

The Effects of Customary Land Tenure System on Agricultural Productivity in Ngora District

¹Simon Peter Opolot, ²Dr Abeera Odetha Katuramu.

¹PhD Postgraduate Kampala International University, Kampala Uganda

²Senior Lecturer of International Relations & Diplomacy, Department of Political & Administrative Studies - Kampala International University, Kampala Uganda.

ABSTRACT: This study aimed to investigate the effects of customary land tenure systems on Agricultural Productivity in Ngora District, Uganda, with the goal of identifying strategies and potential reforms to improve productivity. By examining customary systems, this research provides valuable insights for refining policies and practices to benefit the agricultural sector, residents, and the overall economy. The study was conducted in a district with three operational land ownership systems that lacked clarity, which resulted in frequent disputes and restricted the implementation of modern farming techniques. The study utilized a mixed-methods research design, combining quantitative and qualitative data collection and analysis, to comprehensively evaluate the effects and impactfulness of customary land tenure systems on agricultural productivity. Coding techniques, statistical measures, and analytical tools were used to systematically analyze the data and uncover patterns, themes, and relationships between the variables. The study achieved a high response rate, with 92% in-depth interview and 99.3% quantitative component participation. A larger proportion of male respondents (71% in expert group, 63% in larger sample) indicated a higher representation of males in both groups. This study comprehensively evaluates customary, land tenure systems in promoting agricultural productivity in Ngora district, revealing the crucial role of secure land tenure in addressing poverty and food insecurity. To improve agriculture in the district, sustainable practices and crop diversification should be adopted, while central and local governments collaborate to secure and protect customary land rights.

KEYWORDS : Customary, Freehold, Leasehold, Agricultural productivity.

I. INTRODUCTION

Globally, the use of land for agricultural production began when people transitioned from nomadic hunter-gatherer lifestyles to permanent communities and farming, such as agro-silvo-pastoralism. In partially forested areas, agrosilvo-pastoralism combined agricultural production with livestock and crop husbandry (Dabara, Skutsch, & Mutsambi, 2019; Klein & Viola, 2019). This strategy gradually evolved because of the need to increase yield on a small amount of land. Although agro-silvo-pastoralism has a number of advantages, including increased resilience to climate change, improved soil fertility and water retention, and increased biodiversity and wildlife habitat (Klein & Viola, 2019), it had a minimal effect on agricultural productivity under those conditions (Jacobsen, 2019). In developed countries like the United Kingdom (UK) and the United States of America (USA), land tenure systems are based on private property rights and secure land ownership (Besley & Ghatak, 2012; Deininger & Gershon, 1995; Galiani & Sened, 2012). Private property rights in land are the legal rights of people or groups to own, use, and sell land (Galiani & Sened, 2012; V. L. Smith, 2006). Unlike the land tenure systems in developed nations, which are generally straightforward, African countries typically feature complex systems that blend customary, statutory, and communal land ownership. This arrangement entails communal ownership and traditional land management, where land access is governed by customary law and overseen by traditional authorities (International Land Coalition, 2020; Migot-Adholla, 1991; Peters, 2006; United Nations, 2016). While communal land ownership promotes communalism and social cohesion, it has posed challenges for agricultural productivity, as land is often held and managed collectively, making it difficult for individual farmers to have secure rights over their land. In countries like Ghana, Nigeria, Zambia, and Zimbabwe, this has led to low agricultural productivity and limited access to credit, as land cannot be used as collateral (Akinola, 2000; Jayakody, 2011; Kellow, 1975; Moyo, 2011; Owusu, 2018). The land tenure systems in Kenya and Tanzania are complex frameworks that encompass historical remnants of colonialism. It is characterized by a dual system of statutory and customary land ownership, which has deep roots in the customs and traditions of the local communities (Chowdhury & Kostner, 2008; Kisanga, 2005; Ridge, 2013; Wanyeki, 2002).

Before the arrival of Europeans, the traditional land tenure system in Uganda was communal and based on customary law. Land was owned collectively by clans and managed by clan leaders. This system was characterized by flexible land-use rights and communal ownership, where land was not bought or sold but allocated and redistributed within the community. The main purposes of land use were subsistence farming, grazing, and hunting (Barrows & Kisamba-Mugerwa, 1989; Byaruhanga, 1999; Goldsmith, 2006; Owaraga, 1997). Under President Museveni's rule, the NRM government introduced the 1995 Constitution (GoU, 1995) and Land Act of 1998 (GoU, 1998). The Constitution and the Land Act of 1998 define how land rights are to be distributed, vest all land in the people of Uganda, and change the Uganda Land Commission's role from ultimate landowner to manager of only government-owned land. The Act aimed to address the issues of land tenure and ownership by recognizing four forms of land ownership: Customary, Mailo, freehold, and leasehold. It also established the District Land Boards (DLBs) and Land Tribunals (DLT) to oversee land registration and transfers, maintain records, and adjudicate land disputes (GoU, 2010a; Okuku, 2006). With the recent suspension of DLTs, land cases are now heard by Magistrates courts.

Ngora district, located in the eastern region of Uganda, is primarily governed by the customary land tenure system, where land is allocated by traditional authorities based on cultural and familial ties (Atwine & Okurut, 2014; Owor & Isabirye, 2016). In addition to this, freehold and leasehold land tenures are also practiced in the district. While these systems provide some structure for land ownership, the lack of proper documentation and frequent boundary disputes have created a sense of insecurity for farmers in terms of their land rights. As a result, this has hindered agricultural development and productivity in the district (Abila & Otim, 2017; Bigirwa, 2015; Sekabira et al., 2011). Contextually, Ngora district is a rural area located in the eastern region of Uganda, covering an area of approximately 1,000 square kilometers. It is home to a population of over 260,000 people, with the majority being subsistence farmers. The district is characterized by rolling hills, fertile land, and a subtropical climate, making it suitable for agriculture. However, despite its agricultural potential, the district faces significant challenges in terms of land tenure systems and low agricultural productivity (MAAIF, 2018; Ngora District, 2020b; UBOS, 2020c). The traditional land tenure system in Ngora district is based on customary practices, with land being owned communally by clans and families. This system has been in place for generations and has been a source of conflict and disputes over land ownership. With the increasing population and pressure on land, there have been frequent cases of land grabbing, encroachment, and conflicting land claims, leading to land insecurity and disruption of agricultural activities. Furthermore, the lack of clear land ownership rights and documentation has hindered access to credit and investment in the agricultural sector. This has limited the adoption of modern farming techniques, resulting in low productivity and food insecurity in the district. Additionally, the gender disparities in land ownership and control have also contributed to the marginalization of women in agriculture, as they often have limited access to land for farming.

II. LITERATURE REVIEW

2.1.1. Theoretical Framework

The Evolutionary Theory of Land Rights (ETLR), the leading conceptual framework for studying changes in land ownership, originated from the evolutionary theory of property rights put forth by Harold Demsetz in his work published in 1967. Demsetz originally conjectured that property rights adapt to shifting economic conditions and incentives, arguing that property rights are neither predetermined nor static, but rather are continuously adapted to achieve maximum efficiency and socio-economic benefit (Demsetz, 1967; Long, 1996). According to ETLR, as resources become scarcer and consequently more valuable, acquiring formal property rights becomes more advantageous. These rights are bundled and include access rights, usage rights, and transfer rights. Rural Accessibility Theory of Agricultural Productivity (RATAP) developed and published in 1985 by Adekunle Folayan, holds that rural areas are more productive when they have access to services and infrastructure (Folayan, 1985). RATAP proposes that rural areas can become more productive and prosperous by enhancing their roads, communication systems, and other infrastructure. By this, the theory implies that rural areas will be less productive the less accessible they are. Through improved access to markets, inputs, and credit, rural farmers will be able to increase their yield and income, according to the theory. This theory has been used to explain differences in agricultural productivity between urban and rural areas and to emphasize the significance of rural infrastructure development.

2.1.2 Customary Land Tenure System and Agricultural Productivity

The customary tenure system is rooted in cultural values and traditions and typically define ownership and use rights of land, forests, and other natural resources held in common by local communities. Customary tenure considered the most secure form of tenure for local communities, protecting their access and rights to resources and enabling them to manage resources in a sustainable and equitable manner. They have also been found to provide greater security and stability than individual tenure systems and to be more effective at protecting access to resources and reducing poverty (Keith et al., 2008; Kumar & Singh, 2010; Mazzocchi, 2006; Odong,

2012). Nonetheless, the customary land tenure system is susceptible to population shifts, external pressures, and legal and political processes. Expansion of the private sector and other forms of external investment, for instance, can result in land grabs and a loss of control for local communities. In addition, population changes, such as migration or natural disasters, can lead to displacement, a breakdown of the collective system, and potential conflicts (Borras, Hall, Scoones, & White, 2012; Gómez, 2015; Rahman & Rahman, 2015). To protect the rights of local communities, governments should respect and uphold customary and collective tenure systems. This includes providing legal recognition of traditional tenure systems and ensuring that any external investment or development is negotiated with the local community and respects their rights. Governments should also support traditional resource management practices, provide access to resources, and ensure that the local community benefits from any development activity. Governments should also ensure that natural resources are managed sustainably and that local communities are consulted in decision-making processes.

2.1.3 Research Gaps

Despite efforts to introduce different land tenure systems in Ngora district, there has been conflicting and inconclusive empirical evidence regarding the relationship between specific land tenure systems and agricultural productivity (Deininger & Binswanger, 1999; Reinikka & Mackinnon, 1999; World Bank, 2015a). The district operates under three tenure systems – customary, freehold, and leasehold – but this has not translated into increased productivity as anticipated. Challenges such as unclear land policies, dual land ownership, and fragmentation have resulted in limited access to credit and extension services, making it difficult for farmers to invest in modern farming techniques and inputs. Additionally, inadequate land ownership rights, erosion of customary land management practices, and high costs associated with acquiring land under freehold and leasehold systems have further hindered small-scale farmers' ability to improve productivity. Consequently, the district continues to face low crop yields, food insecurity, and high poverty rates. Thus, which of the three investigated land tenure systems (customary, freehold, or leasehold) has the greatest impact on agricultural productivity? The answer to this question is context-dependent. Depending on the particular economic, environmental, and social factors at play, different land tenure systems have varying effects on agricultural productivity. Some studies suggest that freehold tenure systems, in which individuals or corporations own land outright, can increase agricultural productivity (Dercon, Hoddinott, & Krishnan, 2001; Nkonya, Pender, & Aklilu, 2008)

III. METHODOLOGY

3.1.1. Philosophical Assumptions

The research study was grounded upon a set of philosophical assumptions, which served as the core beliefs and principles that influenced the perspective and approach used in collecting, analyzing, and interpreting the data. The study's philosophical assumptions included ontology, epistemology, axiology, and methodological considerations. They served as the foundation for the researcher's understanding and interpretation of the subject matter, guiding the choice of research methods and the overall direction of the study. By recognizing and incorporating these philosophical assumptions, the study was able to advance a more comprehensive and wellrounded understanding of the research topic.

3.1.2. Research Paradigm:

The research paradigm of this study is rooted in the pragmatist research philosophy. Pragmatism is a philosophical viewpoint that prioritizes the utilization of ideas, experience, and experimentation in practical situations (James, 1907b; Thayer-Bacon, 2003). Pragmatism is a philosophy that was founded on the belief that truth is derived from the results of practical experiments and applications, rather than theoretical principles. This school of thought prioritizes the practical consequences of an idea over its theoretical underpinnings. It functions as a useful approach for identifying and resolving matters in the most optimal and efficient way possible.

3.1.3. Research Design:

A mixed-methods research design was employed to examine the research problem and address the study's research questions. The research methodology integrated both quantitative and qualitative techniques for data collection and analysis, effectively addressing the research questions and meeting the objectives. The utilization of a mixed-methods approach proved to be advantageous as it facilitated a comprehensive examination of the research problem, thereby enhancing the understanding of the phenomenon under investigation (Creswell & Creswell, 2018; Johnson & Onwuegbuzie, 2004a). In order to assess the “effects” and “impactfulness” of customary, freehold, and leasehold land tenure systems on agricultural productivity, a study was conducted using a combination of household and experts surveys. These surveys gathered both quantitative and qualitative data, which was then utilized to assess various variables related to land tenure.

3.1.4. Sample Size

Cochran's sample size formula was used to determine the study's sample size (Cochran, 1997). First, an estimate of the sample size required for a population of unlimited size was calculated using the unlimited formula based on the researcher's own estimates of the z-score (his confidence level), population proportion, and margin of error. However, the number of farming households in Ngora district was limited to 21,391 (see Table 3.5.1 above). Therefore, the sample size estimate from the formula for an unlimited population was inserted into the formula for a finite population, as shown below. The unit of measurement for the survey portion of this study was the household. Thus, the size of the population of interest, 32,100 household units, was taken into account to provide a more accurate estimate of the study's sample size. Unlimited population sample size calculation:

$$n = \frac{1.96^2 * 0.50(1 - 0.50)}{0.05^2} \quad n = 385$$

Where:

n = the sample size.

z = the z-score, considered to be 1.96 for this study.

\hat{p} = the population proportion, 0.5 for this study.

ϵ = the margin of error (confidence interval), taken to be 0.05 for the study

Where:

z = 1.96 (based on a 5% margin of error. Data are assumed two-tailed (i.e., a margin of error of 2.5% on each end of a normal distribution curve), thus a value of 0.9750 was looked up within the z-score table). \hat{p} = 50% or 0.50 (this value is often pulled from previous research/ literature. If unsure, 50% will be used). ϵ = 5% or 0.05 (same value used to get the z-score estimate but provided as a decimal/ percentage). Finite population (32,100 households) sample size calculation:

$$n' = \frac{n}{1 + \frac{z^2 * \hat{p}(1 - \hat{p})}{\epsilon^2 * N}}$$

Where:

n = the sample size.

z = the z-score.

\hat{p} = the population proportion.

ϵ = the margin of error.

N = the population size.

$$n = \frac{z^2 * \hat{p}(1 - \hat{p})}{\epsilon^2}$$

$$n' = \frac{385}{1 + \frac{1.96^2 * 0.50(1-0.50)}{0.05^2 * 32,100}}$$

Sample Size, n :

3.1.3. Data Management

The researcher initiated the study with an introductory letter from the Faculty of Humanities and Social Sciences at Kampala International University, proceeding to the field for data collection using questionnaires and interview guides. Quantitative data exclusively derived from the questionnaires, which initially required structuring for meaningful interpretation. Raw data obtained was cleaned, sorted, and coded to facilitate organization and clarity. The coded data was then entered into a computer, verified, and subjected to statistical analysis using the Statistical Package for the Social Sciences (SPSS) software, enabling the generation of descriptive and inferential statistics.

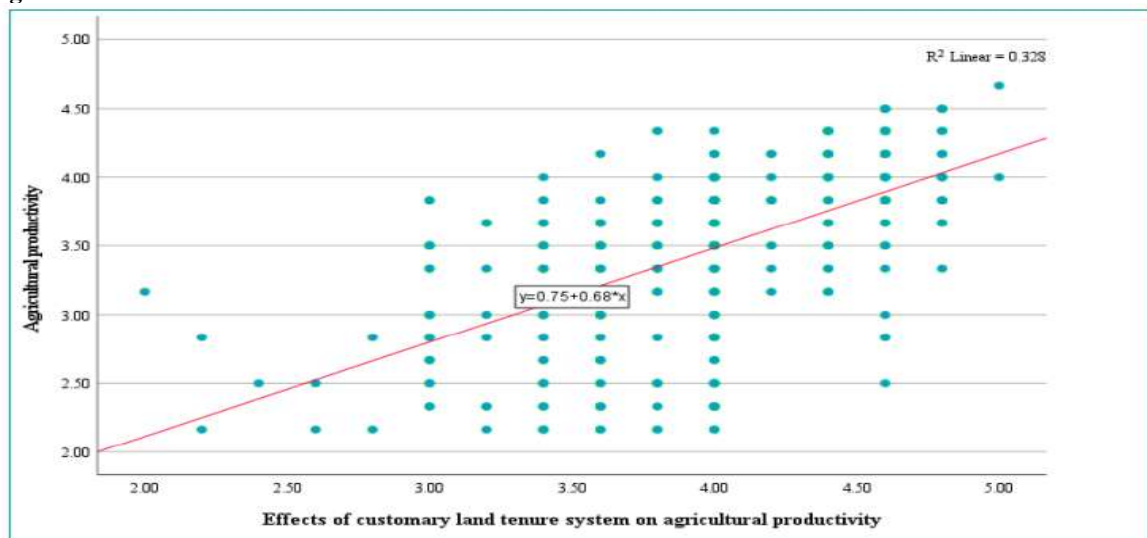
IV. RESULTS

4.1.1. Effects of Customary Land Tenure System on Agricultural Productivity

A quantitative and qualitative investigation was conducted to examine the effects of the customary land tenure system on agricultural productivity in Ngora district. The respondents contended that the customary land tenure system has historically been the predominant form of land ownership in Ngora district, in contrast to the more contemporary freehold and leasehold systems that were introduced through land reforms enacted by the 1998 Land Act and the 1995 Constitution. The system comprises a diverse array of social and cultural traditions that have been inherited across generations. These traditions serve as the governing principles for the ownership, access, and management of land within the district. The customary land tenure system in Ngora District has been crucial to the agricultural output of the district, enabling majority of locals to access land for food crop cultivation, thereby contributing to local food security and livelihoods. It has also facilitated access to land for livestock production, which has resulted in the production of sustenance items such as milk and eggs, as well as activities that generate income by commercializing livestock production. In addition, the customary land tenure system in Ngora has enabled farmers to have some control and autonomy over land and resource management governance decision-making processes.

The scatter plot depicting the effects of the customary land tenure system on agricultural productivity is shown in Figure 4.5.3.1a below, with an R² linear of 0.328. The level of the effects of customary land tenure is represented by the X-axis, with higher values indicating a greater degree of customary land tenure effects. The Y-axis depicts agricultural productivity, with higher values indicating higher levels of productivity. Upon initial examination, it becomes evident that there is a general tendency of rising agricultural productivity as the amount of customary land tenure rises. This implies that, agricultural productivity and customary land tenure may be positively correlated, at least in Ngora district.

Figure 4.5.3.1: Scatter Plot of Customary Land Tenure System Effects on Agricultural Productivity in Ngora District



Source: Primary data for the present study (2023), analyzed using SPSS version 28.0.0.0(190).

However, there are certain data points that do not follow this trend, indicating that other factors may be at work. It is therefore critical to highlight that this plot does not demonstrate total causality, and further analysis would be required to determine the nature of the link between these variables. It is also possible that additional variables that are not reflected in this plot may have an impact on agricultural productivity. Although this scatter plot analysis gives a useful visual picture of the probable relationship between customary land tenure and agricultural productivity, additional statistical elements are studied and evaluated below for a better understanding of this link. In comparison to the Pearson correlation values of the freehold and leasehold systems, which are .236 and .173 respectively (Table 4.5.3.1b below), the Pearson correlation value of the customary land tenure system and agricultural productivity is higher at .573. Although all three correlation values are positive, indicating a positive relationship between the three land tenure systems and agricultural productivity, the correlation between customary land tenure and agricultural productivity is stronger when compared to the freehold and leasehold systems. This occurrence could be explained by the prevalence of customary land tenure in Ngora district, which has been in use for a long time.

Table 4.5.3.1c: Liner Regression Model Summary: Effects of Customary Land Tenure System on Agricultural productivity in Ngora District

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|--|-------------------|-------------|-------------------|----------------------------|
| 1 | .573 ^a | .328 | .326 | .50812 |
| a. Independent Variable: (Constant), Effects of Customary Land Tenure System | | | | |

Source: Primary data for the preset study (2023, analyzed using SPSS version 28.0.0.0(190)).

The customary land tenure with the R-square value of 0.328 should be considered one of several potential determinants of agricultural productivity, and not the only or most significant determinant. As a result, although the R-square value may offer some insight into the correlation between customary land tenure and agricultural productivity, it is not the sole criterion for comprehending and enhancing agricultural productivity. Further analysis and consideration of the relative significance of additional factors, highlighted above, is imperative for the improving agricultural productivity in Ngora district. The ANOVA test findings, with the F value of 197.507 and significance of .001, shown on Table 4.5.3.1d, revealed that the customary land tenure has a significant effect on agricultural productivity in Ngora district.

Table 4.5.3.1d: ANOVA on Effects of Customary Land Tenure System Agricultural Productivity in Ngora District

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|--|------------|----------------|-----|-------------|----------------|-----------------------------|
| 1 | Regression | 50.994 | 1 | 50.994 | 197.507 | <.001^b |
| | Residual | 104.567 | 405 | .258 | | |
| | Total | 155.561 | 406 | | | |
| a. Dependent Variable: Agricultural Productivity | | | | | | |
| b. Independent Variable: (Constant), Effects of Customary Land Tenure System | | | | | | |

Source: Primary data for the preset study (2023, analyzed using SPSS version 28.0.0.0(190)).

The F value of 197.507 is statistically significant at .001 as it is less than .005. This suggests that the observed association between the customary land tenure and agricultural productivity is likely to hold in the population and can be generalized to the larger population. This finding also suggests that customary farmers – who, for most communities in Ngora district, own land as family units – have higher agricultural productivity than individual plot farmers, such as those with leasehold tenures (see Table 4.5.3.1e above). According to some respondents, this is due to the sense of ownership and desire to invest in the land that comes with the customary land tenure, which is family-owned. The unstandardized coefficients with beta values (Table 4.5.3.1e) were used to demonstrate the significance of customary land tenure as an independent variable in predicting agricultural productivity, the dependent variable. All other variables, including infrastructure, capital, land policy, and household size, were also controlled when calculating beta and its standard errors. Agriculture productivity, the dependent variable, was standardized, while the other factors stated were controlled for. Customary land tenure had a beta value of .684, indicating that it is a strong predictor of agricultural productivity. This indicates that as customary land tenure expands, so will agricultural productivity. Because the p-value is smaller than .05., this finding is statistically significant.

Table 4.5.3.1e: Beta Coefficients of Effects of Customary Land Tenure System on Agricultural Productivity in Ngora District

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--|---|-----------------------------|-------------|---------------------------|--------|-------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .746 | .193 | | 3.862 | <.001 |
| | Effects of Customary Land Tenure System | .684 | .049 | .573 | 14.054 | <.001 |
| a. Dependent Variable: Agricultural Productivity | | | | | | |

Source: Primary data for the preset study (2023), analyzed using SPSS version 28.0.0.0(190).

Controlling for other factors such as infrastructure, capital, land policy, and household size aids in determining the precise effects of customary land tenure on agricultural productivity. This ensures that other external influences do not alter the relationship between the two variables. The precision of the estimation is indicated by the standard error associated with the beta value, which is .049. The standard error is minimal in this situation, indicating that the beta value is a good assessment of the link between customary land tenure and agricultural productivity. Because customary land tenure has a beta value of .684 and is a strong predictor of agricultural productivity, it is critical for policymakers and researchers to recognize the effects of customary land tenure on agricultural productivity and take them into account when making land-related decisions.

Nevertheless, despite its benefits, the customary tenure system in Ngora has created numerous obstacles and impeded agricultural productivity in the district. The system is not legally binding, as it is not properly recognized by the formal legal system, and it lacks explicit dispute resolution and recordkeeping procedures. This lack of legal recognition restricts the use of land titles that may be necessary for gaining access to credit and investment to purchase agricultural inputs. In addition, the system makes it difficult for the government and other relevant actors to implement policies, programs, and initiatives intended to support the agriculture sector in Ngora district. Inadequate infrastructure, such as roads, irrigation systems, and agricultural extension services, has impeded the use of modern agricultural techniques. Additionally, the system favors some groups over others, such as older male household leaders, making it difficult for women and youth to access land.

4.1.4. Discussion of Findings

In this study, various statistical measures were used to assess agricultural productivity in Ngora district, including mean, standard deviation, skewness, and kurtosis. The results showed a high mean and low standard deviation, indicating a consensus among participants on the importance of agricultural productivity in addressing food insecurity and poverty. Skewness and kurtosis fell within acceptable ranges, demonstrating a normal distribution of data. Previous studies also supported these findings, highlighting the connection between agricultural productivity and food security. Participants emphasized the vital role of agricultural productivity in providing food, income, and economic development. The district offers promising opportunities for increasing productivity, such as arable land and access to resources, but challenges such as poor infrastructure and limited access to credit must be addressed. Secure land tenure also plays a crucial role, but the registration system in Ngora district is inefficient, leading to conflicts and uncertainties that hinder long-term investments in agriculture. Reforms to ensure secure land tenure for farmers are necessary for promoting sustainable agricultural practices and economic development in the district. By recognizing the significance of land ownership and addressing challenges, farmers can be empowered to increase agricultural productivity.

V. CONCLUSION

The purpose of conducting this study was to thoroughly examine and determine whether there is a significant discrepancy in agricultural productivity among the customary, freehold, and leasehold land tenure systems currently implemented in Ngora district. The study highlights the critical role of agricultural productivity in addressing poverty and food insecurity in Ngora district. The results of the study show a consensus among participants on its importance and a normal distribution of data, supported by previous studies. Promising opportunities for increasing productivity exist in the district, but challenges must be addressed, such as poor infrastructure and limited access to credit. Secure land tenure is crucial, but the current system in Ngora district is inefficient, hindering long-term investments.

5.1.1 Recommendations of the Study

A key recommendation for farmers in Ngora district is to adopt sustainable agricultural practices and diversify their crops. By implementing sustainable farming methods, such as crop rotation and conservation agriculture, farmers can improve soil health and mitigate the effects of climate change. Diversifying crops can also provide a safety net against crop failures and market fluctuations, as well as increase profits through selling a variety of products. It is recommended that farmers in Ngora district should continue to use customary land tenure systems for their agricultural activities. However, they should also advocate for the formal recognition and protection of customary tenure by the local and national governments to prevent exploitation and promote sustainable management of resources. Farmers can also work together to establish community-based land management systems to ensure fair and equitable distribution of land and resources.

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