Profiling and Characterizing Trends and Patterns of Agricultural Credit in Tanzania

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ABSTRACT

Agricultural credit is crucial for improving productivity, sustaining economic growth, and supporting smallholder farmers' livelihoods. However, in Tanzania, the sector receives a disproportionately low share of total credit from formal financial institutions. This study analyzes the trends and patterns of agricultural credit from 2005 to 2018 and its implications for agricultural productivity and GDP. The research is guided by Credit Rationing Theory, Financial Intermediation Theory, and Institutional Theory, which provide insights into the challenges affecting credit accessibility. A longitudinal quantitative research design was employed, utilizing secondary time-series data from the Bank of Tanzania (BoT), National Bureau of Statistics (NBS), and other institutional reports. Data analysis included trend analysis, structural break tests (Zivot-Andrews), and comparative sectoral lending assessments. Findings indicate that agriculture receives less than 10% of total commercial bank lending, despite its substantial GDP contribution. The 2009 global financial crisis led to a structural decline in agricultural credit, which has not fully recovered. Key barriers include high interest rates, stringent collateral requirements, and risk perceptions, limiting access, especially for smallholder farmers. Although financial innovations such as value chain financing and government-backed programs have been introduced, their effectiveness is undermined by policy inconsistencies and institutional inefficiencies. To improve access to agricultural credit, targeted financial policies, risk management frameworks, and digital financial solutions are essential. Strengthening financial literacy, promoting inclusive credit mechanisms, and expanding agricultural insurance programs will be critical in fostering a sustainable and equitable credit system.

Keywords: Agricultural Credit, Credit Rationing, Financial Intermediation, Longitudinal Analysis, Tanzania, Time-Series Trends

I. INTRODUCTION

Agriculture is a vital sector in the global economy, playing a significant role in the development of both developed and developing nations (Alliance for Green Revolution in Africa [AGRA], 2021). The sector contributes to employment, poverty reduction, and economic growth, while also serving as a common thread linking all Sustainable Development Goals (SDGs) together (Paroda & Joshi, 2019). In developing countries, agriculture is often the primary source of income and employment, with the sector contributing significantly to Gross Domestic Product (GDP) and exports (Bjornlund et al., 2020). However, the sector faces numerous challenges, such as low productivity, limited access to modern technology, and inadequate financing (Ssozi et al., 2019).

In Africa, agriculture remains a critical sector, with the continent projected to have 2.2 billion people by 2050, making it the fastest-growing region globally. Sub-Saharan Africa (SSA) has the highest population growth rate at 2.8% per year, leading to a growing demand for food security, making Sustainable Development Goal 2 crucial but challenging to achieve by 2030 (Dhahri and Omri, 2020). 52% of the population are employed in the agricultural sector, with roughly 45% of the land for agriculture available in Africa (Akiwumi, 2022). Agriculture is a critical solution to poverty reduction in Africa, it contributes an average of 60% of GDP and 30% value for exports in 2020, making it the primary sector for employment in Eastern Africa, Central Africa, and Western Africa (Patrick et al., 2022).

In Tanzania, agriculture is the second-largest contributor to the GDP, after the construction sector, and is responsible for 26.5% of the national GDP, making it a crucial source of foreign exchange earnings (BoT, 2020; Mtaturu, 2020). Agriculture continues to account for the largest share of the GDP, with a forecasted dependence on the sector to provide employment remaining close to 50% until 2025 (Bank, 2019). Despite the implementation of several policy regimes aimed at improving the performance of the sector, such as the Siasa na Kilimo and National Microfinance Policy, the sector's performance is still very low, hence a large proportion of the poor comes from the sector (Mdee et al., 2021).

Access to financing is a significant challenge facing the agricultural sector globally, with limited access to credit being a significant impediment to smallholder farmers' investments. Agricultural credit is essential to agricultural growth, and its impact can be reflected in agricultural GDP through the sub-sectors (Agbodji & Johnson, 2021; Chileshe,

2019). Governments and donors have worked to foster the development of well-functioning credit markets to extend affordable credit facilities to the agricultural sector, recognizing that access to affordable institutional credit is vital for farmers to start and sustain a crop production system based on quality inputs (AGRA, 2019, 2020).

Tanzania has benefited from agricultural financing through the provision and availability of agricultural credit since the 1960s, with the aim of transforming the infant agricultural sector in the country (Amani et al., 1987; Kashuliza, 1992; Lundahl & Msambichaka, 1989). However, the provision of agricultural credit in Tanzania has been dependent on the support of the international community, formal or specialized credit institutions, and rural financial intermediaries, such as the Cooperative and Rural Development Bank (CRDB)(Kashuliza, 1992). Agricultural credit in Tanzania is provided mainly by banks and financial institutions, microfinance institutions (MFIs), savings and credit cooperatives (SACCOs), and other informal sources, with informal and semi-formal sources playing a significant role in meeting the financial demands of the farmers who would otherwise be left behind (AYANI, 2011).

Therefore, this paper aims to assess the profile and characteristics of agricultural credit in Tanzania to identify the gaps and challenges facing the sector. The paper uses secondary data from the Bank of Tanzania (BOT), NBS, and World Bank from 2006-2018 to provide a comprehensive analysis of the sector's credit supply. The findings of this study will aid policymakers in developing appropriate strategies to improve access to affordable institutional credit, promote investment in the sector, and ultimately enhance the performance of the agricultural sector in Tanzania.

1.1 Statement of the Problem

Agricultural lending is a crucial factor in transforming the agricultural sector and achieving growth, and agricultural credit is an effective tool for growing agricultural production, fostering economic growth, and alleviating poverty (Marco, 2021). However, the availability of agricultural credit in Tanzania is limited, and the agricultural sector receives a minimum volume of credit from formal institutions compared to its role in the economy (Balana et al., 2022).

The major problem facing the agricultural sector in Tanzania is the limited availability of medium to long-term financing to support the agriculture value chain (Mbowe et al., 2020). Despite efforts by the government and development partners to promote lending to the agricultural sector in Tanzania for over 40 years, the response from lenders has been limited (Mirondo, 2019). Only 26 out of 52 registered commercial banks and financial institutions in Tanzania operate a credit portfolio in agriculture, with only an average of 13% share of total lending, which is provided by major financial institutions such as the Cooperative Rural Development Bank (CRDB), National Microfinance Bank (NMB), Tanzania Agricultural Development Bank (TADB), and Tanzania Investment Bank (TIB) (BoT, 2022a; CRDB, 2022). The largest focus on agriculture finance is seen in CRDB, with 13% of their portfolio being allocated to agriculture.

Literature, including studies by Men et al. (2024), Patel et al. (2024), and Meena et al. (2024), highlights the importance of agricultural credit in sustaining productivity, improving farm investment, and enhancing rural livelihoods. Access to credit enables farmers to adopt modern technologies, purchase quality inputs, and manage production risks effectively. However, while much research has been dedicated to credit accessibility challenges and innovative financing mechanisms, less attention has been given to analyzing the trends and impact of limited agricultural credit on sectoral growth, economic stability, and smallholder farmers' resilience—particularly in Tanzania. There remains a significant gap in understanding how reduced credit availability influences long-term agricultural output, employment levels, and the overall contribution of agriculture to GDP. Addressing this gap requires empirical studies that assess the implications of credit constraints on Tanzania's agricultural sector, with particular attention to financial policies, institutional frameworks, and evolving credit supply patterns.

The limited availability of agricultural credit in Tanzania is further compounded by the perception that the agricultural sector is not bankable, leading many commercial banks to restrict lending to the sector (Arce & Caballero, 2018). As a result, agriculture has historically received a lower proportion of total credit allocations compared to other economic sectors. However, in recent years, a gradual paradigm shift has taken place, with financial institutions expanding their lending to cover various agricultural activities, including value chains, fertilizers, agro-processing, production, and commodity financing (Isaga, 2018). Despite these efforts, the overall credit share allocated to agriculture remains disproportionately low. For instance, most outstanding credit has been directed toward personal loans (38.2%), trade (16.4%), and other economic activities (15.5%), while agriculture continues to receive only 8.3% of the total credit share (BoT, 2022b). This persistent underfunding raises concerns about the ability of smallholder farmers to scale their operations, invest in productivity-enhancing technologies, and contribute to national economic development.

1.2 Research Objectives

In this context, the focus of this study is grounded in two fundamental objectives:

i. To assess the volume of agricultural credit provided in comparison to other sectors,
ii. To analyze the trends and patterns of agricultural credit supply in Tanzania

II. LITERATURE REVIEW

2.1 Theoretical Review

Understanding agricultural credit accessibility requires a theoretical perspective that explains the role of financial institutions, credit constraints, and decision-making in lending practices. Key theories that frame this study include:

2.1.1 Credit Rationing Theory

Stiglitz and Weiss (1981) introduced the Credit Rationing Theory, which explains why financial institutions restrict credit supply even when borrowers are willing to pay higher interest rates. The asymmetric information problem makes lenders perceive agricultural borrowers as high-risk due to unpredictable yields, weather variability, and limited collateral. Consequently, smallholder farmers, who constitute the majority in Tanzania, often face severe credit rationing, limiting their investment capacity.

2.1.2 Financial Intermediation Theory

Financial institutions act as intermediaries between savers and borrowers, facilitating resource mobilization to finance agricultural activities. However, in many developing economies, the efficiency of financial intermediation is undermined by weak regulatory environments, high transaction costs, and inadequate risk management mechanisms (Mishkin, 2007). In Tanzania, commercial banks allocate a minimal proportion of their portfolio to agriculture, reflecting the structural inefficiencies in financial intermediation.

2.1.3 Institutional Theory

Institutional frameworks significantly shape credit accessibility in agriculture. According to North (1990), formal institutions (such as government regulations and banking policies) and informal institutions (such as social norms and cooperative networks) jointly determine how credit markets function. In Tanzania, regulatory policies, cooperative societies, and microfinance institutions influence the accessibility and affordability of agricultural credit, though systemic barriers persist.

These theoretical perspectives provide a foundation for analyzing credit constraints, policy implications, and innovative financial solutions in the agricultural sector.

2.2 Empirical Review

A range of empirical studies has explored the accessibility of agricultural credit and its associated challenges in different regions.

2.2.1 Credit Accessibility Mechanisms and Challenges

Men et al. (2024) examined credit accessibility among conservation agriculture farmers in Cambodia. Their findings revealed that farm size and available adult labor positively influenced credit access, while age and bureaucratic procedures posed significant barriers. The study emphasized the need for simplified loan application processes and lower interest rates to enhance agricultural financing. In India, Dalei and Behera (2020) studied institutional credit accessibility among marginalized tribal farmers and found that lack of collateral and financial literacy were primary obstacles to credit uptake. They recommended targeted policy interventions to bridge financial inclusion gaps.

Similarly, Darfor et al. (2021) investigated agricultural credit fungibility among smallholder farmers in Ghana. Their research found that 79% of farmers diverted agricultural loans to non-farm uses, driven by household financial pressures and inadequate financial literacy. This highlights the importance of credit monitoring mechanisms and financial education to ensure that agricultural loans serve their intended purpose. In Tanzania, studies have shown that formal financial institutions allocate a disproportionately small fraction of their lending portfolios to agriculture. Despite agriculture contributing over 26% to GDP and employing nearly 50% of the workforce, commercial banks allocate less than 8.3% of their total credit portfolio to the sector (BoT, 2022). The high-risk perception, lack of collateral, and policy inconsistencies deter financial institutions from lending to farmers, perpetuating credit scarcity in the agricultural sector.

2.2.2 Innovative Credit Models in Agriculture

Recent advancements in financial technology and alternative credit mechanisms have introduced innovative solutions to enhance agricultural financing.

*Blockchain-Based Credit Systems***:** Patel et al. (2024) proposed KRanTi, a blockchain-driven agricultural credit system aimed at improving transparency, efficiency, and trust in supply chain financing. By leveraging smart contracts and decentralized data storage, block chain systems can reduce credit default risks, improve lender confidence, and enhance financial inclusion for smallholder farmers.

Sustainability-Oriented Credit Risk Models: Xia et al. (2022) introduced a fuzzy decision-making model for credit risk assessment in sustainable supply chain finance. Their model incorporates environmental and sustainability metrics into agricultural credit evaluations, supporting green finance initiatives. This approach aligns with global efforts to integrate climate resilience into agricultural financing strategies.

Carbon Credit Monetization and Green Finance: With increasing emphasis on climate change mitigation, carbon credit monetization has emerged as a potential financial avenue for farmers. Meena et al. (2024) examined the role of carbon sequestration in Indian agriculture, demonstrating how farmers could generate revenue through carbon trading while promoting sustainable farming practices. Integrating carbon credit schemes with agricultural credit systems could offer dual benefits—financial incentives for farmers and ecological sustainability.

Credit Constraints and Farmers' Welfare: Credit accessibility directly impacts farm productivity and rural livelihoods. Ali and Awade (2019) assessed the effects of credit constraints on soybean farmers in Togo and found that farmers with full credit access achieved higher productivity and income levels. However, gender and educational disparities limited the benefits of agricultural credit, underscoring the need for inclusive financial policies that consider socio-economic inequalities.

Bibliometric analysis of agricultural credit literature: A bibliometric analysis of articles retrieved from the Scopus database in November 2023 was conducted using VOSviewer version 1.6.19 to examine keywords related to agricultural credit. The review identified several key areas that have been extensively explored, revealing distinct trends and patterns within the domain (See Figure 1). This analysis provides a comprehensive overview of predominant themes, research trajectories, and focal points within agricultural credit studies, offering insights into the evolution and current state of research in this field.

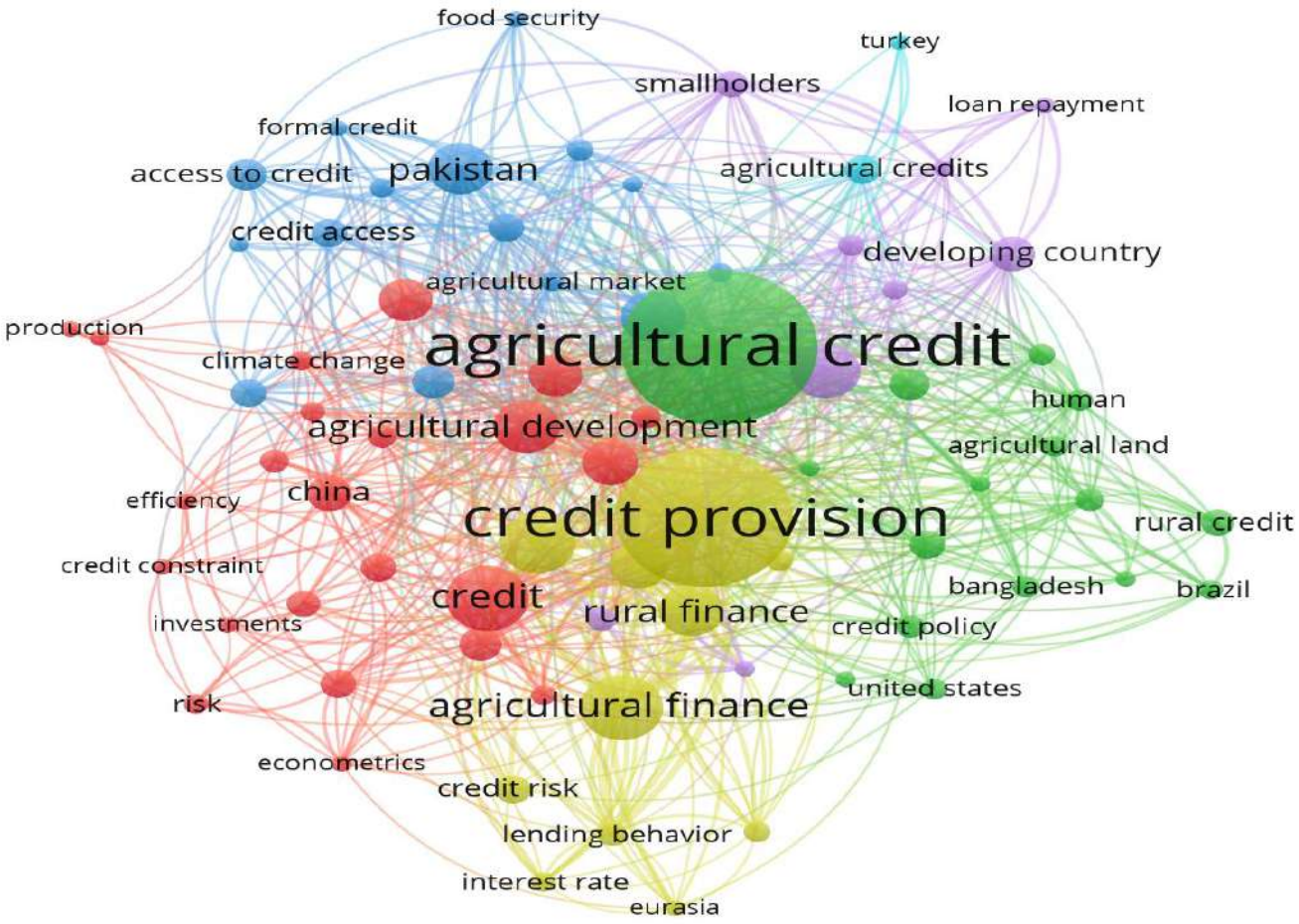

Figure 1
Exploration of Literature on Agricultural Credit

Globally, research on agricultural credit spans a wide range of topics, including credit risk management, the impact of credit on agricultural productivity, and factors influencing farmers' access to credit. The majority of studies originated from the United States from 2005 onward. More recently, however, a growing number of studies have emerged from developing countries such as India, Pakistan, Nigeria, and Thailand, as illustrated in Figure 2.

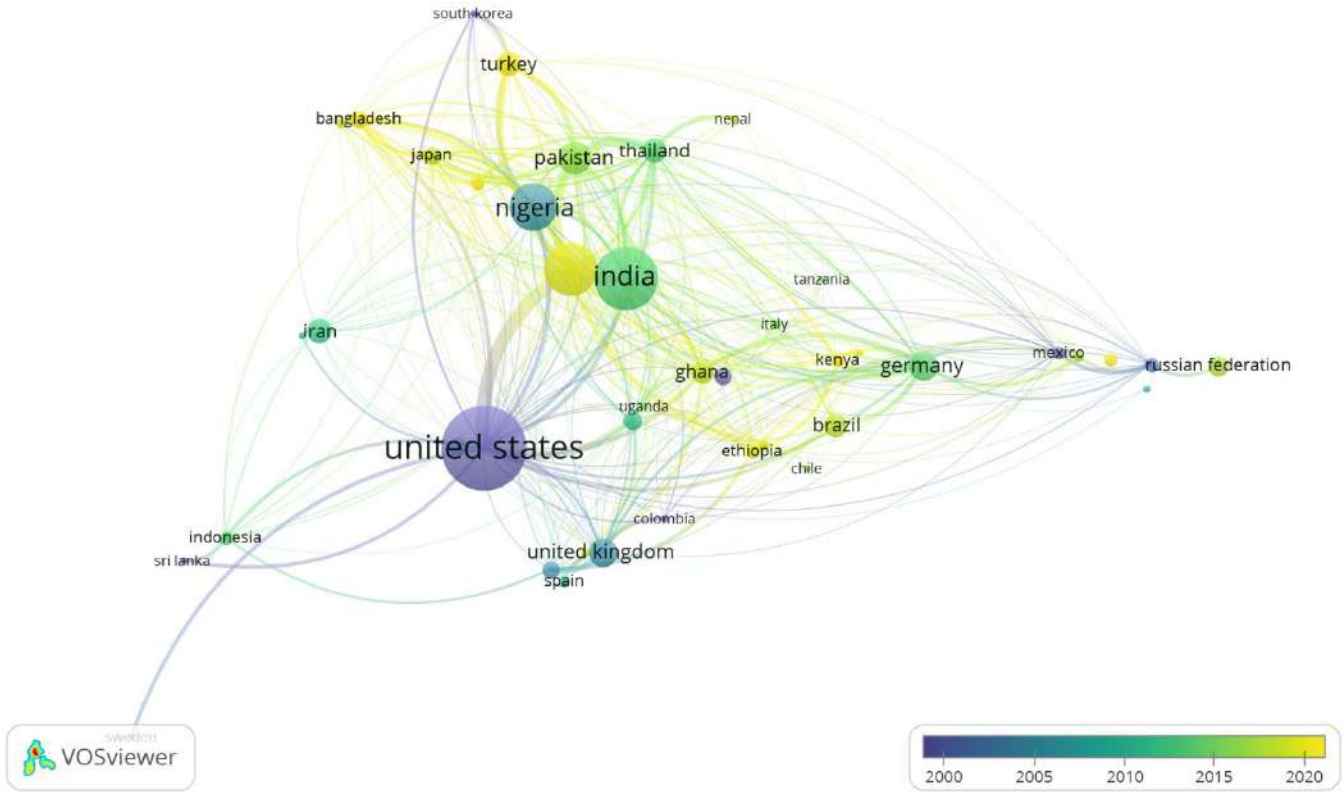

Figure 2
Global Studies on Agricultural Credit

Furthermore, analysis of Tanzania-specific studies on agricultural credit reveals a limited number of publications, with sporadic distribution over the years, notably in 2008 and 2021 (Mtaturu, 2020). This pattern suggests intermittent research interest in this area. The literature review focusing on studies from Tanzania highlights that most research has centered on credit provision, loan repayment, agricultural land issues, and credit accessibility. However, significant gaps persist in both country-specific and global research landscapes. Notably, limited attention has been given to in-depth analyses of evolving trends in agricultural credit, the determinants influencing its supply, and its broader economic implications. In particular, studies examining the direct impact of agricultural credit on sectoral growth remain scarce (See Figure 3).

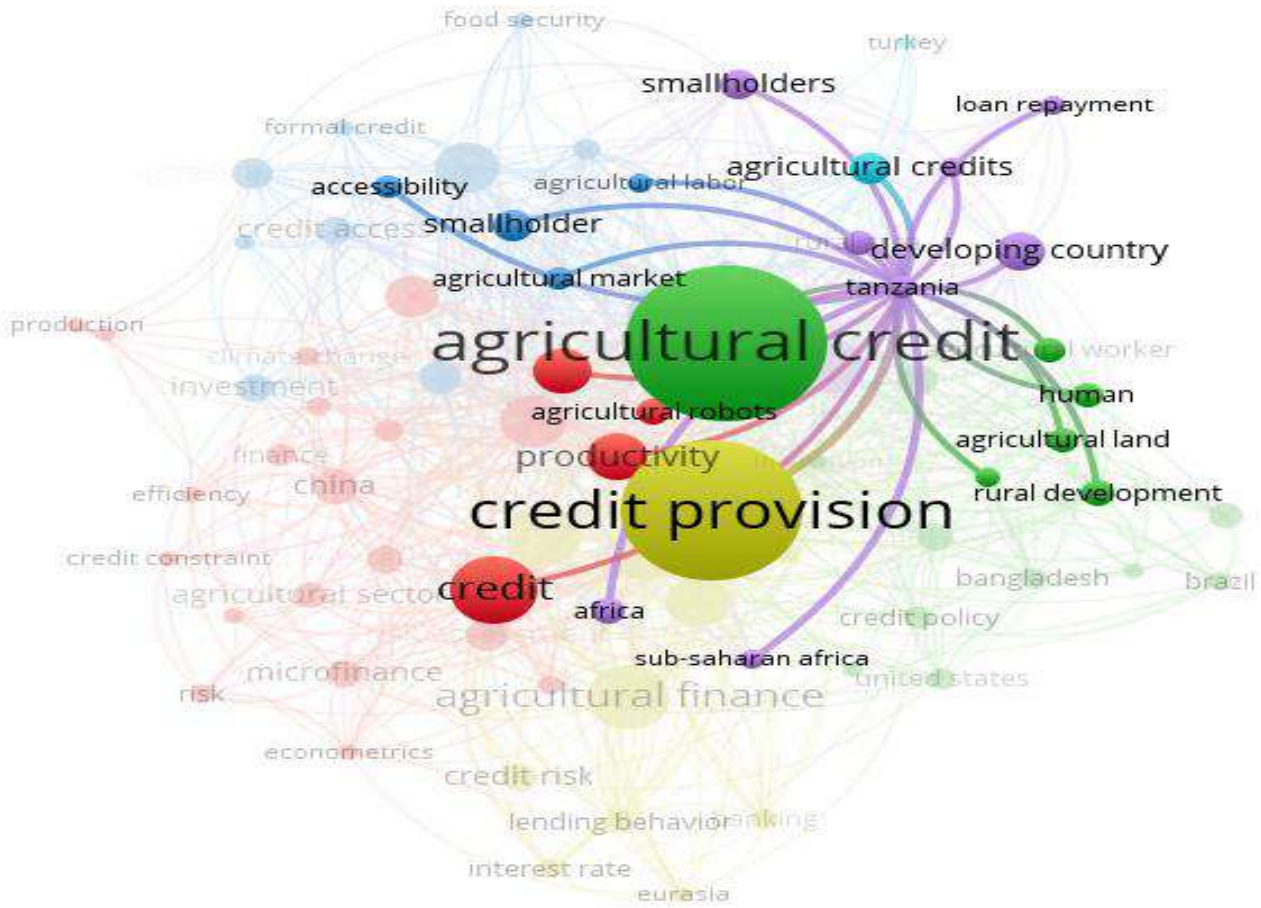

Figure 3
Areas Covered by Studies on Agricultural Credit in Tanzania

Agricultural Credit in Tanzania: Trends and Research Gaps: Despite existing research on agricultural credit, there remain critical knowledge gaps regarding credit trends and their long-term implications for Tanzania's agricultural development. Temu et al. (2001) reviewed credit initiatives in Southern Tanzania and identified institutional weaknesses and inadequate financial management skills as key barriers to credit effectiveness. They recommended integrating financial literacy programs into credit schemes to enhance farmers' financial capabilities. However, limited research has systematically analyzed the trends and impact of restricted agricultural credit on Tanzania's sectoral growth. Specifically, there is a lack of empirical studies examining how reduced credit availability affects agricultural productivity, rural employment, and GDP contribution over time. Therefore, addressing this gap required longitudinal studies that assess the interplay between credit availability, farm performance, and economic sustainability in Tanzania.

III. METHODOLOGY

3.1 Research Design

The study employed a longitudinal quantitative research design was adopted, utilizing secondary time-series data to profile and characterize agricultural credit in Tanzania in terms of trends and patterns over a specified period. The data were obtained from the Bank of Tanzania (BoT), National Bureau of Statistics (NBS), and other institutional reports to identify patterns and trends in agricultural credit and its impact on AgDP.

3.2 Data Collection

The data used in this study are obtained from various published sources such as the Central Bank of Tanzania (BoT) Annual and Quarterly Reports, the BoT Statistical Bulletin, National Bureau of Statistics (NBS), Ministry of Finance and Planning, and Ministry of Agriculture, Livestock, and Fisheries. Data on credit to the agricultural sector are obtained from FAOSTAT, including the contribution of the agricultural sector to GDP and formal domestic borrowing to the agriculture sub-sector, which encompasses crops, fishing, forestry, and livestock.

3.3 Analytical Framework

Trend analysis methodology is a statistical technique that involves analyzing time-series data to identify and evaluate the direction and magnitude of change in a variable over time. To perform trend analysis, the study utilizes time-series graphs to visualize the trends and patterns of agricultural credit over the years. These graphs help to highlight any significant changes or patterns that may exist in the allocation of credit to the agricultural sector. Additionally, the graphs also provide a quick and easy-to-understand representation of the data, making it easier for policymakers and other stakeholders to interpret the results (Sankar et al., 2017).

IV. FINDINGS & DISCUSSION

The agriculture sector's contribution to real GDP in Tanzania has increased yearly, particularly in sectors comprising crops, forestry, fishing, and hunting. Lending to the agriculture sector from commercial banks has increased in amount but decreased in percentage compared to other sectors over the period 2005-2019. The secondary data used in this study shows the amount of lending provided to the agricultural sector, its trends, and the contribution of the agricultural sector and sub-sectors to GDP.

4.1 The Trend of Total Lending to Major Economic Activities

The trend of formal lending to the major economic activities in Tanzania has been consistently increasing from 2005 to 2019. The increase in lending to all major economic activities was attributed to post-global financial crisis initiatives that targeted the most affected sectors, such as agriculture, trade and industry, mining, and tourism. These initiatives included a stimulus package of Tshs 2.0 billion through commercial banks, Tshs 21.9 billion channelled through banks to cover losses faced by clients in the agricultural sector, guarantee schemes worth Tshs 500 million to boost SMEs, and capital injection to the Tanzania Investment Bank to finance agriculture.

However, the pace of increase in lending slowed down during 2016/2017, attributed to banks' cautious approach in providing credit due to an increase in non-performing loans and decline in consumption demand. The share of personal loans to total lending increased drastically starting in January 2018, due to lower yields on government securities resulting in banks diversifying their portfolios and increasing the provision of personal loans. Additionally, the share of trade and manufacturing in total lending increased gradually due to the importance of these sectors towards industrialization, especially starting from 2016. The study concludes that policy initiatives such as "Tanzania ya Viwanda" have contributed to the high concentration of lending to trade and manufacturing sectors. Overall, the results of this study provide important insights into the trends and patterns of formal lending in Tanzania and the factors that influence lending to different economic activities.

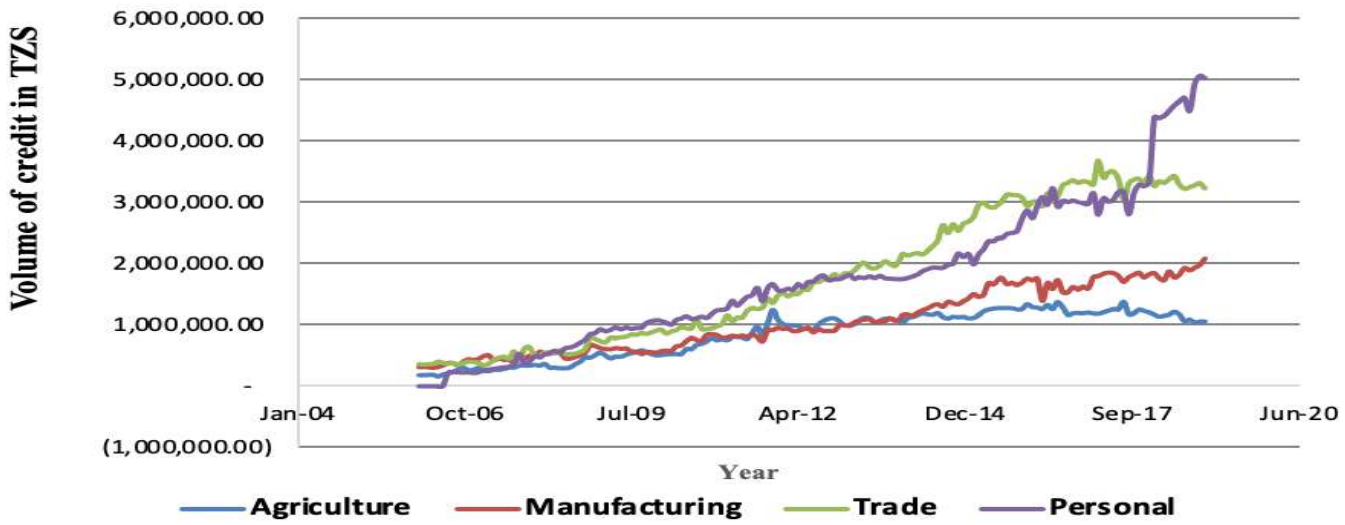

Figure 4

Trend of Total Lending to Major Economic Activities

4.2 Trend of Agricultural Credit

The trend of agricultural credit was divided into three phases to further understand the flow of credit to the sector. Overall, the trends show that despite an increase in agricultural credit disbursement over time, the amount provided was not proportionate to the sector's contribution to GDP.

During the pre-crisis phase, the trend showed a positive growth trend, with annual agricultural lending amounting to Tshs 2.3 billion in 2006. However, during the crisis, the sector experienced a minimal increase in agricultural lending due to a severe credit crunch resulting from the financial crisis. Banks responded by taking major precautions, which led to a decline in agricultural lending from Tshs 325 million in 2007 to Tshs 295 million in 2009.

Post-crisis, the government and development partners implemented various initiatives to increase the availability of agricultural credit, leading to a rise in agricultural lending by 51.7%. The implementation of the Kilimo Kwanza "Agriculture First" initiative and the establishment of the Tanzania Agricultural Development Bank (TADB) in 2015 contributed to this rise. However, the positive trend was short-lived due to an increase in agricultural non-performing loans (NPLs) in 2017, estimated at around Tshs 330 million of Tshs 1,219 billion in total lending, attributed to poor performance in the sector resulting from a decline in rainfall and drought.

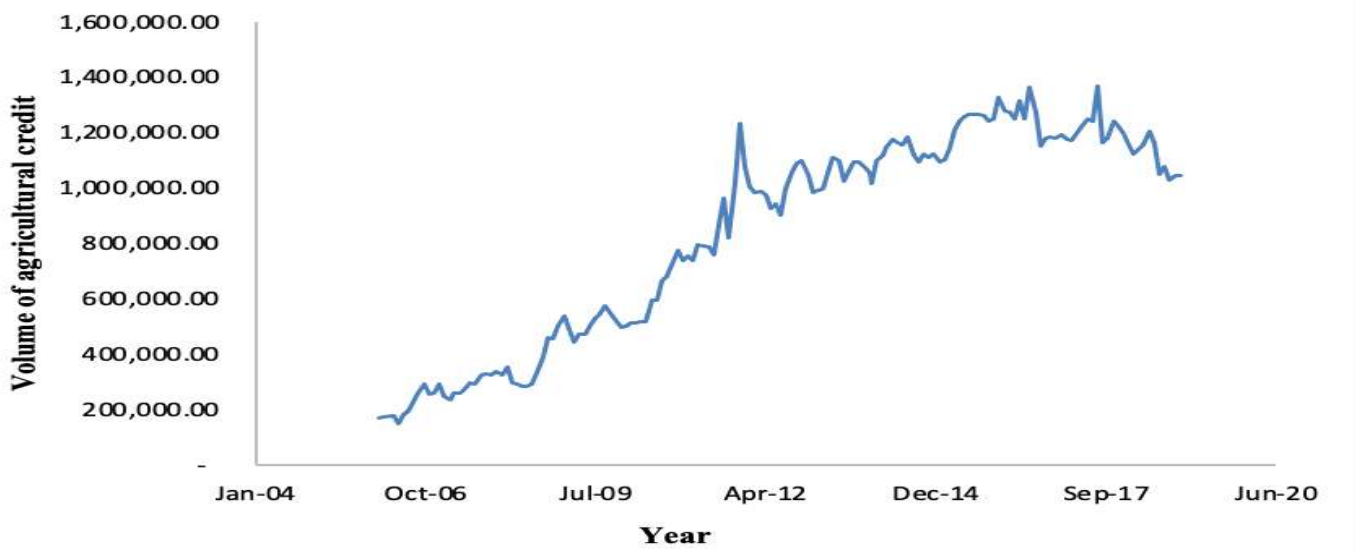

Figure 5
Agricultural Lending Yearly

4.3 The Trend of Agricultural Credit to Agricultural Sub-Sectors

The volume of agricultural credit disbursed over time was dependent on the demand of the sub-sectors and policy initiatives were put in place during the period. The crop sub-sector received the highest volume of agricultural credit due to its significant contribution to agricultural GDP, and various initiatives aimed at increasing production and ensuring food security. However, the actual amount of credit disbursed directly to the crop sub-sector remains unclear.

The agricultural sector in Tanzania is defined as the combination of crop and livestock sub-sectors, and it has been the largest recipient of agricultural credit over the years. The crop sub-sector has been the leading sub-sector in terms of its contribution to agricultural GDP, amounting to 52%. This has been a major driver of credit disbursement to the sub-sector. The volume of agricultural credit experienced a surge from 2013, attributed to the increase in crop exports by 15.2% (Figure 6). The initiatives implemented by the government and development partners aimed at increasing credit access have contributed to the growth of agricultural credit disbursement. However, there is no disaggregation of the actual credit disbursed to the crop sub-sector, which remains a significant gap in understanding the flow of credit to the sub-sector.

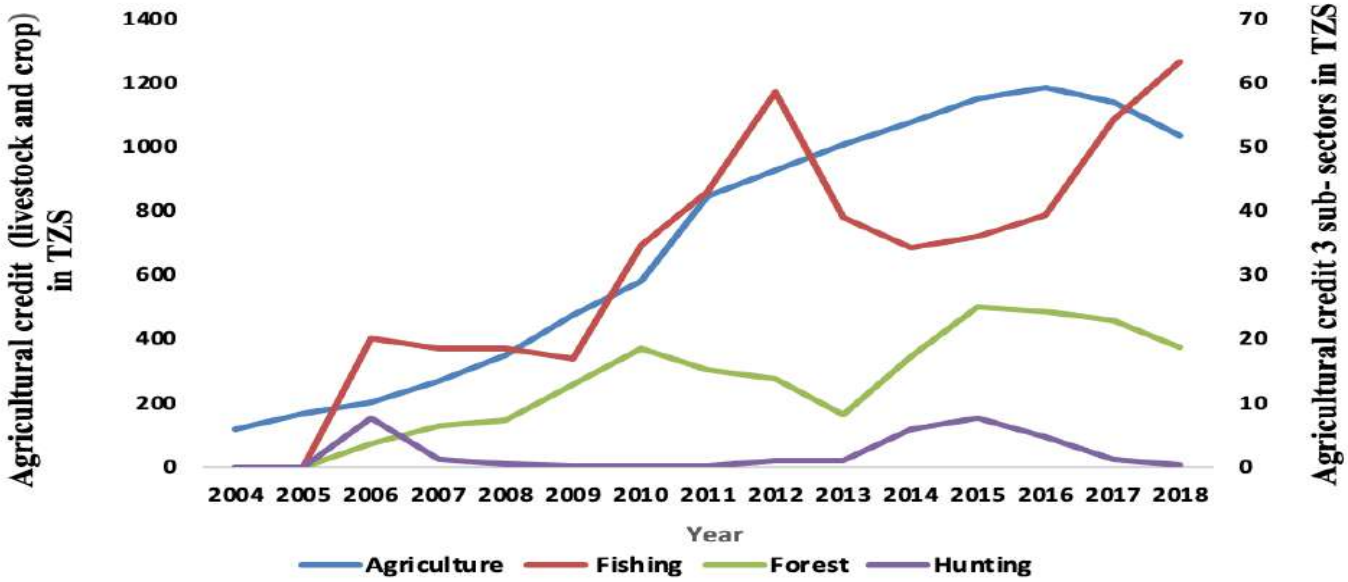

Figure 6
Trend of Agricultural Credit to Agricultural Sub-Sectors

4.4 Post- Trend Analysis Zivot-Andrews Test

The study employed the Zivot-Andrews unit root test to analyze the structural break in the agricultural credit trend data. Two hypotheses were tested

H_0: Agricultural credit has no unit root test with a structural break in the intercept

H_1: Agricultural credit has unit root test with a structural break in the intercept.

The results of the Zivot-Andrews test indicated a break in the data trend in January 2009, where the t-statistic is most significant. The t-statistic value was found to be greater than the critical values at (1%, 5%, 10%), indicating that the null hypothesis of unit root with a structural break in the intercept cannot be rejected at first difference. This finding is consistent with the results of other studies such as those conducted by Khan et al. (2019) and Oduro-Gyimah and Boateng (2018).

Table 1
Zivot-Andrews Test

Zivot-Andrews Unit Root Test		
Chosen lag length: 0 (maximum lags: 4)		
Chosen break point: 2009M01		
	t-Statistic	**Prob. ***
Zivot-Andrew's test statistic	-13.06 974	0.111 267
1% critical value:	-5.34	
5% critical value:	-4.93	
10% critical value:	-4.58	

* Probability values are calculated from a standard t-distribution and do not take into account the breakpoint selection process.

The structural break identified by the Zivot-Andrews test in 2009 coincided with a period of financial crisis in Tanzania. During this period, there was a decline in the availability of credit due to the credit crunch, where banks took major precautions in response to the global financial crisis. This led to a decline in agricultural lending from Tshs 325 million to 295 million in 2007 and 2009 respectively. However, early in 2009, the Government and development partners took several initiatives to increase the availability of agricultural credit. These initiatives included a stimulus package of Tshs 2.0 billion through commercial banks, Tshs 21.9 billion channelled through banks to cover losses faced by clients in the agricultural sector, guarantee schemes worth Tshs 500 million to boost SMEs, and capital injection to the Tanzania Investment Bank to finance agriculture.

The decline in the availability of credit during the financial crisis and the subsequent increase in credit availability due to these initiatives impacted the trends and patterns of agricultural credit in Tanzania, as reflected in the Zivot-Andrews test results.

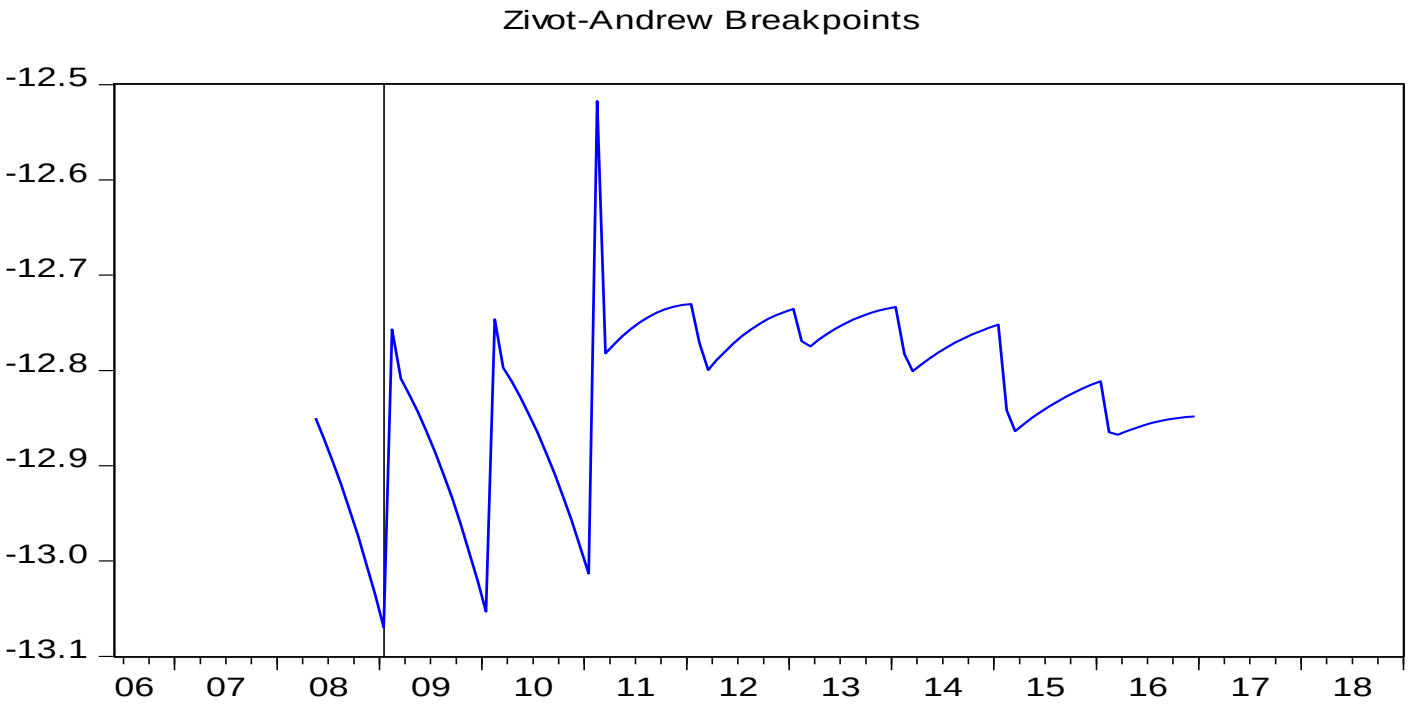

Figure 7
Structural Break

4.5 The Credit Share to Agricultural sub-sectors

The credit share to agricultural sub-sectors was investigated in this study. The results showed that the total amount of credit provided to the agricultural sector has been increasing over time, with a peak of TZS 1.24 billion in 2015. However, this increase was short-lived, and the disbursement of agricultural credit declined to TZS 1.166 billion in 2018 (Figure 8). Despite the slight increase in agricultural credit disbursement, the trend did not reflect increased lending from commercial banks to economic activities in Tanzania.

Moreover, the percentage of disbursement of agricultural credit declined annually in the share of lending by commercial banks in Tanzania. Figure 8 illustrated that the trend of lending from commercial banks to the agricultural sector in Tanzania declined from 13% in 2011 to 7% in 2018. This decline in credit to the agricultural sector, caused by credit conditions, poses a significant challenge for the majority of smallholder farmers. Most of the agricultural credit is absorbed by a limited number of producers of cash crops such as rice millers, cashew nuts, maize, and coffee, who are capable of repaying the loans as per contract.

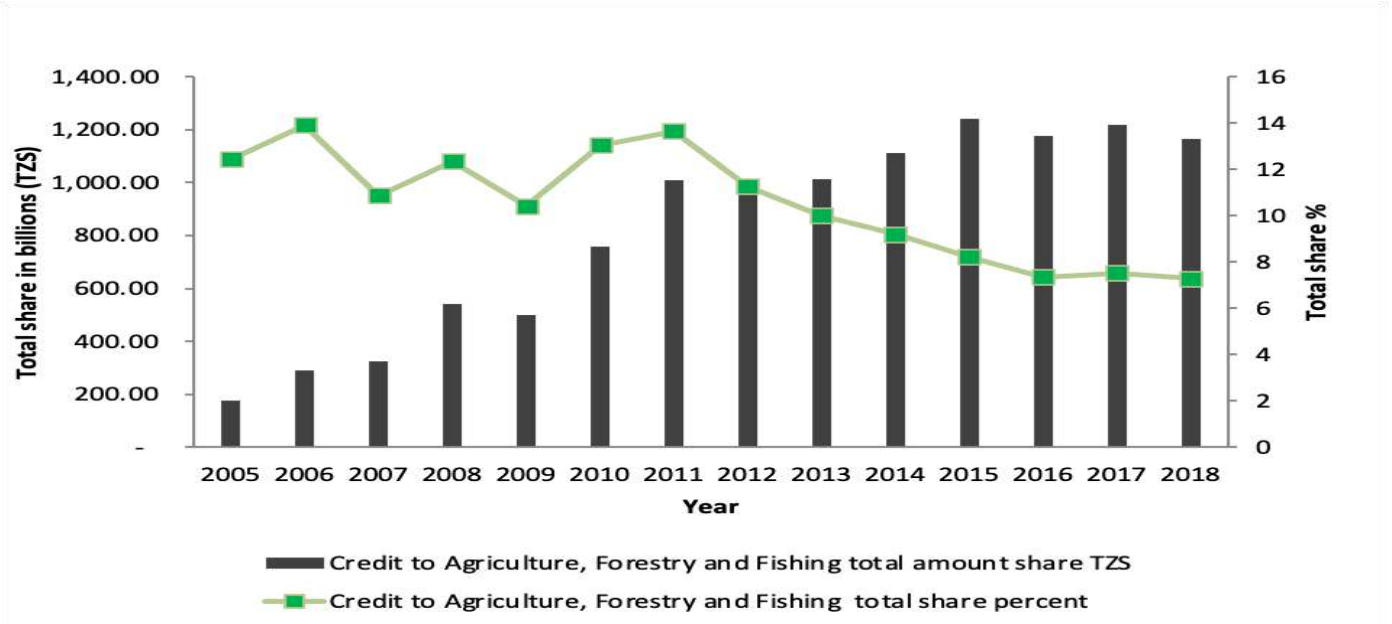

Figure 8
Agriculture Credit Disbursed Share in Amount and Percentage

4.6 Lending from Commercial Banks

The commercial banks in Tanzania play a critical role in financing various economic sectors. However, the agricultural sector has consistently received the least amount of loans compared to other sectors. A trend analysis of lending from commercial banks for the period 2005-2019 reveals that personal lending received the highest amount of credit, amounting to over TZS 333 billion, followed by trade at TZS 318 billion and manufacturing at TZS 187 billion. In contrast, the agricultural sector received a comparatively smaller amount of credit, as indicated in (Figure 9) below.

Several factors have contributed to the minimal formal credit allocation to the agricultural sector in Tanzania. Firstly, commercial banks have been reluctant to lend to the sector due to perceived high risks associated with agriculture, such as weather fluctuations and poor infrastructure. Additionally, smallholder farmers, who make up a significant portion of the sector, often lack collateral and financial literacy, making them less attractive to lenders.

Furthermore, the government's focus on other sectors, such as mining and oil and gas, has resulted in reduced attention given to the agricultural sector. This has translated to limited investment in infrastructure and research and development, leading to a less competitive sector.

Additionally, the high interest rates offered by commercial banks have discouraged farmers from seeking formal credit, instead relying on informal sources of financing, such as money lenders and cooperatives. This has created a vicious cycle where banks perceive the sector as risky, leading to limited credit allocation, which in turn, affects the sector's growth and competitiveness.

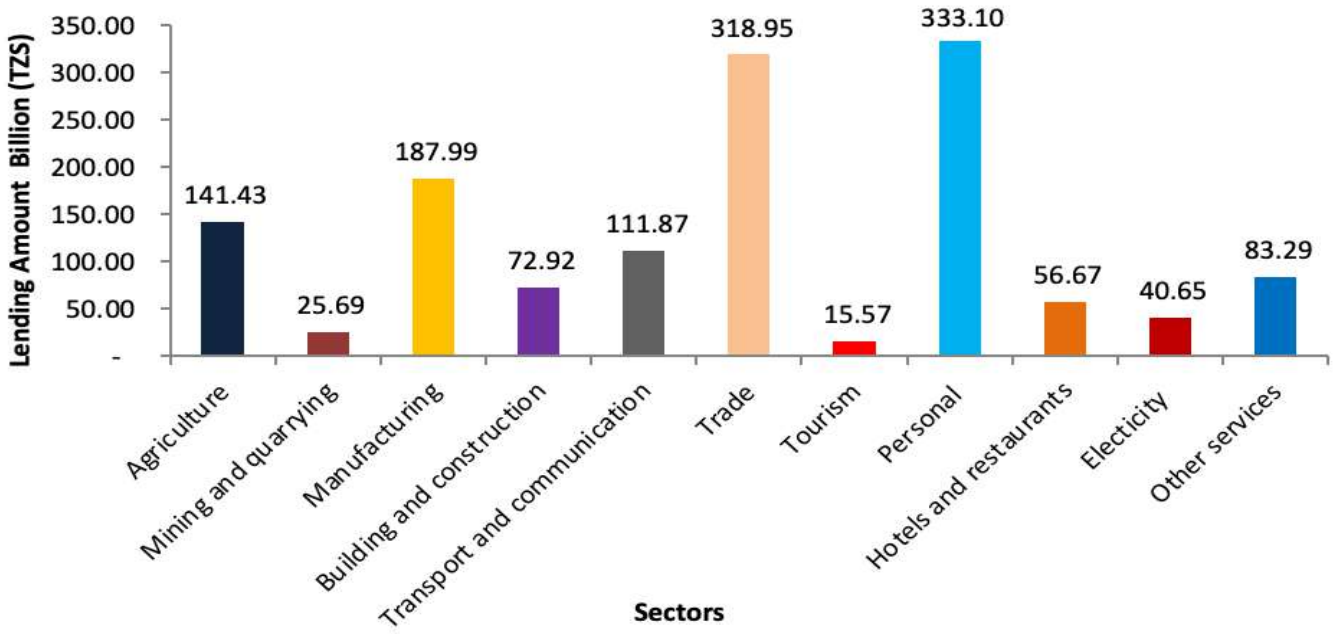

Figure 9

Lending from Commercial Banks to Different Sectors

4.7 Contribution of Agricultural Sub-Sector to GDP

The agricultural sector is a vital part of the Tanzanian economy, as it employs over 70% of the population and supports the livelihoods of over 80% of rural residents. The contribution of the agricultural sector to the GDP has increased significantly over the years. From 2005 to 2017, the sector's contribution ranged from TZS 5,469.14 billion to TZS 34,984.24 billion (Figure 10). This growth was driven by the crops, livestock, forestry, and fishing sub-sectors.

The crops sub-sector is the leading contributor to the agricultural GDP, accounting for TZS 3,121.31 billion in 2005 and TZS 19,736.51 billion in 2018. The livestock sub-sector is the second largest contributor, with TZS 1,592.97 billion in 2005 increasing to TZS 8,019.83 billion in 2018. The forestry sub-sector is the third largest, contributing TZS 403.24 billion in 2005 and TZS 4,651.48 billion in 2018. Lastly, the fishing sub-sector is the fourth largest, with its contribution increasing from TZS 351.61 billion in 2005 to TZS 2,576.48 billion in 2017.

The significant contributions of these sub-sectors to the agricultural GDP highlight their importance to the overall economy of Tanzania. The growth in these sub-sectors can be attributed to various initiatives by the government and development partners to increase production, ensure food security, and promote sustainable development in the sector.

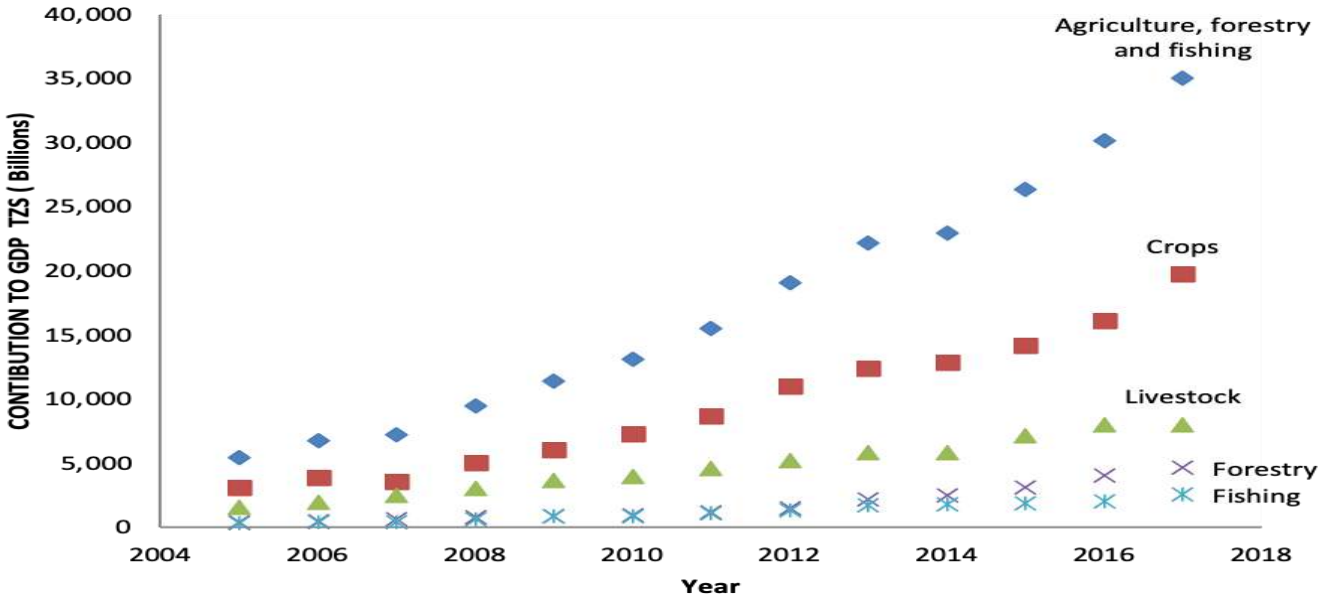

Figure 10
The Contribution to GDP by Agricultural Sector and Sub-Sector

4.8 Percentage of Agriculture Lending and Its Contribution to GDP

The findings revealed that while the agricultural sector's contribution to GDP in Tanzania increased significantly from TZS 5,469.14 billion to TZS 34,984.24 billion, the percentage of lending to the sector from commercial banks decreased yearly. This trend is contrary to what would be expected, as higher contributions to GDP would typically correlate with higher lending percentages. As shown in Figure11 the percentage of lending to the agricultural sector was 12.44% in 2005, increasing to 13.66% in 2011 before sharply declining to 7.52% in 2017.

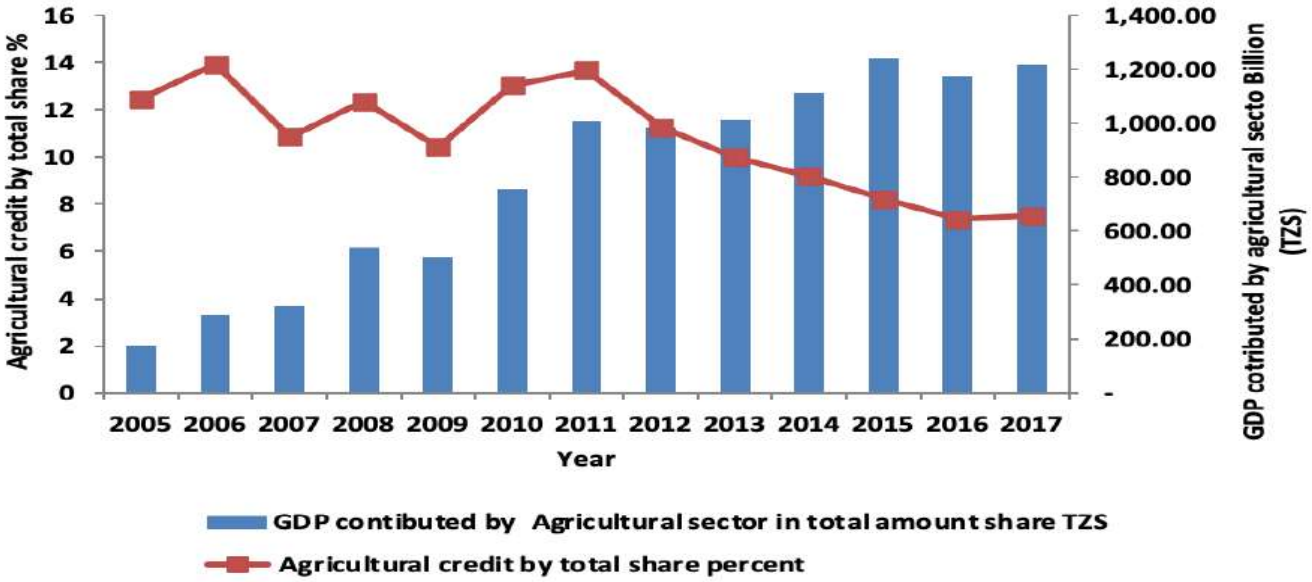

Figure 11
Lending Percentage to Agriculture and its Contribution to GDP

4.8 Gross Domestic Products (GDP) by Economic Activities

Tanzanian economy depends on the various economic activities. These activities contribution to GDP steadily increased as showed below (Fig 12). The agriculture, forestry and fishing; industry and construction and services industry increased by different amounts. The service industry shown to lead among the economic activities contributed to the GDP; in year 2005 amount was TZS 8,896.76 billion and then increased to TZS 43,542.05 billion which is equivalents to 20.43 %. Agriculture, forestry and fishing sectors contributed significantly by 15.63 % which ranged in

amount year 2005 TZS 5,469.14 billion to TZS 34,984.23 billion. Industry and construction sector is another sector that contributed to the GDP amount range from TZS 3,774.14 billion to TZS 30,616.52 billion in year 2005 to 2019.

This indicated that agriculture is one of the major contributing economic activities to Tanzanian economy. Lending to this industry will ensure sustainable contribution to GDP and continue to employ the majority of Tanzanians.

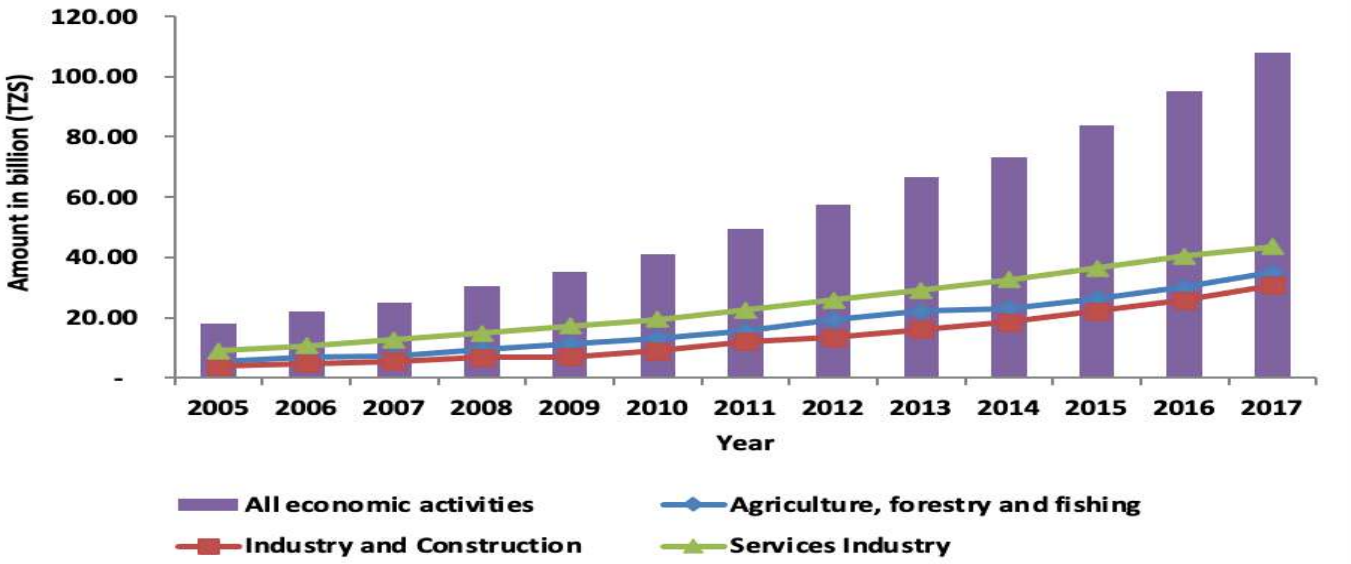

Figure 12
GDP by Economic Activity

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

The objective of this study was to examine the provision of agricultural credit by commercial lending institutions in Tanzania, analyzing data over a 15-year period to identify trends and patterns in agricultural financing. Data from various secondary sources related to agricultural finance was utilized to assess the amount of credit allocated to the agricultural sector, the proportion of loans dedicated to different agricultural activities, and the subsequent impacts on national GDP.

5.2 Recommendations

The findings indicated that the agricultural sector in Tanzania consistently receives less credit from formal financial institutions compared to other sectors. This limited financial support has hindered the agricultural sector's growth and its ability to contribute effectively to economic growth and poverty alleviation.

Based on the findings, this study advocates for the implementation of policy initiatives aimed at fostering the development and enforcement of agricultural credit policies that are demand-driven. Such policies should guide financial institutions in establishing criteria for credit provision that align closely with the needs of the majority of farmers. Additionally, the establishment of a robust agricultural insurance policy is recommended to mitigate the perceived high risks associated with farming, thereby encouraging increased lending to enhance sector productivity and employment opportunities.

Moreover, the study suggests the formulation of customized credit facilities and regulatory frameworks that accurately reflect the unique characteristics of the agricultural sector, with a particular focus on smallholder farmers in rural areas. By doing so, these farmers would be better equipped to fulfill lending conditions and access financial services that could significantly improve their productivity and, consequently, their contribution to the national GDP.

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