

THE CONTRIBUTION OF COFFEE AGRICULTURAL PRACTICES ON IMPROVING LIVELIHOOD OF SMALLHOLDERS FARMERS IN URU EAST WARD MOSHI RURAL TANZANIA

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ABSTRACT: This study aimed to explore the contribution of coffee agricultural products livelihood on improving smallholders' farmers in Uru East Ward (MOSHI RURAL) TANZANIA, that has been taken as a representative sample. Specifically, to assess the type of coffee which is favorable and grow in the study area, to examine the challenges facing the production of coffee in the study area, and to assess the market flexibility and accessibility among the small coffee producers in the study area. The study adopted a case study design, Survey research design and cross-sectional Research Design for providing guidance in conditions for collecting and analysis of data. Moreover, in case of Data collection, the study employed Simple interviews, Direct observations and Questionnaires assigned to 100 sample of people to represent the whole population of Uru East Ward. Not only that, but also, the study analyzed data by using (SPSS) statistical product for social service for knowing the validity of Information's pertaining to the role of coffee production for improving people's livelihood in Uru East Ward in all aspects of socio and economic life. The study concluded that coffee production in Uru East ward has helped the small growers to generate

income and improving their livelihood. The type of coffee (Arabica) growing in the study area is more demanded within Tanzania and even outside of the country because of its flavor; this is why it has a wide market. The study found that the small coffee growers in the study area has experienced various challenges include climate variability, price fluctuation as well as lacking government support. The recommended that in order to improve the coffee production among small scale farmers; there is a need to put more emphasize on farmer participation in coffee production. In the contemporary time old age small scale coffee farmers are incapable to produce quality and quantity coffee. Farmers cultivating coffee should be assisted to form clubs and the club members could be assisted to move around and sensitize other farmers on the economics of coffee production.

1.0 Introduction

This chapter includes background of the problem, statements of the problem, research objective, research question, significance of the study, conceptual framework, scope and delimitation of the study and operational of key definition terms.

1.1 Background of the Study

Coffee is more than just one of the world's most popular beverages. For the world's roughly 12.5 million farming families, coffee represents food, clean water, medicine, school fees, or a better home. Over 80 percent of these families are still living below the poverty line (World Bank Group, 2019). More than 50 nations, almost all in the developing world, produce and export coffee. A number of them are facing considerable difficulties because of the dramatic decline in the price of coffee which has fallen to its lowest levels since 1980's years as a result of worldwide oversupply and economic recession (ICO, 2018). Currently, around twenty five million smallholder farmers produce 80% of the world's coffee, while more than one hundred and twenty five millions of people depend on coffee for their livelihoods. But in many regions, coffee farming is threatened by a range of challenges (FAO, 2018). Coffee plays a significant role in the livelihoods of millions of households in developing countries. Small-scale farmers produce over 75% of the world's coffee. Changing patterns in the global Coffee chain and oversupply has resulted in coffee

prices falling to their lowest levels in a century. Coffee price decline and volatility have negative macro-economic impacts and result in declining export revenues reducing the ability of the state to invest in rural development, lead to increased poverty in coffee producing areas, labor living standards, unsustainable land use and land management strategies (WFP & ICO 2010).

Africa is the region with the largest number of coffee producing countries: 25 as opposed to 11 in Asia & Oceania, 12 in Mexico & Central America and 8 in South America. Production in Africa has exhibited negative growth over the last 49 years. Average production was 19.4 million bags per crop year in the period between 1965/66 and 1988/89 when the coffee market was regulated under the export quota system (ICO, 2015) Coffee land holding patterns in Africa vary from country to country and from region to region within the same country. Land used for coffee is significant in areas where the choice of crops grown for export is limited. By contrast, areas which offer the possibility for significant crop diversification, have less land devoted to coffee (ICO 2015). Coffee, is one of the permanent cash crops traditionally grown in Central; Western and Eastern regions along the Lake Victoria, (Appleton, 2001 and Collier, 2001) attributed the relatively low poverty level in these regions of Uganda to coffee growing. Likewise (UBOS, 2010) found that a huge portion 46% of households in Northern Uganda were categorized as poor compared to only 11% and 23% in Central and Western Uganda, respectively. Example in Tanzania and Rwanda, farming coffee is the main source of income for many families depending on coffee. Cooperative Members are transforming their lives and communities by strengthening their farms (WFP, 2009).

Coffee is one of Tanzania's primary agricultural export commodities accountings for about 5% of total exports value, and generating export earnings averaging USD 100 million per annum over the last 30 years. The industry provides direct income to more than 400,000 farmer households thus supporting the livelihoods of an estimated 2.4 million individuals. Average yearly production over the past thirty years has stagnated at a level of about 50,000 tons, while yields have continuously decreased, and quality potential has not been fully exploited, thus contributing to low farm gate prices, and the development of rural poverty. Considering the existing opportunities on the international market, and the excellent quality potential at the country level

(including Mild Arabica as well as Robusta) Tanzania would face very few difficulties in selling larger coffee volumes at highly remunerative prices provided production is increased (TCB, 2011). Aware of this great opportunity, the Government of Tanzania, together with the Coffee Industry stakeholders under the leadership of the Tanzania Coffee Board has launched a national consultation in order to agree on a national strategy for the development of the coffee sector (2011-2021) as a result of the participatory process.

The Tanzanian coffee industry aims to build a long term sustainable and profitable coffee industry to all stakeholders, producing internationally recognized high quality Arabica and Robusta coffees and making a significant contribution to macro-economic stability, poverty reduction and improved Tanzanian livelihoods, (TaCRI, 2015). Mt. Kilimanjaro area with the old Chagga agro-forestry system has been one of the most productive agricultural areas in Tanzania. Today the area is facing several challenges that affect people's livelihoods. To study implications of low coffee price, population pressure and ensuring land use change on the farming systems and livelihoods of the people of the southern slopes of Mt. Kilimanjaro, Tanzania, an interview survey was conducted. A multivariate regression analysis was used in studying and testing the interrelationships between farm production and some socio-economic variables assets (TCB, 2011). Coffee appears to have the largest contribution to farm income in Kilimanjaro where its contribution was almost four times the contribution in the other three coffee growing zones. Among the crops grown in these zones, the largest contribution to farm income was from bananas whose contribution was highest in Kilimanjaro (TaCRI, 2005).

1.2 Statement of the Research Problem

Coffee is a major source of income for millions of smallholder farmers in Moshi Rural and is a significant source of export earnings to many nations including Uru East ward. Smallholder coffee farmers in Uru East are constrained with different production and marketing problems which lower farmers' profit. Coffee production contributed about 39% of the total household income in the region. Input prices, taxes, research contribution and unit tax, shortage of extension services, unreliable

markets and low coffee price, low quality of coffee, transportation and delayed payment constituted the major problems that faced coffee producers (TCB, 2017).

Various studies have addressed of coffee production especially in low land areas and generalized to high land agro-ecological zone of Moshi rural, But the studies fail to show the contribution of coffee agricultural practices on improving people's livelihood in Uru East ward, and how coffee production could be achieved through improved farming practices. Therefore, this study aimed to assessing the contribution of coffee agricultural practices on improving livelihood of smallholder farmers in Uru East Ward in Kilimanjaro region in order to fill the existing knowledge gap.

1.3. Objectives of the Study

1.3.1 General Objective

The main objective of this study is to explore the contribution of coffee agricultural practices on improving livelihood of smallholder farmers in Uru East Ward, Moshi rural Tanzania.

1.3.2 Specific Objectives

- i. To identify the nature of coffee agricultural practices which is favorable and grow in the study area.
- ii. To examine the challenges facing the production of coffee in the study area.
- iii. To assess the market flexibility and accessibility among the small coffee producers in the study area.

1.4. Research Questions

- i. What is the nature of coffee agricultural practices is favorable and grow in the study area?
- ii. What are the challenges facing the production of coffee in the study area?
- iii. What is market flexibility and accessibility among the small coffee producers in the study area?

1.5 Significance of the Study

The study helps farmers to improve coffee production, increase farmers' income through improved farming practices application and increasing productivity. Also, the study was helping the agricultural officers on decisions making, having accurate

data trends about the crop. Also, the study was help to come out through with permanent solutions on increasing harvest yields from individual to national level.

It was helping policy makers to formulate policies that are in line with the real situation of small-scale coffee farmers, and it was help them realize the importance of the coffee crop to the life of the small-scale farmer. It was assisting the government in solving the problems facing small scale coffee farmers, and the government was benefit from increasing GDP from taxes paid by coffee sellers and buyers locally and abroad.

1.6 Conceptual Framework

A conceptual framework provides a guideline for identifying important variables for effective and efficient data collection (CWR, 2017). The conceptual framework is the researcher's idea on how the research problem will be explored, keeping in mind the theories put forth in the theoretical framework and it gives the direction to be undertaken by the researcher (Philip, 2007).

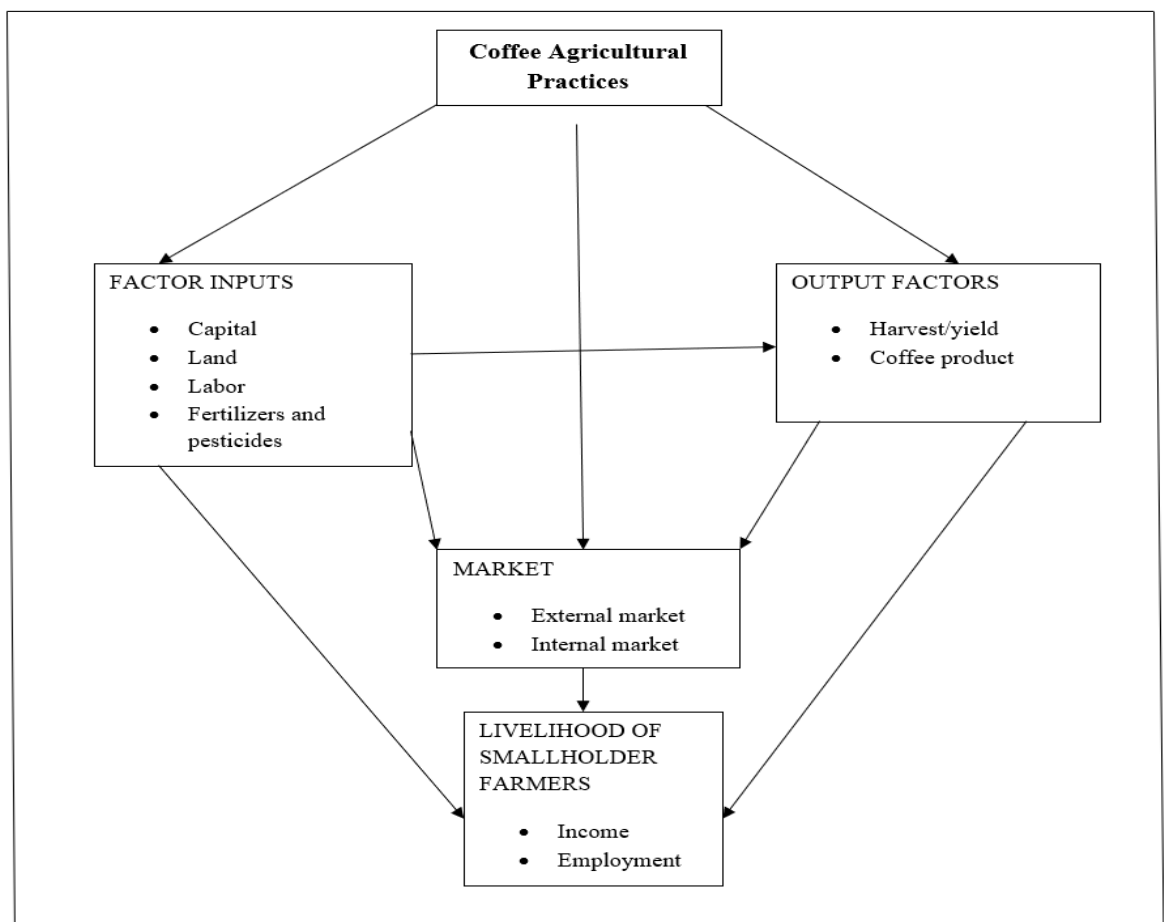


Figure 1:1 Conceptual Framework
Source: Researcher (2026)

The Activity of Coffee agricultural practices in Uru East Ward in Rural zone of Kilimanjaro Region, is primarily require some important determinants that could enable it to be possible, and such determinants includes common factors of production by which a Fertile and productive **Land** is the most significant and potential factor that enables other factors to take over, in this, manner, there is no any production of coffee in Uru without land resource that offers the presence of Farmlands for producing. then **Capital** follows after having a desire for Coffee agricultural practices such that, there is a serious requirements of both funds and technology as the capital to undergo the Production because there is no production without capital, Furthermore skilled **Labor** intervenes as another fundamental determinant for Coffee agricultural practices in Uru East ward where by the all supervisions in the production requires working force from people who will supervise all factors of production like capital, land and regulation of **Fertilizers and pesticides** in the farms that, is another determinant for coffee agricultural practices which enables the crop to grow well.

The process of coffee agricultural practices in Uru East continues with other activities of **Harvesting** as output steps that follows after the initial the farms ,and the processes of harvesting is taken after a time when the coffee has matured enough, its noted that, in this phase people are employed to harvest the coffee manually and get their daily income whereby the process makes possible for the **Coffee product** to be obtained, so that there is a direct link from the primary input determinants and these outputs determinants in coffee production in Uru East.

In another side, Harvesting of the coffee products from the farms and keeping it in the Godowns doesn't enough to enhance the livelihood of smallholder farmers in Uru East, thus what follows is the case of **Marketing** as whereby the coffee would be sold as whether Domestically as within the country for feeding the local users or Externally as exported to the countries abroad like German or Russia, where by the in both domestic and External markets contributes to the government revenues and per capital income to the people as they are employed to sell coffee in domestic markets,

Generally, livelihood of smallholder farmers improvement under the coffee agricultural practices in Uru East ward of Kilimanjaro, has its attachments from the primary process of input as the labor are needed to work along the Farms and hence, they can improve their lives through wages and salaries, also people are employed during harvesting of the coffee and during marketing of the coffee products where they get income and improves their lives.

1.7. Scope and Delimitation of the Study

The research report aimed at assessing the role of coffee production for improving people's livelihood in Uru East Ward in Moshi rural Tanzania. Data collection processes were encountering challenges such as due to the nature of Chagga people, they did not show Maximum Corporation, they fear to tell everything for the case of insecurity. The study encountered a challenge of time constraints. Much time was taken to get permit letter to go for data collection in the study area (Uru East Ward). For example, it took two weeks to get permit letter from regional office.

Also, financial problem was a challenge on finishing my study research report. A lot of money used during data collection. From where I live to data collection station, I should transport not even a single route its multiple routes, therefore the money to finish my research was a challenge too.

1.8 Operation of definition of key terms

Coffee- A hot drink made from the roasted and ground seeds or coffee beans of a tropical shrub.

Agricultural practices- Are collection of principle to apply to farm production processes to get better agricultural products.

Livelihood – Is a means of securing the necessities of life.

Smallholder farmers- Is a small farm operating under the small-scale agriculture model.

Ward- Is an administrative division of city that typically elects and is represented by councilor or councilors

LITERATURE REVIEW

2.0 Introduction

This chapter comprises review of the related theories and different scholars.

Therefore, in this chapter it passed in different parts such as empirical review, theoretical reviews, and research knowledge gap.

2.1 Theoretical Review

2.1.1 The Expected Utility Theory

There are three economic theories which can help explain the farm household production choices namely: Profit Maximization Peasant theory, Utility Maximization Peasant theory and the Risk Averse Peasant theory (Ali, 2010). The Profit Maximization Peasant theory contends that farm households in developing countries are poor but efficient (Amani, 2013). Schultz considers the peasant production mode as profit-maximization behavior, where efficiency is defined in a context of perfect competition. This theory has been criticized on the basis that profit Maximization depends both on motivation of the households (behavioral content) and the economic performance of the farm as a business enterprise (technical economic content) (Ajzen, 1991). Most work in the area of efficiency infers about the behavior of the farm household (behavioral content) by investigating the economic performance of the farm.

2.1.2 Strength of the Theory

Utility Maximization Peasant theory contends that the farm household's main objective is to maximize the future stream of expected utility from an array of consumable goods purchased from the market and those made at home while taking into consideration the constraints surrounding the farm household's production environment (Janvry et al., 1991).

According to Davis (2014), the expected utility of an act is considered as a weighted average of each of its possible outcome utilities, whereas, the utility of an outcome expresses the degree to which that outcome is preferable to the alternatives. Ajeigbe

(2010), maintains that the utility of each outcome is weighted according to the probability that the act will lead to that outcome.

2.1.3 Weakness of the Expected Utility Theory

The limitation of EUT is that it represents rational choices, and in particular, not taking into account the impacts of psychological factors (for example, anxieties and worry) associated with random choices or expertise and/or other efforts that might be needed for making optimal selection (de Haen, *et al* 2011).

It is assumed that an individual will completely optimize his or her decisions regardless of the importance and any difficulty associated with making such decisions or cost that he or she is likely to encounter in the process (de Haen, *et al* 2011).

2.3 Empirical Review

2.3.1 The Nature of Coffee Agricultural Practices Which is Favorable and Growing in The Area

The study by Birhanu Tsegaye Sisay (2018), on Coffee Production and Climate Change in Ethiopia has sought to identify the type of coffee growing in Ethiopia due to weather pattern. The study found that Ethiopia is the center of origin and diversity of Arabica coffee. Arabica coffee is the most widely consumed, over 70% in volume of production and over 90% of traded value globally. 157,437 thousands of 60 kg bags coffees were produced in 2016 in the world, including 101,552 thousand bags of Arabica coffee. Ethiopia is the leading coffee producer in Africa, and the 5th in the world. Ethiopian coffee is known for its unique characteristics, aroma and flavor. Coffee production in Ethiopia recorded an average annual growth rate of 2.6% during the last 50 years, increasing to 3.6% since 1990. Ethiopia has also a strong domestic coffee consumption culture, which frequently accounts for over half of the production. Coffee is produced in Ethiopia under different production systems, i.e. forest, semi-forest, plantation and garden. The area of plantation and home garden coffee are increasing despite the decrease in forest and semi-forest coffee. Ethiopian coffee forest area is shrinking from time to time, largely due to increasing population, land use conflict, high deforestation, expansion of large-scale coffee and

tea farms, and other agricultural practices. Ethiopia has a wide range of coffee genetic diversity. Around 11,691 Arabica coffee germplasm accessions from different coffee growing areas throughout Ethiopia were collected and conserved ex-situ in field gene banks. The major challenges facing the coffee sector is the threat of coffee genetic erosion and various production constraints like disease and pest prevalence, replacement of coffee by other crops, coffee market price fluctuation. Concerning climate change, data from weather stations of Ethiopia showed that the mean annual temperature has increased by 1.3 °C between 1960 and 2006, at an average rate of 0.28 °C per decade, and by 0.3 °C per decade in the south western region. In addition, spring and summer rains have declined by 15–20% since the mid-1970s and late 2000s, in southern, south-western and south-eastern Ethiopia. The mean annual temperature of Ethiopia is projected to increase by 1.1–3.1 °C by the 2060s, and 1.5–5.1 °C by the 2090s. The study did not find that the contribution of Arabica at Ethiopian in making peoples livelihood benefits from production, such is the gap also the study will focus to discover.

The study by Khusnul et al (2021), on Analysis of the Effect of Several Types of Shade on the Productivity of Robusta Coffee in Indonesia, has sought to analyze the factors that influence the types of coffee shade plants so that they have an impact on the level of coffee productivity. The study found out that different types of shade plants have an effect on coffee productivity. The results of measurement of biotic and abiotic factors present in each shade mostly have different results. With different factor levels, it will affect coffee growth which will affect the number of coffee cherries produced so that each type of shade has a different amount of productivity. The study didn't find the contributions of Robusta at local communities in making the peoples livelihood benefits from the coffee production. The study will find another type of coffee that is Arabica, if it is practiced in the study area.

2.3.2 Challenges Facing the Production of Coffee

The study by Zack Guide and Chris Knudson (2020), on The Production of Vulnerability among Smallholder Coffee farmers in Jamaica has sought to identify the determinants of that vulnerability in the Blue Mountains of Jamaica and discuss how these determinants interact and have evolved. The study uses mixed methods

consisting of household surveys of 434 farmers, focus group discussions, key informant interviews, and archival research of coffee industry reports. The study found that vulnerability is manifest in low coffee harvests that result from the interacting stressors of climate variability, plant diseases, and market conditions. Using regression methods, the study shows that among the farmer resources, the ability to invest in agricultural inputs and tools as well as the elevation of the farm are importantly associated with production outcomes. The study did not find the strategies to reduce vulnerability need to be complex and multifaceted which make them difficult to implement, then the study will discover how to reduce risk of getting low yields caused by uncertainty of climate.

The study by M. Hillary and A. Beryle (2019), on Coffee a Production Challenges and Opportunities in Tanzania; The case study of Coffee Farmers in Iwindi, Msia and Lwati Village in Mbeya has sought to assess and provide a better understanding of the current production situation and available technologies and practices for enhancing coffee production in the region. The study found out that farmers were grow very old trees that were more than 20 years. The soils were found to have low levels of nutrients and organic matter. Soils are also acidic, a pH below 5.5. High prevalence of pests such as coffee berry and stem borers and diseases like coffee leaf rust, *Fusarium* spp., bacterial blight, and red blister were reported in the region. Poor agronomic practices involving intensive intercropping of coffee with trees, other food crops like banana, beans and using generally low tree densities per hectare was observed. Poor extension services due to unbalanced extension agent to farmer ratio (about 1:1800) were found to be one of the causes for poor adoption of best coffee agronomy. Lack of market information and low coffee prices were found to demoralize farmers as it leads to a low return on investment. When asked about their 'priority training and input support requirements', all farmers mentioned best coffee agronomy and fertilizer use training.

2.3.3 Market Flexibility and Accessibility among the Small Coffee Producers

The study by GidionNielD.Tan' (2020), on A Business-Model Approach on Strategic Flexibility of Firms in a Shifting Value Chain: The Case of Coffee Processors in Amadeo and Silang, Cavite, Philippines, has sought to examine their market position

amidst the changing industry landscape. The study found out that the different business models have different priorities in response to the value chain shifts. Upstream players react toward being efficient in their operations, whereas downstream players work to be responsive in capturing market value. This suggests tailor-fit enabler interventions for different models.

The study by David G. Muhando (2019), on Unlocking Institutional Constraints to Increase Coffee Production in Tanzania has sought to discuss the institutional constraints facing the coffee sector and capitalizing on available opportunities for increasing coffee production in Tanzania. The study found out that the agricultural policies advocated by the Tanzanian government for the cooperative societies and the coffee sector have not been stable.

2. 4. Research Knowledge Gap

Different studies conducted on the role of coffee production in different places around the world.

However, none of these studies failed to show how the export coffee market can raise the farmer's income and alleviate poverty. These studies have shown many different issues but this is the knowledge gap that this study was to explore the role of coffee production for improving people's livelihood in Uru East Ward, Moshi rural Tanzania and how small farmers can access export market to earn enough cash for improving their livelihood. In Tanzania, small-scale coffee growers lack real income and sometimes sell at very low prices to avoid losing the market altogether. Also, many studies failed to show how the cooperative union can benefit from coffee production, failed to find the best conclusion on how coffee producers are likely to be vulnerable in the challenging they are facing such as climate variability, pest and diseases and price fluctuation which it was a gap filled. Generally, the study was to explore the role of coffee production for improving people's livelihood in Uru East ward, Moshi Rural Tanzania.

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

This section describes the material and methodology which will be used in this study. It is organized into two sections. The first present the material this includes the description of the study area and rationale of the selection area. The second section describes the which include research design and sample used in the study.

3.1 Description of the Study Area

3.1.1 Location of the Study Area

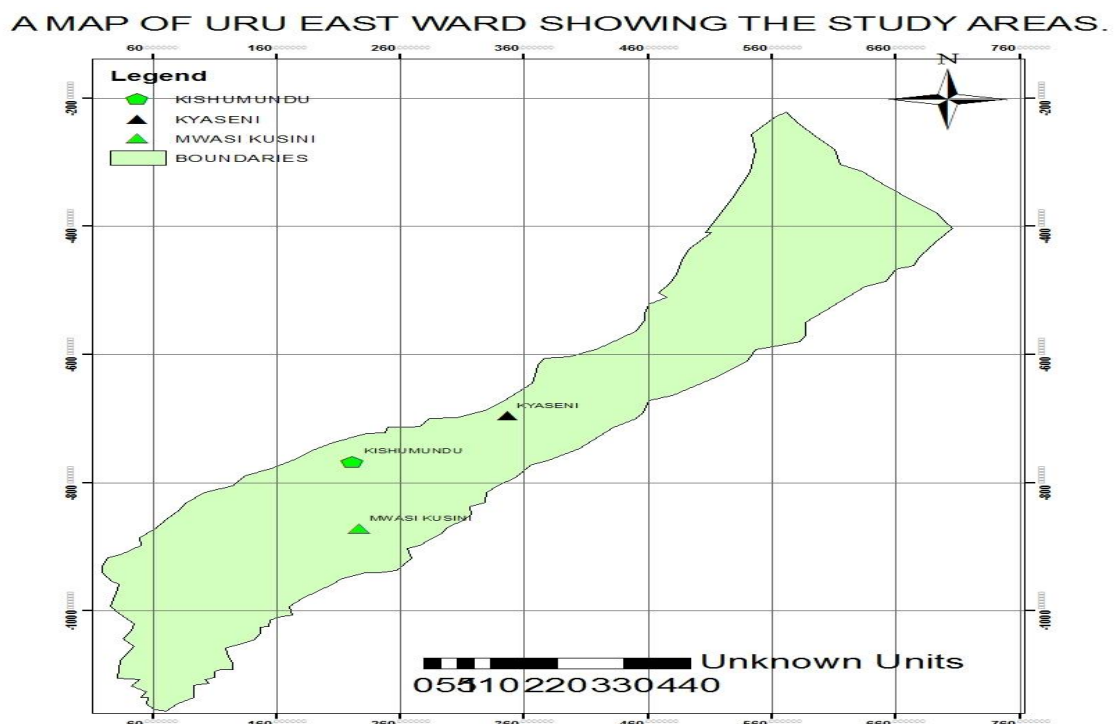


Figure 1.2 A Map Showing a Study Area (Researcher, 2026)

3.1.2 Demographic

Is a town and ward in the Moshi Rural district of the Kilimanjaro Region of Tanzania. Its population is 14,781 (census, 2012). The major ethnic group in the ward is Wachaga.

3.1.3 Climate

Uru East Ward has average daily temperature of 26°. The highest temperatures occur in the months of February, March, April, September October and November with

mean maximum temperatures around 31 °C. The lowest temperatures are experienced in June, July, December and January experienced at about 15°C. The mean annual rainfall is 1520 mm (MDC, 2012). The area is characterized by bimodal rainfall patterns, where short rains fall between November and December the highlands, while long rains fall between March and May with the peak in April. Temperatures are also moderated by altitude (MDC, 2013).

3.1.4 Soil

The soils of the region vary; there are alluvial soils which are potential agriculturally through irrigation farming due to unreliability of rainfall in those areas.

3.1.5 Drainage

The drainage is a main chain of mountains running from North-North West to South-South East with land sloping away to a minimum height of 305m above sea level on either side. The snowcapped Mount Kilimanjaro provides an endless supply of water to the lower slopes along numerous streams. Most of the rivers in this region cut out after running into the plains, Ruvu (Pangani) river and Kikuletwa river gather water from the upper streams and keep flowing even in the dry season. Both rivers join together at some point, approximately 38 kilometers south of Moshi municipality, forming a large artificial lake called Nyumba ya Mungu extending about 6 kilometers from north to south. The water discharged from the dam, forms Pangani river, which turns around and flows southward in the neighborhood of Mkomazi at the southern tip of South Pare Mountain system forming the largest water system in this region (Kilimanjaro region profile).

3.1.6 Rationale of the Selection Area

Uru East Ward was selected due to the following reasons: crop cultivation was the major economic activities in the area with 85 percent are smallholder farmers who depend largely on crop production as their main livelihood activity (MDC, 2012). From 1960 to 1990, the area was among ward that were self-sufficient in terms of food production and cash crop production in the country (MDC, 2010). However, from 1990s to 2000s, coffee production failed as well as dropped from 4,051 tons

to 1, 200 tons, (MDC, 2016). The study area experienced variation in coffee production, temperatures and rainfall.

3.2. Research Design

According to Green and Tall (1993), Research design is defined as an overall operation pattern or framework of the project that stimulate about information to be collected from source and research procedures. There are six types of research design including cross section, survey research, case study research, longitudinal research, archival research, experimental research design. I expect to use survey research design so as to know the role of coffee production for improving people's livelihood in Uru East Ward. This survey research design is used because it involves both qualitative and quantitative data, also it was because survey research design is simple, cheap and it use short time.

3.3 Target Population

The targeted population was local community (households), village officers and ward executive officers. The was provided the relevance information to the leading the realism for researcher finds.

3.4 Sample and Sampling Techniques

3.4.1 Sampling Frame

A sampling frame was the set of source materials from which the sample has to be selected for research (Turner, 2003). The sampling frame for participants in this study will involve household heads in the selected villages from the wards. The sample also involved Village Executive Officers (VEOs) and Ward Executive Officer (WEO) from selected villages and ward, respectively.

3.4.3 Sampling Size

A sample is defined by Slovin's (1960) as a small group of respondents drawn from a population of interest to a researcher in order to gain information and draw conclusion. The Slovin's formula was applied when the area of the targeted population is determined.

Slovin's formula is written as:

$$n = \frac{N}{1 + N(e)^2}$$

Where n = Number of samples, N = Total population and e = Confidence level

N=147381

e=90 (100-90=10)

Significance=10% where 10 divide by 100 which is equal to 0.01

$14781 / 1 + (14781) \times 0.01 \times 0.01$

$= 147.81 / 1 + 147.81$

$= 14781 / 148.81$

$= 99.32$

Therefore n= 100

n $\approx$ 100, since there is no 0.32 person in a study,

Therefore, according to that, the distribution will be as follows.

Villages	Village chairmen	Village executive officer(s)	Ward executive officer (s)	Normal individuals
Kishumundu	1	1		31
Mwasi Kusini	1	1		31
Kyaseni	1	1		31
TOTAL	3	3	1	93

Thus, this study employed sample size of 100 respondents, More, specifically the population of the study accounts for 93 people of local communities who are involved in the study specifically 31 from Kishumundu 31 from Mwasikusini and 31

from Kyaseni. Furthermore, one (1) ward executive officer of Uru East Ward, then 3 village executive officers and villages chairmen.

3.4.2 Sampling Procedures

Sampling refers to the process of selecting a number of individuals or objects from a population such that the selected group contains elements that can be found in the entire population (Orodho and Kombo, 2002). The process involves selection of sample size from sampling frame

3.4.2.1 Sampling of Ward

In sampling ward purposive sampling was used. The researcher identified wards of Moshi rural which most perform coffee agricultural practices and pick one ward which was used study area

3.4.2.2 Sampling of Villages

Simple random sampling was used to sample 3 villages to be used in the study. The researcher will list on pieces of paper all villages in sampled ward and then put them in a box and mix thoroughly. Therefore, researcher was picking three pieces of paper from the box. The names of the villages in the pieces of paper were used a study area during data collection.

3.4.2.2 Sampling of Small Farmers

Stratified random sampling was used to sample farmers from three villages. The researcher used small group of farmers in Uru Eastward who may have knowledge and formal opinion on coffee production in the area for that period at least 20 years, such was help respondents to have experience on coffee production in the area.

3.4.2.3 Sampling of Key Informants

Key format was sampled using purposive sampling. The researcher was purposive sample key informants basing on the on the knowledge, experience and awareness of the study problem in the study area. These key informants included the ward executive officer (WEO) and Village executive officer (VEO).

3.5 Description of Data Collection Techniques

The study used both Qualitative and Quantitative methods for data collection, where by both methods based on primary and secondary sources for data acquisition by direct field visit and literature reviews. As far as Qualitative methods were provided descriptions and oral evidence from the Respondents, While, Quantitative methods were constituted numerical data for the results analysis. The main Instrument for data collection in this Study was Questionnaire, consisting of both closed and open-ended Questions administered to the respondents, Moreover, the Interviews, Direct observations and Documentary Reviews was used as another tools in addition to the Questionnaires, there by this process of using more than One tool was known as Triangulation as narrated by Kothari (2009), and Cohan and Manion (2004).

3.5.1 Questionnaires for Smallholders Farmers

The study used a set of printed questions that was prepared to ask and collect answers from different respondents relating to the role of coffee production for improving people's livelihood in Uru East Ward. These questions were administered in collection of information from local people, ward executive officer and villages' chairmen pertaining to the role of coffee production for improving people's livelihood in Uru East Ward, Tanzania.

3.5.2 Interviews for Ward Officers

The study employed simple interviews, which was based on the Conversation between two or more people, where questions was asked by the interviewer and answered by the interviewee such as villages chairmen, ward executive officers and village executive officers , and thus they were delivered their Knowledge and perceptions on the coffee since it has been established and also how do they think on the case of improving peoples livelihood under the presence of coffee production in Uru East-ward

3.5.3 Direct Observations

This involved direct using of personal skills and capabilities in observing the phenomena in their natural setting. Thus, the study also used this method for

collecting the Information's pertaining to the role of coffee production for improving people's livelihood enhancement in Uru East Ward, Tanzania. Graef et al (1990) and Byers (1996) argued that, direct Observation provides direct evidence for any situation rather than indirect information obtained from reports, that's why this study employed this method in addition to the main questionnaire method.

3.5.4 Documentary Review

Documentary review helped the researcher to get relevant information from the primary sources for the analysis of the study. The primary document was obtained from the Village offices concerning about coffee agricultural practices in the study area in order to identify the possible solution for improving coffee agricultural practices and also how coffee production on improving livelihood of the small farmers in Uru East Ward. The secondary reviewed was books, journals, reports and written papers obtained from the library.

3.6 Description of data Processing and Analysis

The results of the data collection from this study were processed and analyzed through using a scientific tool called Statistical Product for Social Services (SPSS), That was a computer assisted tool for data analysis through Coding of the information's that are found in the questionnaires and its reflection from responses of the respondents on those Questions

3.7 Validity and Reliability of the Instrument

The validity of research instrument during this study was achieved through the use of the methodological triangulation which helped to rule out contradictory statement in the instruments furthermore, these were pre-test during a pilot-testing study with 6 respondents in Uru East Ward, hence further improvement.

Beside the researcher was increased the reliability of data by establishing a report with respondents through clear explanation but the purpose of the study and ensuring them that the information they provided was treated with complete confidentiality. In addition to that the researchers used follow-up question wherever were needed for clarification from the respondents.

3.8 Ethical Consideration

The issue of ethics was a cross-cutting issue and should be emphasized. This work was a reflection of the completion of Bachelor's Degree in Agriculture, Earth and Environmental Sciences, so the researcher should adhere ethical issues and respect to make sure that there is no any obstacles to hinder him/her from awarded the degree certificate.

First, the laws and regulations of the area followed step by step, secondly the customs of the people of the area was followed to ensure free interaction with them, thirdly the issue of dress was also important when you are in the field data collection, fourth the violence and insults language was prohibited not allowed in the field area and fifth researcher should be neutral when conducting field data collection in an area. Therefore, consistently the study adheres the above ethics issues so to come up with a meaningful conclusion

PRESENTATION AND DISCUSSION OF THE FINDINGS

4.0 Introduction

This chapter presents the findings of the data collected from the field, as it covers the analysis, presentation, and interpretation and discussion of the data collected through questionnaires from the study area Uru East Ward based on role of coffee production for improving people's livelihood in Uru East Ward Moshi rural - Tanzania. The first section comprises of demographic background information of the respondent, second section comprise of the types of coffee favorable and grow in the study area, third section comprise the challenges facing the production of coffee in the study area and the fourth section comprise the market flexibility and accessibility among the small coffee producers in the study area.

4.1 Demographic Background Information of the Respondents

Demographic background information of the respondents included, gender, age, marital status and their educational levels.

4.1.1 Gender of the Respondents

Results showed that, regarding gender 54% were males and 46% were females. This implies that in Chagga people land ownership and land tenure is under men than women. This summarized in Table (4.1).

4.1.2 Age of the Respondents

Regarding the respondents age, findings showed that from 10 to 29 years of the respondents were 39%, from 30 to 49 years of age were 50% and from 50 and above were 11%. The respondents of 30 to 49 ages where the majorities were questioned because this class age are the one having experience of coffee production in the study area. This is summarized in the Table (4.1).

4.1.3 Marital Status of the Respondents

Findings from this study showed that, regarding marital status, the widows were 8%, the singles were 37% and married were 55%. Marital status of the respondents implies their age were the married where majority as their age above resemble. This is summarized in Table (4.1).

4.1.4 Educational Level of the Respondents

Respondents educational level; secondary level were 38%, primary education were 29% diploma 18%, graduate 23%, postgraduate 2% and none of PhD. This is summarized in (Table 4.1).

Table 4.1 Showing Demographic Background Information of the Respondents

Statement		Frequency	Percentage (%)
Gender	Male	54	54.0%
	Female	46	46.0%
Age	10 to 29	39	39.0%
	30 to 49	50	50.0%
	50 and above	11	11.0%
Marital Status	Single	37	37.0%
	Married	55	55.0%
	Widowed	8	8.0%

Educational level	Primary education	29	29.0%
	Secondary education	38	38.0%
	Diploma	18	18.0%
	Graduate	13	13.0%
	Postgraduate	2	2.0%
	PhD	0	0.0%

Source: Field Survey, (2022).

In the table above there were majority of males respondents who were questioned compared with females' respondents. This is because the questions were distributed to the males' respondents because males were seemed to have access to coffee production more than females. Also, majority of females who questioned they were so afraid about their confidentiality to be exposed into public, so they refused to fill the questions given.

In the case of age, majority of respondents of 30 to 49 years were questioned and this is because majority of the respondents of this age are the class who experienced and knew much about coffee production and having the experience of coffee agriculture as shown in that table above.

4.2 Nature of Coffee Favorable to Grow in the Study Area

Introduction it consists type of coffee, importance of coffee in the study area.

4.2.1 Importance of coffee agricultural production

The finds show that the importance of coffee production in the community, help the development of infrastructure, it led the rise of living standard, employment opportunities, increase the government revenue, sources of income, development of agricultural activities

4.2.2 Type of Coffee Favorable to Grow in the Study Area

The type of coffee grown in abundance in Uru East Ward is Arabica with 78% as shown in the table below. Only the minority of respondents mentioned Robusta and Liberica as each type had 11% each, see the (Pie Chart 1).

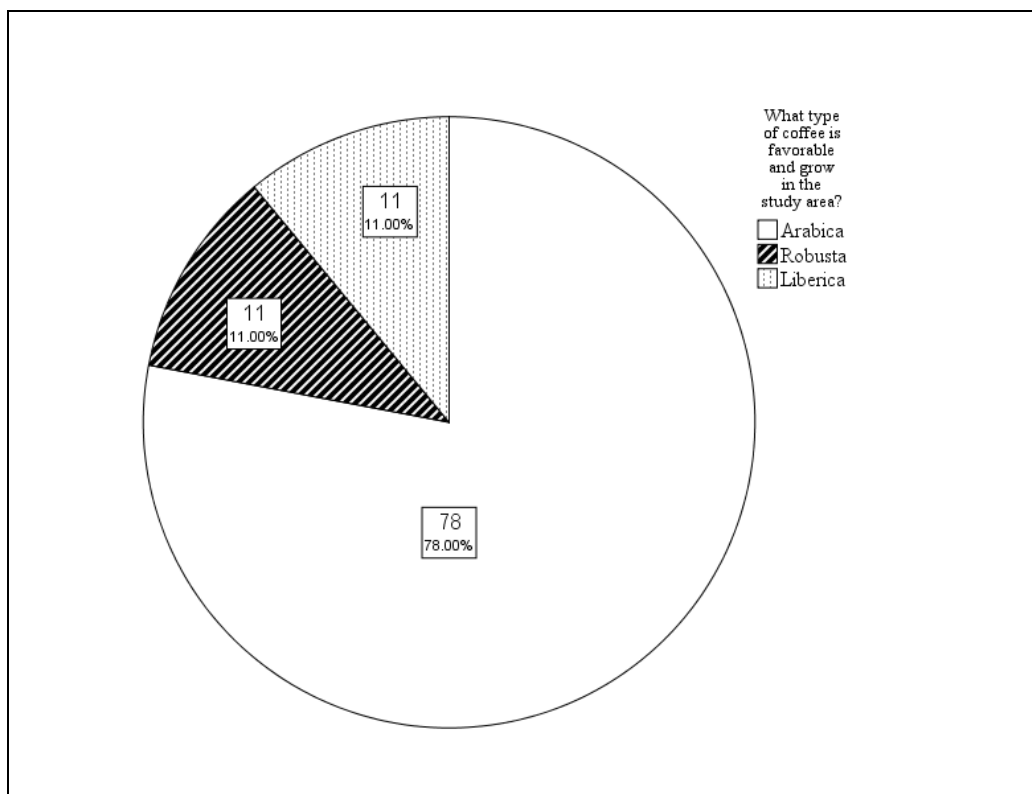


Figure 4. 1: Type of Coffee Growing in the Study Area

Source: Field Survey (2026).

Arabica is the most coffee type that grown in almost whole Africa even in Tanzania (B. T. Sisay 2018). Even the study findings found in Uru East Ward the main type of coffee grown is Arabica as shown by the above Pie Chart. Arabica coffee is the most widely consumed, over 70% in volume of production and over 90% of traded value globally. 157,437 thousands of 60 kg bags coffees were produced in 2016 in the world, including 101,552 thousand bags of Arabica coffee (Stanciu and Simona Dobrinias, 2008). Optimal coffee growing conditions include cool to warm tropical climates, rich soils, and few pests and diseases. Arabica coffees optimal temperature range is 64°C to 70°C (18 to 21°C). It can tolerate mean annual temperatures up to roughly 73F(24C). Also, coffee grows well on fertile and well drained loamy soil. Though rainfall is distributed throughout the year, there should be one long dry season so that the coffee can ripen. Coffee also needs abundant rainfall that is 100cm to 200cm annually. The hill slopes which receive Orographic rainfall are thus best for coffee cultivation. Direct sunlight is harmful for coffee plants; therefore, these are planted under shade of taller trees such as bananas. Also, coffee is growing on slopes having height between 600 to 1800 meters. The suitability of slopes for

coffee is because these are well-drained and also cooler. Water stagnation is very harmful for coffee plants; therefore, hill slopes are best suitable. Soil is the guiding actor in coffee plantation. The ideal soil is one with a good subsurface drainage, and one that is easily workable. The presence of humus and other nitrogenous matter in the soil is an advantage (Stanciu and SimonaDobrin2008).



Figure 4.2 Example of coffee production

Source of data, Field study 2022

Furthermore, the researcher interviewed the one among the coffee producer's experts about the type of coffee growing in the study area.

Box 4.1 Narration from one of coffee experts about coffee growing in the study area

"The main type of coffee growing in this area is Arabica. Arabica is a main coffee type growing in great extent in Uru East ward. This is because of the nature of the soil in Uru East ward, the climate condition, landscape topography and the coffee type also is more resistance from diseases. Other types of coffee such as Liberica and Robusta are not available in Uru East Ward."

Sources: Field Study (2026)

4.3 Challenges Facing Coffee Production

During data collection the researcher questioned the respondents on challenges facing coffee production. Items one questioned about climate variability and 41% strongly agreed, 35% agreed, 12% disagreed and 5% strongly disagreed. Item two questioned the respondents about pest and diseases, 10% disagreed, 55% agreed, 28% strongly agreed and none strongly disagreed. Then item three questioned on poor soil topography, 34% disagreed, 40% agreed, 4% strongly disagreed and 15% strongly agreed. Item four; poor local technology, 44% agreed, 8% disagreed, 0% strongly disagreed and 42% strongly agreed. Item five; poor government support, none strongly disagreed, 8% disagreed, 38% agreed and 47% strongly agreed. The findings summarized in the Table 4.2.

Table 4.2 Challenges Facing Coffee Production

	Strongly agree		Agree		Disagree		Strongly disagree		Total	
	F	%	F	%	F	%	F	%	F	%
Climate variability	41	41.0	36	36.0	15	15.0	8	8.0	100	100.0
Pest and diseases	29	29.0	57	57.0	12	12.0	2	2.0	100	100.0
Poor soil topography	15	15.0	43	43.0	36	36.0	6	6.0	100	100.0
Poor local technology	42	42.0	47	47.0	9	9.0	2	2.0	100	100.0
Poor government support	47	47.0	40	40.0	9	9.0	4	4.0	100	100.0
Price fluctuation	62	62.0	30	30.0	6	6.0	2	2.0	100	100.0

Source: Field Survey (2026).

The study findings showed that the majority of the respondents were aware about the effects of climate variability as a challenging facing coffee production. The great number of them argued about the statement. This is real due to the reality that the problem of climate variability is facing the study area as well as the whole region

(Temba P. Mbilinyi D. et al 2018). Therefore table 4.3 show the mean score of 1.8 which approximately to 2 that indicates majority of the respondents agreed that the following are the main challenges facing coffee production in the study area which are climate variability, pest and diseases, poor soil topography, poor local technology, poor government support and price fluctuation as it is shown in the mean score table (4.3).

Table 4.3 Mean Score Table

	N	Mean
Average	100	1.8317
Valid N	100	

Source: Field Survey (2026)

4.3.1 Pests and diseases

Also, diseases seemed to effects coffee production in the study area. Majority of the respondents argued about the statement. Pests and diseases became the serious problem of coffee production. The input to end diseases on coffee is really high, and the local people of the study area didn't afford the price of the input.



Figure 4.3: Coffee productio affected with pest and diseases
Source of Data: Field Study (2026)

4.3.2 Poor Soil Topography

Soil as another factor asked, the respondents were aware that infertility land also is the challenge facing coffee production in the study area. The land is poor in coffee growing nutrients since the production areas started since colonial era, so the land virginity disappeared then as the challenge to hinder coffee production (M. Hillary and A. Beryle, 2019).

4.3.3 Poor Local Technology

Local technology is another challenge of coffee. Coffee production in Tanzania is used the local technology to compared with other production. So that the government of Tanzania enhances the development of technology like other production.

4.3.4 Poor Government Support

The same as government support. The respondents argued that there is no government support on small scale coffee producers. Since then, the government had little motivation to empower the coffee producers in the study area in term of giving grants, subsidies and loan to the people.

4.3.5 Price Fluctuation

Price also is another challenge. Coffee market in Tanzania is the dormant market compared to other products market. This is why there is price discrimination and price fluctuations day to day place to place.

The interview was done to the ward agricultural officer and he agreed that the main challenges facing coffee production in the study area were mainly climate variability, low government support and pests and diseases. Here are his words:

Box 4. 2, narration from Ward agricultural Officer about challenges facing coffee in the study area

“Our land in the previous years had stable and friendly agriculture climate. The rain-fed and rainy seasons were enough throughout the year. But we have experienced the changes since 2010 whereby the region experienced low rainfall fed, extreme high temperature and sometimes the occurrence of the locusts that used to feed on crops.”

Sources of Data: Field Study (2026)

4.3. Market Flexibility and Accessibility among the Small Coffee Producers

Findings indicated that majority (56.0%) of respondents reported that there was accessible market flexibility from production area, which made them to cultivate coffee due to the presence of rainfall. Few respondents (6.0%) noted that they are not sure of market flexibility from production areas. Also, majority (61.0%) of respondents reported that there is accessibility of market flexibility from rural to urban, while few (5.0%) pointed out that they do not know market flexibility from rural to urban (Table 2). Moreover, findings revealed that majority (58.0%) of respondents noted that there was accessibility of market flexibility in production because of avoiding taxes (Table2). Besides, (45.0%) of the respondents noted that they are not sure of market flexibility in foreign market, while the rest (9.9%) noted that they do not know if there is market flexibility in foreign market (Table 2).Also majority (46.0%) of respondents reported that there was accessibility of market flexibility in local market while few (3.0) of respondents they do not know if there is market flexibility in local market (Table 4.4).

Table 4.4. Market Flexibility and Accessibility among the small coffee producers

	Much accessible		Accessible		Not sure		I don't know		Total	
	F	%	F	%	F	%	F	%	F	%
From production areas	31	31.0	56	56.0	6	6.0	7	7.0	100	100.0
From rural to urban	24	24.0	61	61.0	10	10.0	5	5.0	100	100.0
In production areas	17	17.0	58	58.0	19	19.0	6	6.0	100	100.0
Foreign market	14	14.0	32	32.0	45	45.0	9	9.0	100	100.0
Local market	39	39.0	46	46.0	12	12.0	3	3.0	100	100.0

Source: Field Survey (2026).

The findings found that the market of coffee from the study area is much accessible.

This is because the respondents were asked why; they said there are private buyers

come to purchase the coffee from the local producers in Uru East Ward. Only the minorities were not sure and others few said they don't know. Also, the respondent's majority of them said that, there is much accessible market of coffee from urban areas. The big companies found in urban areas and used to buy large amount of coffee since there is much consumption of it. This is possible because the local market is narrow in rural areas so, the producers used to transport coffee to town easy and with affordable fee (Didion Niel D. Tan, 2020). Therefore table 4.4 show the mean score of 2.0 majority of the respondents report that there is market accessibility from production areas, rural to urban, foreign market and local market as it is shown in the mean score table (4.4).

Table 4.5. mean score

	N	Mean
Average	100	2.0620
Valid N	100	

Source: Field Survey (2026)

The foreign market means export market its not much accessible by the local producers in Uru East. This is simply because the large producers of coffee in Kilimanjaro such as Kibo Plantation Ltd (KPL) and Machari Estate Organic Coffee Plantation frequently used to purchase the local people coffee to export together with theirs. Export market is simply not accessible by the local producers, export market need cost to access, needs higher quantity of products and also needs large networking between the producer and consumer (David G. Muhando, 2019). The respondents said the market is accessible but not such much extent. The consumer in the country demand coffee but in small extent and this is because coffee has its substitute product such is tea, where many people consume tea much than coffee because of price; coffee is pretty expensive compare to tea (Wolfgang Bokelmann et al., 2019).

The ward executive officer was interviewed concerning market availability of coffee in the study area. Here are his words;

Box 4. 3, Narration from WEO about market of coffee in study area

“The issue of market is very important in the case of coffee. What I can say is, there is the market of coffee. But international market is a problem since the small coffee growers not afford to transport coffee outside the country. But there are the companies in Moshi used to buy coffee in the early stage, but the price is down because raw coffee needs much possess.

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