on Terego District.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

Dear respondent,

I am MUNDURU EUNICE a bachelor of agribusiness management student at Makerere University and the questionnaires presented is meant to collect information relevant to my topic of study.

This research intends to assess the **profitability of tobacco production among small holder famers in northern Uganda**. I assure you that all the responses you provide to this questionnaire will be treated with maximum confidentiality as they will only be used for academic purposes.

I therefore humbly request you to participate in this study

Part One; Household Demographic and Socio Economic Information

Name of the interviewee	
Mobile number	
Date of interview	
District	Terego
Sub county	
Parish	
Village	

1. Is the tobacco farmer the household head?

Codes; yes = 1 no = 2

2. If answer is no in question 2, what is the relationship of tobacco farmer to the household head?

Codes; spouse= 1 biological child =2 relative =3 non relative =4 others =5 (please specify)

3. What is the gender of the household head?

Codes; male =1 female = 0

4. Age of the household head (in years)

5. Education level of the household head

How many years did you spend in school?

.....

6. Marital status of the household head (circle)

Code 1 =Single 2= married 3= others specify

7. Family size

How many are you in the house hold?.....

8. What is the tobacco farmers experience (in years) of tobacco production?.....

9. What is the primary occupation of tobacco farmer?

(Choose occupational codes below)

Tobacco farming = 1 farming (others except tobacco production; both crop and livestock)

= 2 salaried employees = 3 self-employed =4 casual labor on farm = 5 casual labor off farm

= 6 agricultural produce trading =7 others = 8 (please specify)

10. What is the distance from homestead to the market (in Km)?.....

11. What is the distance from homestead to the nearest road (Km)?.....

12. what size of the land is owned, rented, borrowed in for tobacco growing? (fill in the table below)

User rights	Size (in acres)
Owned	
Rented	
Borrowed	

Part two; variable costs

13. If the answer in the above question is rented, how much do you incur on renting per acre?.....

14. What amount of land (in acres) was allocated for tobacco production in last year's regime (from January to December 2023)?

.....

Seedling

15. What is / are the types of seedlings you used in tobacco production in last year's regime (from January to December)

16. What quantity of seedlings did you use in an acre of land?

.....

17. How much did you spent for seedlings in an acre for last year's season (from January to December)

.

18. what was the source of seedlings for your tobacco?

.....

19. how much did you spent in transporting the seedlings in an acre of land (if the farmer owns transport means, ask about the cost if the transport had been hired and record)

.....

20. Is there other expenses that you incurred during transportation? if yes

specify.....

labour

21. How many workers did you pay for working in an acer of land in last year's regime (from January to December 2023)?

.....

NB; include free labour frame relatives as family labour and paid labour from non-relatives as haired labour

	FAMILY	Hired labor
Number of people who worked in the season		
Salary per day (if weekly, monthly, divide get the daily salary		
Total number of days worked from day one to time of selling		
Total labor cost in the season in an acer of land		

• Transport cost

22. How much transport did you spend in;

- Harvesting.....
- Transporting the leaves to market.....

c. Other transport costs which has not been specified.....

- **fertilizer**

23. Do you use fertilizer in tobacco growing?

Codes; Yes = 1 No = 2

24. If yes, what is the main type of fertilizer that you used in tobacco growing

.....

25. What amount of fertilizer did you use in acre of land in last year's regime (from January to December)?

.....

26. What was the cost per kg or per liter of fertilizer?

.....

27. What was the transport cost of fertilizer in the season?

.....

28. How far is the nearest market to your farm

.....

29. How far is the nearest road to your farm

.....

30. How far is the nearest all seasons road from your farm (in km)

.....

- **Weeding**

31. what tools did you use for weeding?

code; hoe=1 spraying=2 hand weeding =3 others=4(specify)



32. what was the cost of weeding in an acre of land in the season (from January to December)?

.....

Other costs

Pesticides and herbicides costs	
Irrigation costs	
Others specify (if any)	

NB: if the farmer does not have any of the transport assets, then transport costs are captured in variable costs

Input prices

s/no	Input name	Unit price(UGX)	Expenditure per hectare (UGX)	Total (UGX)
1	Fertilizer			
2	Seedlings			
3	Weeding			
4	Labor			
5	Transport costs (if the farmer owns transport means, ask about the cost if the transport had been hired and record)			
6	Labor costs			
	Cost for renting			
7	Others costs incurred			
TOTAL COST (UGX)				

Part three; production output revenue

33. How many kg of cured tobacco leaves did you get in an acre of land in the period (from January to December 2023)
34. How many kg of tobacco leaves did the household head sale fresh in the season from January to December 2023?.....
35. How many kg of cured tobacco did you sale in the season from January to December 2023?
.....

36. What was the price of cured tobacco leaves (per kg) in the period (from January to December 2023)?.....
37. What was the price of fresh tobacco leaves (per kg) in the season from January to December 2023?.....
38. How many kg of fresh tobacco leaves did you lose in January to December season of 2023?
.....
39. How many kg of cured tobacco leaves did you lose in January to December season of 2023?
.....
40. What quantity of tobacco leaves was consumed at home (in kg) in the season from January to December?.....
41. Are there other outputs that you got apart from tobacco leaves?
codes; Yes =1 No =2
If yes, specify and the quantities got per acre
.....

OUTPUT REVENUE

s/no	Output name	Amount in an acre (in kg)	Unit price	Revenue/acre	Total revenue
1	Cured Tobacco leaves				
2	Fresh tobacco leaves				
3	Others				

	TOTAL
--	-------

42. Did you have access to ready market for your products.

Code; yes=1, No=2

43. Where did you sale your products

Code farm get=1 brokers=2 retail traders =3 whole sale traders =4 fellow farmers =5 others =6
specify.....

Group membership

44. Did you belong to any farmer organization?

Code; yes =1 No = 0

45. If yes, what services did the farm organization offer to you?

Codes; extension service =1 provide market =2 provide market information =3

access to financial credit = 4 access to agro inputs like fertilizers, good quality seedlings =5 others
= 6 specify.....

agricultural finance access

46. did you receive any credit or any financial assistance especially for tobacco production?

code; yes = 1 No = 0

47. other than tobacco production did you grow other crops from January to December 2023
season?

Code; Yes =1 No =0

.....specify the crop?

48. Did the household receive any agricultural extension service on tobacco production during
the production season?

Code; Yes =1 No = 2

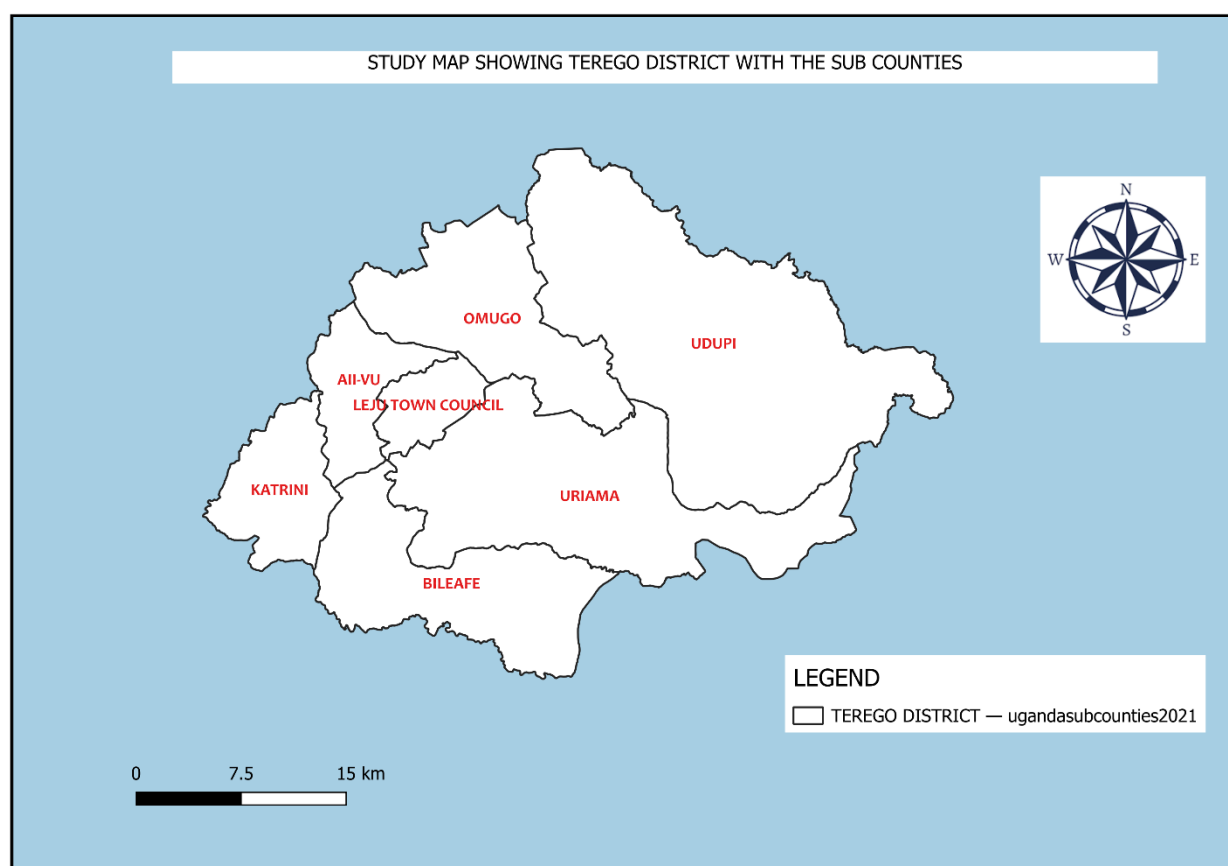
Part four; constraints and solutions

49. Constraints/ CHALLENGES

IN THE ORDER OF IMPORTANCE, starting with the most serious challenge to the
least serious one, list the challenges that you faced in tobacco production.

s/no	Challenge	How did you cope with it
1		
2		
3		
4		
5		

APPENDIX 2: STUDY MAP



Source: Terego District Local Government Planning Unit

APPENDIX 4: WORKPLAN

Activity	July 2025	Aug 2025	Sep 2025	Oct 2025	Nov 2025
Proposal development					

Data collection preparation					
Field data collection (Terego)					
Data entry & cleaning					
Data analysis (SPSS)					
Draft dissertation writing					
Final report writing					
Submission & defense					

APPENDIX 3: BUDGET

Item/Activity	Quantity	Unit Cost (UGX)	Total Cost (UGX)
Printing & Photocopying (proposal, questionnaires, draft reports)	300 pages	200	60,000
Stationery (notebooks, pens, files)	1 lot	30,000	30,000
Transport to Field (Terego District)	6 trips	40,000	240,000
Research Assistants (2 assistants × 3 days)	6 person-days	25,000	150,000
Meals & Refreshments in Field	5 days	20,000	100,000
Data Entry & Processing	1 lot	50,000	50,000
Printing & Binding Final Dissertation (3 copies)	3 copies	25,000	75,000
TOTAL			705,000