

Influence of Agribusiness on Tax Base Expansion in Tanzania: A Case on Cashew Production at Mtwara Region

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ABSTRACT

This study examined the influence of agribusiness on tax base expansion in Tanzania: A case on cashew production at Mtwara Region. This study opted mixed research approach while case study used as research design of this study. The study conducted in Mtwara region, within Masasi and Nanyumbu districts. The study population was 268 farmers's of cashew nuts unions and TRA officers. The techniques used in this study belongs to probability sampling (Simple Random Sampling) and non-probability sampling technique. Sample size for our study were 98 farmers' unions. This study used primary and secondary data. The study was to account the significant contribution of the agribusiness on tax-base revenue growth in the economy of the country, the study conducted at TRA Masasi. The research showed that the agribusiness contributes on the national income through export, though VAT paid on each stage of production within the country and also through the employment opportunities that created to the Tanzania citizens; although the study entailed that the agribusiness does not contribute directly to the tax-revenue, since there is no any tax imposed by TRA through the government that collected from the agriculture farmers like other business entities assessed. The government through TRA should initiate the law that will impose the direct tax to the farmers in order to diversify the scope of the tax to be collected.

Keywords: Agribusiness, Tax base, Expansion, Tanzania

INTRODUCTION

Tax is a compulsory mandatory financial levy applied by the government to the individual or a legal entity with the objective of financing the Government spending and various public expenditures (Chindengwike, 2025). During colonial, colonial tax system was established tax known as Poll tax in 20th Century of course, there are various reforms that were undergo includes; the introduction of sales tax in 1969, enacting new income tax legislation in 1973 and making amendment on the tax legislation that exist to revise the tax bases and rates, removing of some excise duty in 1979, and re-introduction of previous abolished excise duty in 1989. In October 1989, the government appointed a tax committee responsible for reviewing the tax system and administrative management of the central and local Governments, and make some suggestions to the state, with the aim of improving the tax revenue collection and promote greater efficiency within the economy of the state -The presidential commission of enquiry into public revenue, taxation and expenditure (Chindengwike, 2022).The report of the commission was presented to the government with the following recommendations; reduction of the individual and corporate tax rates, making adjustment on inflation, reduce the rate of customs duties, reducing the exemptions to both customs and sales, replace multiple rate structure by Value Added Tax (VAT). Tanzania tax basis is on a quarterly basis and VAT is accounted for monthly (Alhshem and Ghader, 2022). The Tanzania Revenue Authority (TRA) having three tax departments, these are; domestic revenue, customs and excise, and large taxpayer departments (Chindengwike, 2020).

Generally, tax is not subjected to be in exchange, it is unrequited (Chindengwike, 2024). Taxpayers are presumably collected for the purpose of improving the welfare of the taxpayer as a whole. A country should be able to finance public expenditure on poverty reduction line; a rapid increase in public services and corresponding increase in tax revenue is the policy priority. Tanzania plans to increase government spending and transfer payment to improve the standard of living of the poor, also plan to increase development oriented and provision of social services (Chindengwike, 2020). Agribusiness involves the business of agricultural production which involves production,

protection, sales and marketing of the produce to satisfy the customer's needs (Abesha, 2022). The agribusiness has some components, these are agrochemical, breeding, machinery and equipment. Agrichemicals are the chemicals used in agricultural process such as fertilizers, pesticides and other growth chemicals (Alemu and Tolossa, 2022). Breeding focuses on raising animal for food products and breeding of plant species to produce a genetically-enhanced crop seed. Machinery and equipment are all type of farm machinery ranging from hand tools to tractors (Guteta and Worku, 2023). Land is vital asset in ensure security of food, among the food crops in Tanzania are; millet, maize, sorghum, rice, wheat, beans, cassava, banana and potatoes. The main cash crops are; cashew nuts, cotton, coffee, tobacco, tea and sisal. Agricultural sector development strategies (2022/2023-2023/2024) indicates that the agricultural sector contributes about 34% in 2023 and 43.5% in 2024 of Gross Domestic Product (GDP), and contribute 32% of export, low from 48% ten years earlier (Mihret et al., 2025).

In order to improve the performance of the sector, the following should be taking into consideration. In 2023 approximately TZS 1.1 trillion were invested in the National Agricultural Input Voucher System (NAIVS) program, whereby in 2024 it added about 8.5 million tonnes of maize to the country food supply, even in the face of drought in the state the country maintains food self-sufficiency (Tamene and Ashenafi, 2022). In a long term, the adoption rate of improved seeds and fertilizers has also increased, among those who did not attempt to invest through NAIVS, 62% bought improved seeds and 25% of fertilizer after graduating from NAIVS. Previously, farmers only used 15 Kg of fertilizer, while the average level of usage in South African Development Community countries was 25 Kg. In addition, the annual supply of the improved seeds is approximately to 24,000 tonnes which represents 20% of the total estimated demand of approximately 240,000 tonnes per year. Strengthening the country's agricultural merchant network has also had a related impact. For the productivity of the irrigated farms, the average yield of paddy is about 2.0 - 3.8 tons per hectare, while the average yield of paddy in non-irrigated areas is about 1.8 tons per hectare. Despite the implementation of development of irrigation at the local level through ASDP I, the ability to adipose, especially irrigation issues still need to be improved significantly. Tamene and Ashenafi, (2022), given the increasing pressure on freshwater and soil resources; the main challenge is to provide sustainable growth for the world's population by increasing the water productivity of rainwater supply agricultural systems, believing that it will improve water productivity with the current land use. There are many options for increasing agriculture and water productivity through improvements, better management practices, supporting policies and institutions (Guyalo et al., 2022). Water resources management of Tanzania's agricultural irrigation system is carried out within the framework of the Smallholder Irrigation Improvement (SII) scheme of the RBMSIIP. On the other hand, in terms of irrigation efficiency, the average irrigation standards value of existing irrigation plans increased by about 67%. It derives from an average of 86% transmission efficiency, 76% for field canal efficiency and 47% for application efficiency (Demem, 2023). All of these have noticed the impact on the management of irrigation system, of water supply in the basin, part of which used to meet the environmental requirements of river flow. Similarly, irrigation efficiency can be improved if the irrigation team plans to provide in-depth education on the water management, operation and maintenance (Demem, 2023).

The overarching policy aim is to construct safe, dependable, effective, efficient, and comprehensive road transport infrastructure and operations to better fulfil travel and transport demands at the lowest possible cost (Brenya et al., 2023). An effective and dependable transport network benefits all sectors of the economy, particularly in rural regions where poverty reduction is critical. According to the first phase of the ten-year Transport Sector Investment Programme (TSIP) Phase I, 2007/08-2011/12, the overall goal of the proposed local road investment plan is to support national policies and strategies for rural development and poverty alleviation through the development and maintenance of local transport infrastructure (Brenya et al., 2023). The proposed investment plan would align with Tanzania's Development Vision 2025, the Millennium Development targets (MDGs), MKUKUTA II, and the Rural Development Policy targets. The road fund has been assigned. Perhaps the budget allocation for rural roads is insufficient, particularly for development purposes (only 10% of the new construction allocation). The real achievements of 2013 were a total of 30,575km of maintenance, 108km of new rural road and construction of 5 bridges. The investment work needs further improvement. The Rural Energy Agency (REA) has also made some progress in expanding electricity to the rural areas; however, rural electricity level is still low as household lighting and cooking (Demem, 2023).

Farmers in the agribusiness chain are not functioning enough to play their expected critical role in Tanzania's economic growth and development (Sufrianto and Danggi, 2021). Different economic stakeholders (the government, citizens, practitioners, the private sector, international organisations, and local non-governmental organisations) have expressed strong concern about supporting smallholder farmers so that they can make a significant contribution to rural poverty reduction and overall economic development in the country. Agricultural loans from commercial banks are steadily increasing, reaching 1 trillion TSZ equivalent to 10% of the total (Sayoga, 2022). The public financial service includes TIB-agricultural mechanism and AGTIF under MAFC. The Government is also heads the Agricultural Development Bank of Tanzania (Sayoga, 2022). Private Agriculture Sector Support (PASS) Trust established in 2000 and funded by DANIDA via CRDB Bank Ltd. has supported business plans and guarantees. Formal and informal Micro Finance Institutions, financing to SACCOS, also support the agricultural economy of the smallholders in rural areas. Perhaps, most of the smallholder farmers don't have bank account, according to the National smallholders' survey, its only 25% of Tanzania small farm entrepreneurs who have a bank account registered in their names (Sayoga, 2022). It almost half of these farmers who do not use their accounts at banking full service because the formal financial lenders don't offer them credits.

Hidayati (2023), explain the meaning of mechanization as the process of using the machinery to mechanize the work. Basing on this research, the mechanization means the use of machines in the agricultural activities so as to increase the farm worker productivity. In modern times, electrical machinery has replaced many agricultural task that were previously done with manual labors. The degree of mechanization is still low (Hidayati, 2023). Most of the agricultural tools found in farmers on the Mainland are hand hoes (97.8%) and swords (93.5%), cattle plough (14.4%), cast bulls (13.7%), hand sprayers (11.7%) and cows (10.2%). Other farm machinery (tractors, power-tillers) accounted almost 1%. Agriculture mechanization, is one of the elements of commercialization in this sector (Witjaksono et al., 2022). The private sector often leads the development of large and medium-sized farmers who offer custom contract services as tractor owners to meet mechanization needs (Aidoo et al., 2022). Despite these developments, still there is small knowledge gaps regarding the roles of various factors, including role of government and land tenure policy in mechanization to effectively support the private sector to achieve higher growth in mechanization (Hidayati, 2023).

Challenges facing Agricultural sector in Tanzania

Apart from those prerequisites for the growth of the sector, also there are some weaknesses of the agribusiness which narrow its development and growth of the sector, perhaps, the Government keep track to solve those weaknesses of the sector so as to avoid failure of the sector. Below are the weaknesses of the agribusiness; Inconveniently rural infrastructure, since the rural environment is often the growth engine of a country's growth, the food supply and the rural people are the stewards of the environment and the ecosystem. Weak and untraceable rural infrastructure including rural roads, electrification, market facilities, financial transaction and markets (Ameh et al., 2022). facilities hampering the private sector investments in agricultural production and agro-industries. A main limitation to the developing and maintaining rural roads are that areas requiring roads are often difficult to access, logistics become complicated, capability for local contracts is limited, engineers are scarce and far between, especially younger engineers especially are not keen to leave the urban areas. Export and import policies, Tanzania has been a member of the WTO since 1995, and only restrict its 13.5% tariff lines (Svi et al., 2021). The maximum tariff rate for agricultural and non-agricultural products is 120%. As a founding member of the East Africa Community (EAC), the country is pursuing trade liberalization within the customs union and applying the EAC, Common External Tariff (CET). Therefore, Tanzania adhere a three-tier tariff structure (0% for raw material and capital goods, 15% for intermediate goods and 29% for finished goods) with some exceptions, and abolishes all internal tariffs EAC trade in 2022 (Svi et al., 2021). It is also as a member of the Southern African Development Community (SADC). As the agricultural production continues to grow, it is necessary to open up export markets, especially regional market. Industrial stakeholders are experiencing an unpredictable and unclear policy environment in terms of export and import (Svi et al., 2021). Consistent and predictable policies are essential for sustainable sector development (Svi et al., 2021).

Natural environment deprivation, it means that there are no physical environmental conditions that can promote good health and well-being that is clean air and water. With the development and improvement of human activities, the degradation of the natural environment such as land degradation, sedimentation of river, and change of river beds, will affect the agricultural activities (Chindengwike, 2025). Observations of environmental laws and regulations at local level are generally weak. Population increase, in 2022 census revealed a total population of 61,741,120. The official population prediction for Tanzania in 2009 is 41,915,880. Tanzania's population growth rate is expected to be 3.9%, among the highest in Africa, suggesting that over 1.3 million people would be added to the country's population each year. Tanzania's high population growth will have implications for future population size, age structure, age dependency burden, labour force supply, rural and urban distribution, overall and regional densities, and development (Chindengwike, 2025).

General Concept of Agribusiness.

According to the Chindengwike (2025), agribusiness is a business involved with food and fiber production, seed supply, agrichemicals, farm machinery, distribution, processing and marketing of the produce (Chindengwike, 2025). The goal of agribusiness is to improve operations in order to keep prices reasonable. Agribusiness involves five subsystems; the first is, input subsystem that is where an agribusiness emanate, such inputs are seeds, fertilizer and machineries; the second is, production subsystem that is the utilization of those input to the agricultural commodity as end product itself, or a raw material for production of another product; the third is, processing subsystem that is the production subsystem are further processing to form various valuable products; the fourth is, marketing subsystem that involve the transfer of the commodities to the final consumers, it includes the storage of goods and the infrastructure that are used to transport the goods, perhaps the marketing subsystem may include the transfer of the agricultural inputs from producer to farm input user and transfer produce from farms to the processing area before transferred to the final consumer; and the last subsystem is Support subsystem that include Government, credit and financing, research and marketing organization, and other institutions that plays vital role to provide service to the agribusiness (Svi et al., 2021). In order agribusiness to success all these systems needed to be strongly interrelated and connected (Svi et al., 2021).

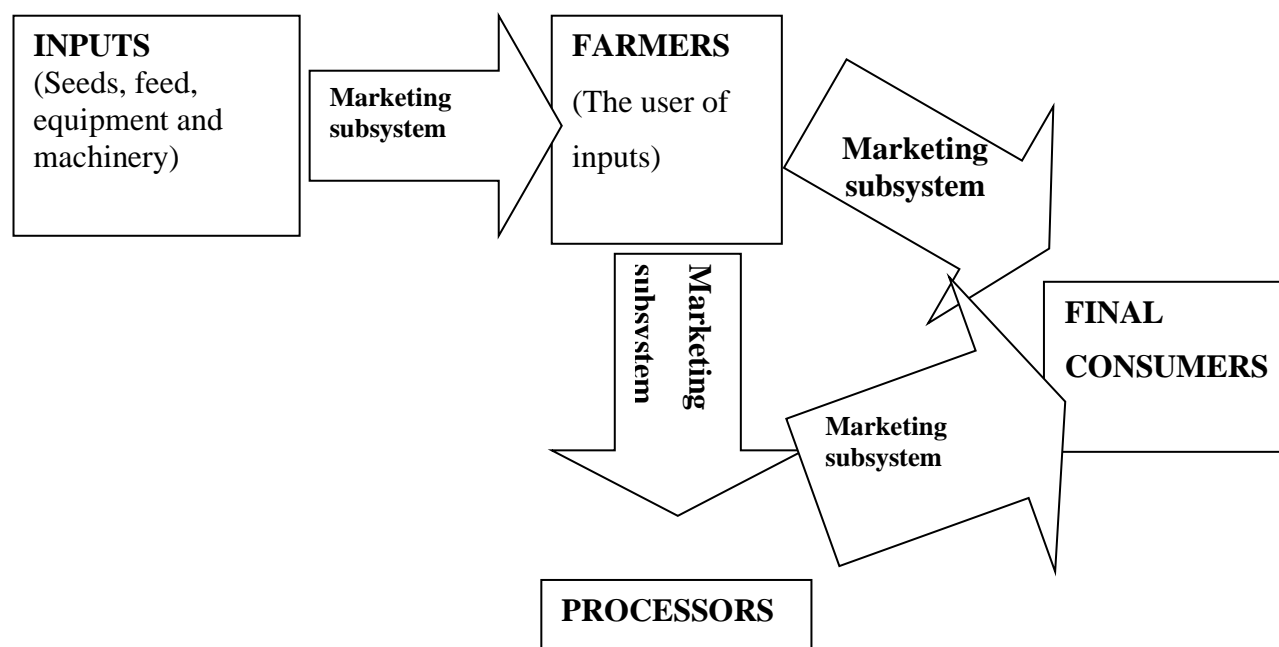


Figure 2.1. Presentation of working Agribusiness system.

Source: Hassanzoy (2019)

Cashews production in Tanzania

According to the Agricultural sector development strategies, (2022/2023-2023/2024) Tanzania can be benefited from agricultural development, since the country has 88 million hectares of arable, and only 35% of it is cultivated, though the country is well endowed with high potential base for agriculture development, there only small quantity of large scale commercial farms (Chindengwike, 2025). The Government of Tanzania (GoT) working to solve these challenges by developing more accessible routes to market for agribusiness, provide short, medium and long-term credit facilities to the farmers (Chindengwike, 2025). The vision is to create the value addition chains for raw material and commodity output from agricultural production (Svi et al., 2021). Cashews nuts occupy a favorable position in global agricultural commodities. Compared with most other commodities, global import demand has grown faster, with higher relative prices and lower price volatility in the past decade. Cashew nuts are grown almost exclusively in developing countries for domestic consumption and export, and 95% of processed cashew nuts are exported to developed countries. In 1990s, the global cashew nut production increased by nearly 16% annually, while the average annual growth rate of all food crops was 5.2% (Svi et al., 2021). However, unless the problems are solved, the industry can expand or even maintain current level of production. These include defining a more constructive role for the cashew board, reversing the decline in export crop quality, supporting farmers with the financing of input costs, and reducing high taxes for exports. Beyond the modification of these immediate problems, the industry has an opportunity to expand in some directions. Replanting with improved varieties will reduce costs and make Tanzania a more competitive exporter (Demem, 2023). Since investing in Agri-processing would increase the revenue of Tanzania, hence the researcher came and wanted to investigate on the role and contribution that agribusiness provides to the Tax revenue growth so as to create the good economic situation of the country (Chindengwike, 2025).

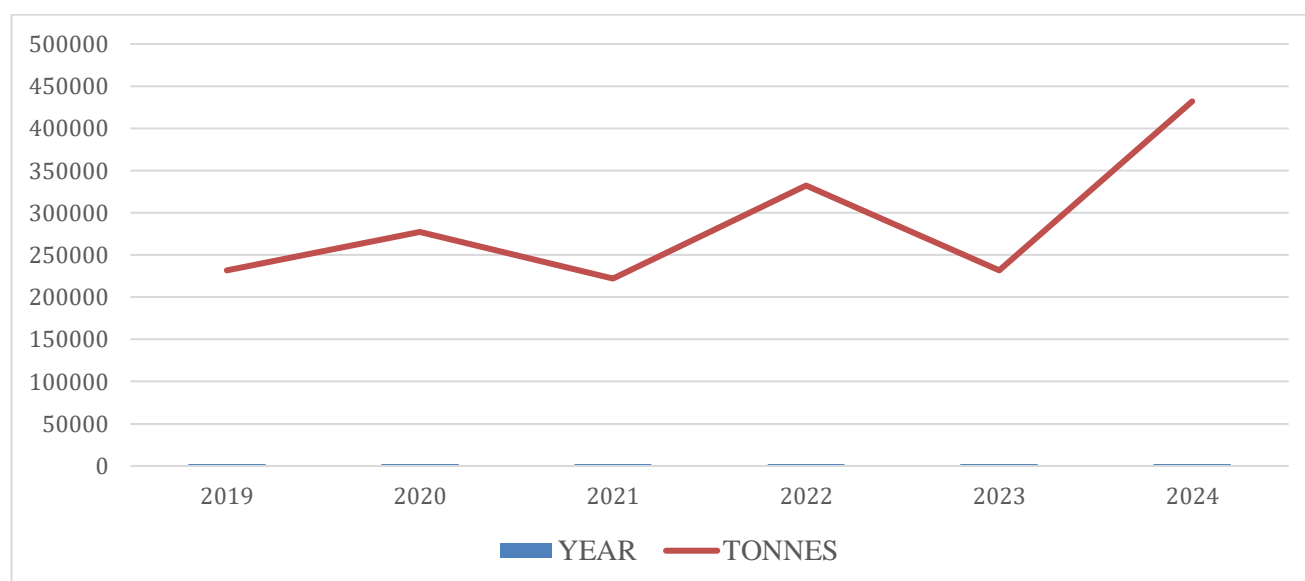


Figure 1.1. Cashew production trend in Tanzania from 2019-2024 (in Tonnes)

Source; Cashew Board of Tanzania (2025).

Agricultural sector plays major contribution to the economic growth and development, it is the cornerstone of the existence of human as it provides food, provides raw material for the industrial manufacturing. The sector has impact on the ecosystem and non-agricultural plants and animal on the biodiversity. Agricultural sector generates positive externalities on contributing to the water supplies and wildlife habitat management. Real agricultural GDP growth trends (AgGDP) has passed several depression and boom periods due to price fluctuations of agriculture products in the national and global markets (Demem, 2023). Real AgGDP in 2019 was affected by recession in of commercial crops prices in global markets due to COVID 19. On the other hand, the depression of real AgGDP in 2020s is due to the withdrawal of subsidies provided to the farmers by the government to farmers to liberalize trade (Joel, 2015). Therefore, the business of Agri-inputs such as fertilizers was left to private company operating in the market. This led to renounce the production of the traditional crops for due to high cost of production as well as low-volume market price production (Brenya et al., 2023). The agriculture GDP in 2020s was good because agriculture

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was the main economic activity in the country. However, in the 2015s due to the failure of the foreign trade market for agricultural products such as coffee, cotton, tea, the economy diversified into other sectors such as industry, construction and service. Also in the 2000s due to high consumer demand for service industries such as communication and transportation, it started to grow fast.

In 2022, the contribution of the agricultural sector was equivalent to 31.4% of real GDP and 67% of employment (Brenya et al., 2023). The main export crops included are tobacco, cashew nuts, coffee, tea, cloves, sisal and cotton. Cashew nuts is the fastest growing crop, in terms of their contribution to the national income whose value increased from US\$ 50 million to US\$201 million between 2019 and 2024. However, the added value of these agricultural products is only 10% on average (Brenya et al., 2023). Furthermore, it has been revealed that the public and private sector investment in value-added remains low. These lead to lost opportunities such as income, employment and innovation (Brenya et al., 2023).

In Tanzania economy, tax revenue is the major source of income to the Government, despite the fact that the revenue of the Government should be increased so as to create more funds available for the Government projects and other social services provision. Despite various number of studies conducted to analyze the contribution of sectorial into economy growth for instance, contribution of tourism sector through taxes collection Brenya et al., (2023), there are gap that most of researcher unaddressed about the quantitatively contribution of agribusiness to the contemporary world of economics. Therefore, it's a researcher ambition was to make significance analysis on how agribusiness function a noble role in the economy of the country, also this study designed to address the quantitatively contribution of the agribusiness leads to the growth of the tax base revenue in Tanzania economy.

Research Objectives

- i. To examine the percentage that agribusiness contributes to the Tanzania economy
- ii. To examine cashew production rank it takes on the list of the agribusiness crops that increase the tax revenue in the economy
- iii. To pinpoint the role of the Government that should be played to increase tax-base revenue on the agribusiness sector in Tanzania for Cashew nut product

LITERATURE REVIEW

Schultz theory of traditional agriculture referred as modernization of agriculture; was established by Theodore Schultz in 1964 which explains that, the income generated by the traditional farmers are mostly low; Schultz set out to solve the problem that how the traditional agriculture can be transformed to the highly productive farms, the problem is regarded as investment problem, however the solution does not totally base on the injection of the capital to agriculture sector, but also what kind of agricultural investment should be determined too(Brenya et al., 2023). Schultz address that traditional agricultural sector cannot grow with the aid of traditional production factors only; the new different production factors are necessary. The real substantial differences the crucial ones for the growth rate in agriculture that envisioned by Schultz were investment in non-traditional inputs such as agricultural knowledge, education and improvement in the quality of material inputs available to the farmers so as to shift the agriculture and capitalize the economic growth. According to Schultz, individuals working in traditional agriculture are frequently very poor, there is no significant motivation to work more since labor's marginal productivity is low, and there is little incentive to save (Brenya et al., 2023). As a result, Schultz concludes that a farmer who is willing to labour, has access to and understands how to apply research, and is knowledgeable about soil, plants, and machinery may create abundance. The information that enables transformation is a type of capital that necessitates investment; investment not only includes material inputs in which this knowledge is contained, but also, more significantly, people. Masasi farmers should modernise their cashew cultivation processes, and proper education should be provided to them on proper material input investment, which includes the use of quality seeds and pesticides at the appropriate standards, in order to increase cashew production and thus increase revenue collected from the farmer's production. Schultz also emphasises the importance of incentives in the industry, including infrastructure building, well-functioning markets, and a peaceful law-abiding community (Brenya et al., 2023).

The high pay-off input model was developed in the 1960s to transfer the agricultural technology from the developed to the developing countries in the context of unbalanced resource allocation. Agricultural farmers in these backward areas are rational, but have limited technical and economic knowledge. According to Brenya et al., (2023), the key to transforming the traditional resources into more productive resource lies in investing in modern inputs, designed to provide high returns to the farmers in poor countries. The capacity of public and private sector research institutions to generate new technical knowledge; the capacity of the industrial sector to develop, produce and sell new technological inputs; and ability of farmers to acquire new knowledge and use new inputs effectively. The enthusiasm for the high-yield investment model to be accepted and translated into economic theory has been due in part to the proliferation of research reporting high rates of returns on public investment in agricultural research (Sufrianto and Danggi, 2021). The education and research are public products and are not traded in the market, the resource allocation mechanism between education, research and other alternative public and private sector economic activities are not fully integrated. Investing in research and education has been shown to produce the positive results, as a result of this investment the developing countries like Tanzania have produced high rates of agricultural growth. Therefore, the model places more emphasis on accelerating the process of development and diffusion of new investments through investment in research and development. The government should promote greater investment in technology and information through the specialized agencies. Centre should focus to conducting different investigations, training farmers to adopt these technologies initiated on the empirical evidence provided to explore this knowledge (Sufrianto and Danggi, 2021).

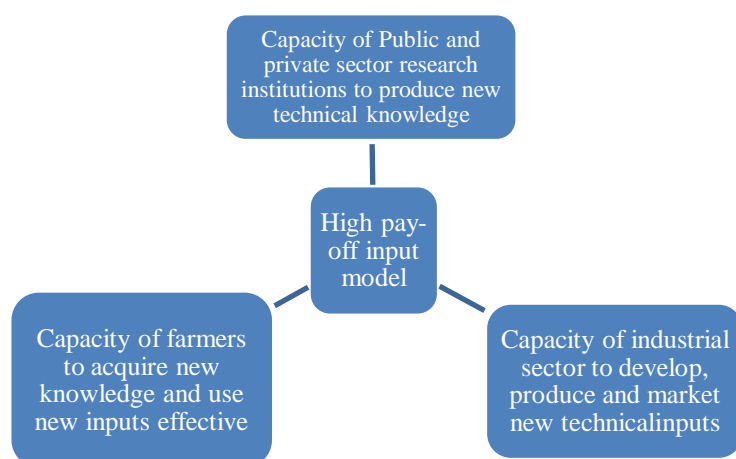


Figure 2.3. Three categories of the High pay-off input model of agriculture development

Source; Sufrianto and Danggi (2021).

Many previous researchers conducted their studies concerning the agribusiness in their countries, and analyze the contribution of it towards the National economy through employments opportunities that were created. As observed by a researcher, below are some of the previous literature reviews. On the article of Sufrianto and Danggi (2021), authors explain the role of the agribusiness to the global economy as it provides food, employment (mostly to the rural people) and also provides income to them. The share of agricultural population in total population is 67%, 39.4% of the GDP accounts from agriculture (Sufrianto and Danggi, 2021). The conception of the economist regarding agriculture address that the agricultural economic development undergoes important evolution. The authors also address that a quarter of the earth surface is now under cultivated. Many regions in Europe, Australia, North America, and China become skillful raising yield by using inputs like pesticides, fertilizer and organic manure, perhaps poor country with low productivity and growing population, agriculture expand into marginal and fragile lands. In large part of Asia and Sub Saharan Africa there is almost no highly productive land left (Millennium Ecosystem Assessment). Improvements in agriculture and land use are the fundamental for the achieving poverty alleviation, food security and sustainable development (Sufrianto and Danggi, 2021).

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Sufrianto and Danggi (2021), use a multiple model of GDP growth to study agriculture and economic change in Ethiopia, where agriculture contribute 43% to the National income and 50% of the Ethiopia`s workforce was hired. Sufrianto and Danggi (2021), Ethiopia`s Agricultural Sector Policy and Investment Framework, a 10-year road-map (2010-2020), they argued that the agricultural sector has a significant impact on Ethiopia`s economics. Sayoga (2022), investigated the economic benefits of the agriculture for sustainable development and poverty reduction in Etiopia using Economy-wide Multimarket Model (EMM), and Semi-Input-Output (SIO) model; they revealed that they depend on agriculture for their livelihoods for 85% of the rural population. Hidayati (2023). participated in food security and livestock development to reduce poverty in Latin America, Asia and Sub Saharan Africa, with the agricultural sector Gross National Income (GNI) or Gross Domestic Product (GDP) revealed the fact that although sector makes a relative small contribution to GNI or GDP, many labor force engaged in the National economic activities are used for agriculture. Chindengwike (2020), used the GDP model to estimate the agriculture share of the GDP and its impact on rural development in Nigeria, they claimed that agriculture was the largest non-oil exporter and largest labor employer, accounting for 88% of the non-oil foreign currency earnings and 70% of the active workforce of the Nigeria population. Chindengwike (2020), calculated the contribution of the agricultural sector to the sustainable development of the Jamaica, he believes that agriculture has been considered essential to reduce the poverty in Jamaica and promote rural development. Chindengwike (2020), calibrated the impact of China-Africa trade relations in Kenya, he noted that the agriculture is the main activity in Kenyan economy. Approximately 70% of Kenyans lives in rural areas, while 75% depends on agriculture for their livelihood. Aidoo et al., (2022), estimated the growth of the agricultural productivity in the United States and the benefits of the public spending on the research and development. They found that until the end of the World War II the share of agriculture (including forestry and fishing) in income remained constraint, the average period from 1929-1948 was around 9%, but it dropped to about 0.8% of the National income between 2000-2007.

Conceptual framework.

The purpose of this is to assess the connection between the independent variables and dependent variables in the study, which is to see the relationship between agribusiness and tax base expansion in Tanzania. The agribusiness through agriculture does not contribute directly to the national economy, but it contributes indirect as the produce passes from the farmer to the buyer then for exportation.

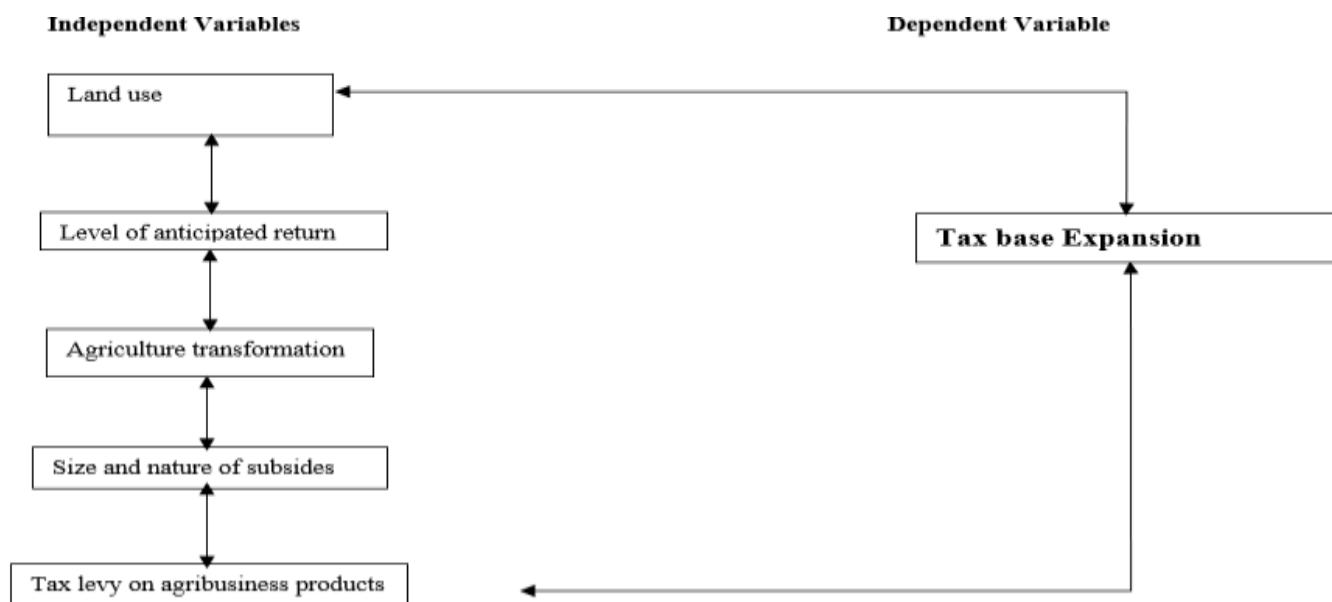


Figure 2.5. Conceptual framework model.
Source; Researcher`s construction (2025).

RESEARCH METHOD

This study opted mixed research approach while case study used as research design of this study. The study conducted in Mtwara region, within Masasi district and Nanyumbu district. The research found it convenient site of the study as its simple to access the information available about cashew farmers so as to come up with the conclusion of the topic studied. The study population was 12 TRA officers of Masasi and Nanyumbu district, the 245 farmer`s unions of cashew nuts in Masasi and about 11 cashews warehouse cooperative unions in Masasi. The techniques used in this study belongs to probability sampling (Simple Random Sampling) and non-probability sampling technique (Convenience, Purposive and Snowball). Sample size for the study were 98 farmers`s unions and TRA Staff calculated from 268 farmers`s unions and TRA Staff. This study used primary and secondary data.

RESULTS AND DISCUSSION

This section explained the results and discussion of the study. Includes the connection between theories, other literature and findings of the study.

Respondents demographic profile.

The findings indicated that both gender were involved; whereas gender of study`s respondents were comprised about 53 male respondents equivalent to 54%, also about 45 respondents were female which is equivalent to 46% of the total respondents of the study. This implies that male was dominated in various professionals and being employed in various position in the public sector compared to female. The study also comprised different ages of the respondents. The researcher ages were categorized into four categories of age group; 20-31; 32-41; 42-51 and 52+. The participated different ages imply the different experiences of respondents therefore it will indicate the good representation of the study`s population. According to the findings obtained, the group age of 20-31 is having 3 respondents` equivalent to 3.06%; the group age of 32-41 having 36 respondents equivalent to 36.73%; the group age of 42-51 having 43 respondents equal to 43.88% and the age group of 52 and above having 16 respondents which is equal to 16.33% of the total respondents

Experience means that the accumulation of knowledge or skills that results from the direct participation in a certain events or activities, generally the event makes up conscious past of a community or humankind. Respondents in our study possessed different working experiences or years in service, here we have three groups; less than 5 years where 21 respondents found within this range equivalent to 21.43%; within 6-10 years where 33 respondents found within the range which is equal to 33.67%; and the last group is more than 10 years where 44 respondents equal to 44.9% of the total respondents were found on this range. This implied that most of the chosen respondents have adequate working experiences leading to accurate data collected from them. One among the key issues when comes to profession of the respondents and their qualification. Within our study, researcher indicated the level of education of the respondents in two ways for the fact of simplicity. Level of education of the TRA officer`s respondents (12) and cashew cooperation warehouse union respondents (2) as follows; 9 respondents having Degree or/and CPA which is equal to 64.3% of the total 14 respondents from the group; and 5 respondents having Masters which is equal to 35.7%.

Table 1: Respondents demographic profile

Gender	Frequency	Percent (%)
Male	53	54.1
Female	45	45.9
Total	98	100
Age	Frequency	Percent
20-31	3	3.1
32-41	36	36.7
42-51	43	43.9

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52 and above	16	16.3
Total	98	100
Working experience.	Frequency	Percent
1-4 years	21	21.4
5-9 years	33	33.7
10 years and above	44	44.9
Total	98	100
Education level	Frequency	Percent
Undergraduate Level	9	9.1
Post-graduate Level	5	5.1
Primary	32	32.9
O-level	11	11.2
Diploma	32	32.6
A-Level	9	9.1
Total	98	100

Source: Research Output, 2025

Agriculture Sector and Tanzania economy

Tanzania is the one of the fastest growing economy in African countries with 6.8% annual GDP growth since 2000. The engagement of the private entities was very essential component of the economic development of Tanzania in order to reach the middle income status by 2025. Entities in Tanzania are on forefront to the economic growth by creating job opportunities, innovation, and generation of tax revenue. The economy depends on agriculture activities which accounts for slightly less than one-quarter of GDP, employing about the 65% of the work force. The 2024 Government elected has plan and developed an agenda which focused on making and improving the conducive business environment through improvement of infrastructure, education progress and access to financing. According to the National Bureau of statistics 2025, on economic data that included in the National data of Tanzania mainland of 2019-2024, the GDP shares in 2023 show that service made 46%, followed by agriculture 29%, non-manufacturing industry 17% and manufacturing industry 8%.

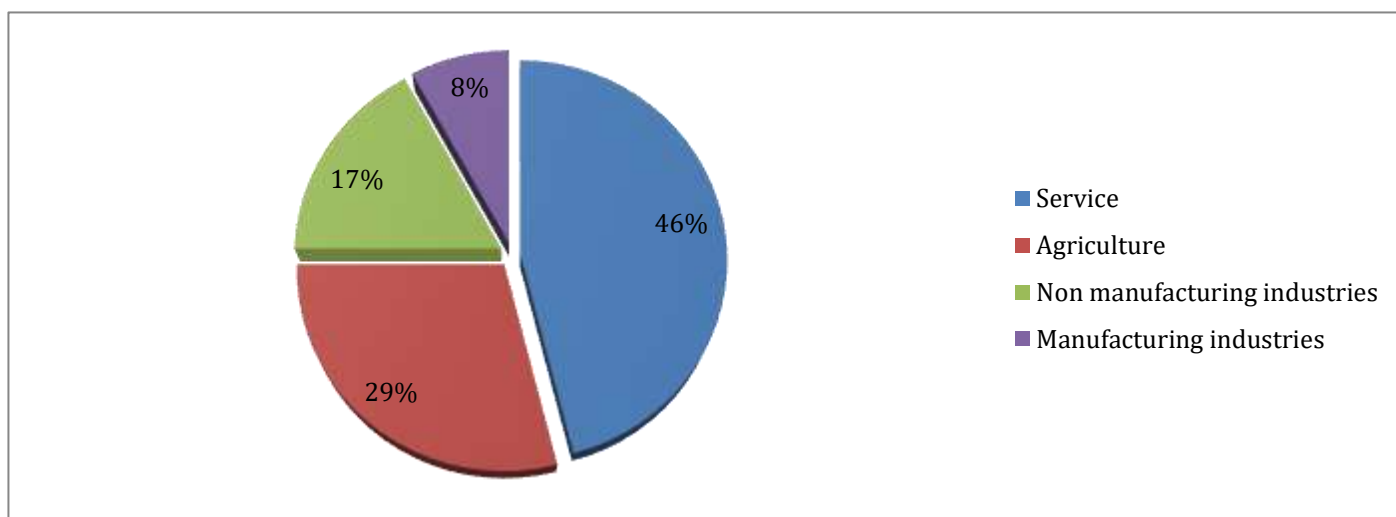


Figure 4.1. 2015 GDP on the four major economic sectors.

Source; Tanzania National Bureau of Statistics, 2025.

The percentage that agribusiness contributes to the Tanzania economy.

The first study objective was to identify the percentage that the agribusiness contributing to the economy of the country. Over the next years to come the agribusiness sector productivity will be low because the industry dominated by smallholder farms that are highly dependent on rainfall, limited access rural credits and farm inputs, but we note

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that the Government remains committed to improve the agricultural production and the number of new programmers posed upside risks to the outlook. A researcher discussed the objective one by concerning three factors; agribusiness on the GDP of the country for last 10 years; the level of employment opportunities created from agribusiness; and the amount of VAT collected by TRA on the sale of agricultural produce within the country. According to the statistics of the National Bureau the agribusiness contribution to the economy is as follows; 2010 the agribusiness contributes 25.58% in the country's GDP; 2011 contributes 24.98%; 2012 contribute 26.55% to GDP; 2013 contribute 26.79%; 2014 contribute 25.8%; 2015 contribute 26.75%; 2016 contribute 27.44%; 2017 contribute about 28.74 of the national GDP; 2018 contribute 27.91%; 2019 contributes 27.43% and 2020 contribute about 26.65% of the national GDP (see Fig. 4.2). Agribusiness accounts for 26.7% of the Tanzania GDP and provides employment for majority of the nation's population. The existed opportunities for this business are across the domestic, regional and international markets.

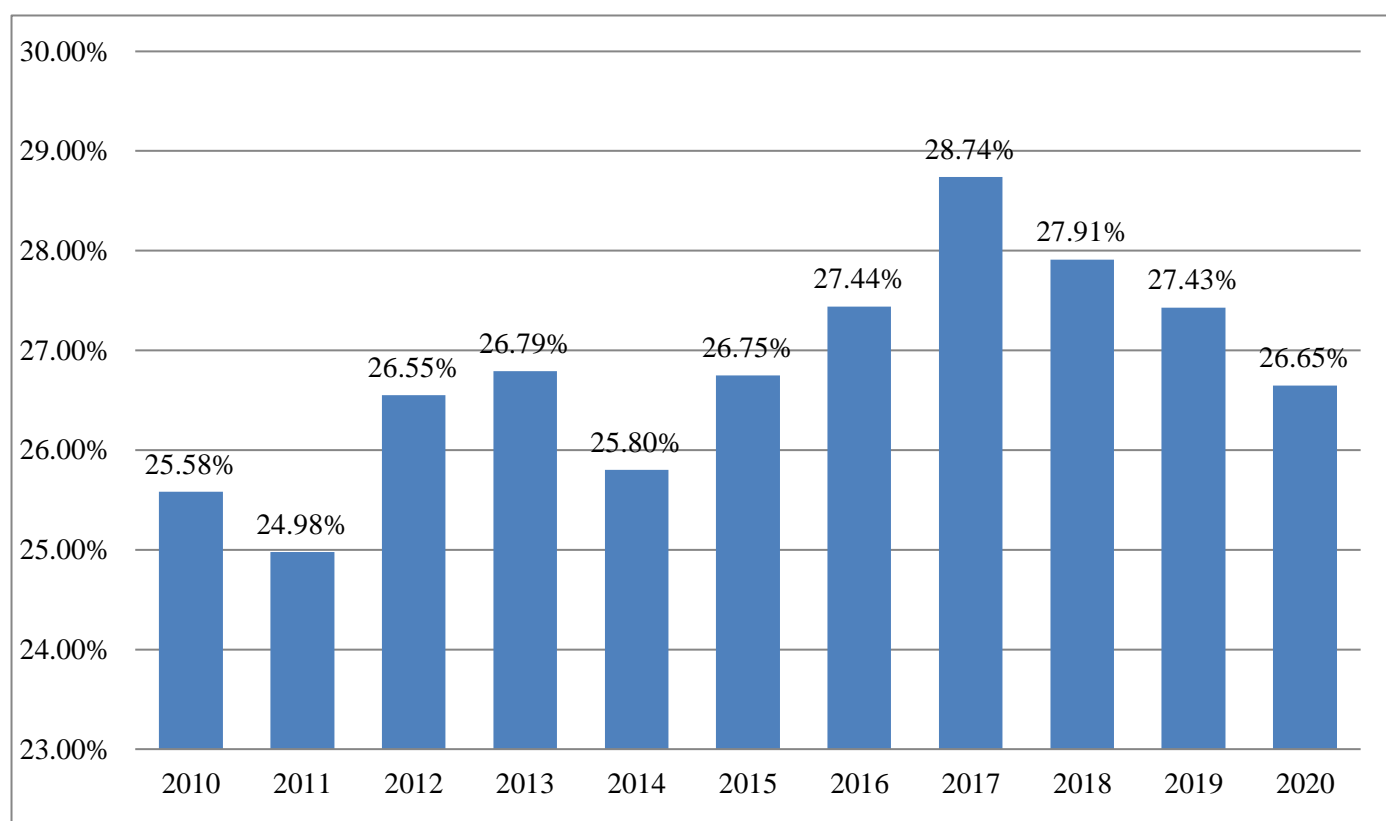


Figure 4.2. Percentages of agribusiness contribution on the economy's GDP

Source; Field survey, 2025

According to Aidoo et al., (2022), agriculture is the main employer driver of the development in the countries, 1.3 billion people work in agriculture around the world in which 97% of it found in developing countries like Tanzania. Although the percentage of the agribusiness contributing to the employment opportunity decreases as the population increase over years but the number of people employed on agriculture still increases, that's why agriculture remains the number one driver for the employment opportunity in the country. Figure 4.3 below showed the contributions of the agribusiness and the increase of population analyzed over 10 last years, so as to figure it out the real percentage of employment offered by agribusiness, apart from the total GDP as shown earlier in Figure 4.2

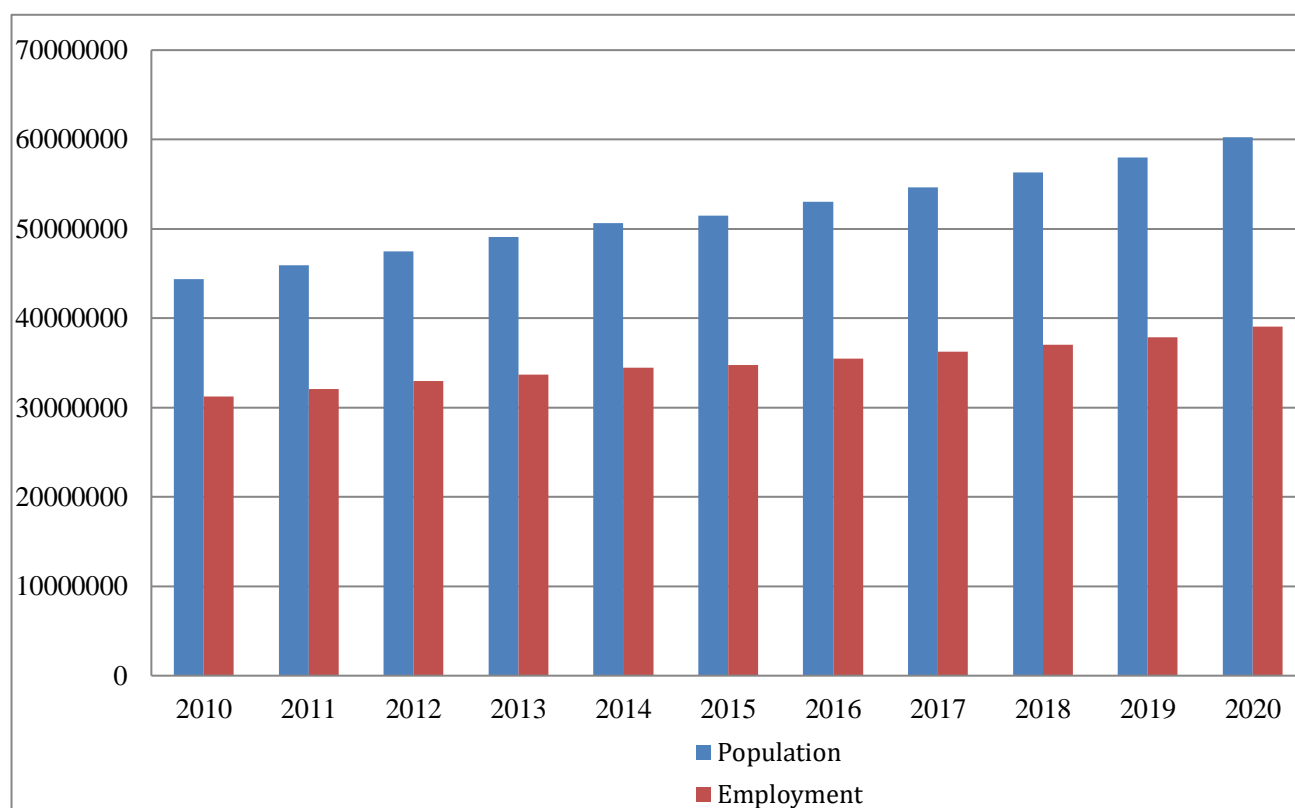


Figure 4.3. Population and the employment offered from agribusiness in Tanzania.

Source; National Bureau of Statistics, 2025.

The figure 4.3 above shows the increase in the population of the country and the percentage of it in employment creation to the people in last 10 years. There is upward trend (positive relationship) on the population and the employment creation in agriculture; this implies that as the year goes on the population increases also the employment on agribusiness increases in the country.

From the GDP figure we saw that the agribusiness was experiencing a high contribution to the National GDP about 28.74% were obtained from the agribusiness through agriculture, also the employment figure we saw as the population increases the number of people employed in agribusiness increased and its about 97% of the world agribusiness employment opportunities are from developing countries like Tanzania. In Masasi, about 75% of the total population were engaged in the agribusiness leading to be the main source of income to the Masasi citizen. VAT refers to the tax that is levied indirectly on the products or services consumed of any economic activity on each stage of the production to the stage of sale. It is indirect since it does not fall on the income of an individual compared to income tax, rather it falls on the level of consumption of a person; the more you consume the more VAT collected on the purchase of goods since the VAT is added to the product on every point of supply chain where value is added. VAT charged on both locally produced goods and services and on imports, all supply consumed or enjoyed outside mainland Tanzania shall be zero-rated upon proof. The standard rate for VAT is 18% (Aidoo et al., 2022). A researcher also wanted to show the VAT collected by TRA through the sale of the agricultural produce within the country so as to see the contribution of agribusiness within the economy through VAT collection.

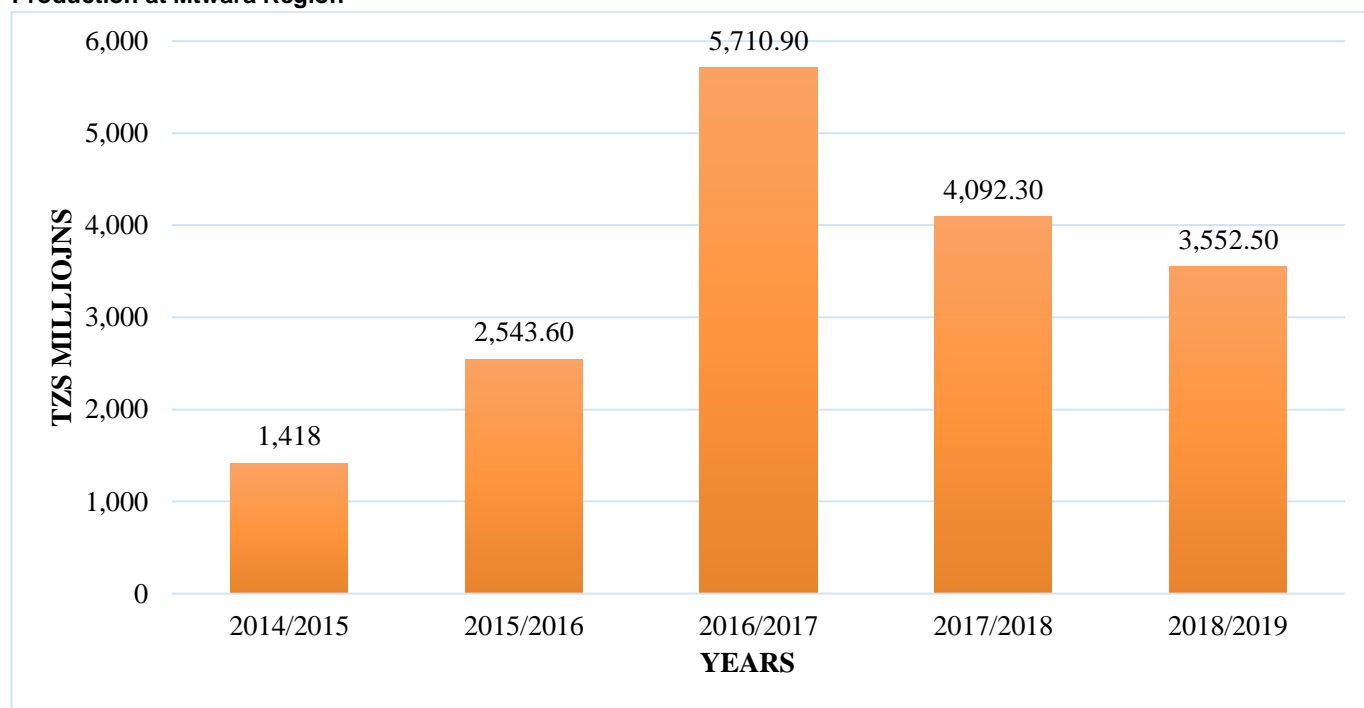


Figure 4.4. VAT collected from Agricultural produce on 2014/15 to 2018/19 (in TZS mn.)

Source; Field survey, 2025

The data were collected manually and presented through Excel by inserting the chart showed the variability of the VAT collected from the agricultural produce. The collected VAT in 2018/2019 was high compared to all years as shown in figure 4.4; However, these revenues collected can be increased if the Government stabilize the operation of domestic industries that will help to process the raw agricultural produces within the country and obtain a finished product that will have more value leading to high VAT paid on it compared when it was exported as raw leading the country to lose more revenues. Despite those finding of Aidoo et al., (2022), suggest that the agribusiness will be more effective contributing to the economy if proposed a division of agribusiness into four aggregates; first is inputs to agriculture; whereby it includes the part of all sectors that supply products to agriculture; the second is agriculture itself meaning the use of those inputs properly; the third is agriculture-based industries; including the proper network to the industries that are most related to the agriculture in terms of demand for its products; and the last division is final distribution which estimates the share of products in a value added form through transportation, commerce and service sectors.

According to the report of Aidoo et al., (2022), the Tanzania agribusiness though agriculture accounts 28% of GDP; and about 80% are employed labor force. The agriculture sector is essential for export revenue source. Also report indicates that the determinant that lead better performance in agribusiness are; availability of certified seed; access to fertilizer; access to farm machinery (tractor for the land preparation); availability of agricultural and agro-enterprises finance; cost and the efficiency transporting agricultural products and the last is the measure of policy certainty and uncertainty as perceived by the private investors and their effects on enabling for agribusiness environment. According to the Journal conducted by Ameh et al., (2022), argue that the GDP on agribusiness sector decline due to the low incentive provided by the Government, and in order to collect the situation, the policy should be formulated that will focus on the agribusiness sector as a major contributor of national GDP.

Presentation and discussion of the specific objective two.

The cashew production rank it takes on the list of the agribusiness crops that increases the tax revenue in the economy. According to Aidoo et al., (2022), Tanzania is among four largest producer of cashew in Africa, holding eighth position in the world on production of cashew nut. The country provides 20% of the total Africa's cashew nut with export providing 10%-15% of the foreign exchange of the country (Aidoo et al., 2022). The lack of enough processing industry cost the country vital revenues and thousands of jobs. More than 90% of the cashews are exported

to other nations like India, United States, United Arab Emirates, Kenya and other countries. In 2019, Tanzania generate USD 353.1 million equivalent to TZS 815.4 billion on exporting cashew nuts, and the Government aims to triple the production over the next coming five years. Tanzania is known in production of premium quality cashew nuts fetching high prices in the world markets compared to other produced cashews from other African nations. A researcher discussed the objective two by considering the level of credits provided to the cashew farmers to expand their production, also considering the level of exportation of the cashew nut to abroad which justify the position of the cashew nut on the list of the cash crops that highly contribute to the national economy.

In Tanzania, we have main seven cash crops that are highly contribute to the economy, such as coffee, sisal, cashew nut, tea and tobacco and seed cotton. Cash crop production reached 0.639 million tons in 2018/2019 increased by 2% from 2014/2015. Cashew nuts are the most produced cash crop in the country accounting 35.2%, followed by seed cotton 34.9%, coffee 10.4%, tobacco 8.6%, tea 5.8% and sisal 5%. The production of cashew nut increased by 50% from 2015 to 2019 to 0.233 million tons. The cashew has record a positive performance over last 10 years which enable to compete with tobacco as the national's top agricultural export earner. Cashew nuts is in second position followed by cotton on the list of cash crop contributes towards the high tax revenue through the export to various nations, meaning that it has more impact on the economy of a country. Although the cashew nut takes the first position on the list of the crops that are highly produced in Masasi district, about 75% of the income of Masasi district were from the cashew agribusiness. According to FAO, the main crops exported in 2019, tobacco and cashew nuts are the most sold crops, earning about 350 million USD, followed by cotton earning 200 million USD (see Fig. 4.4).

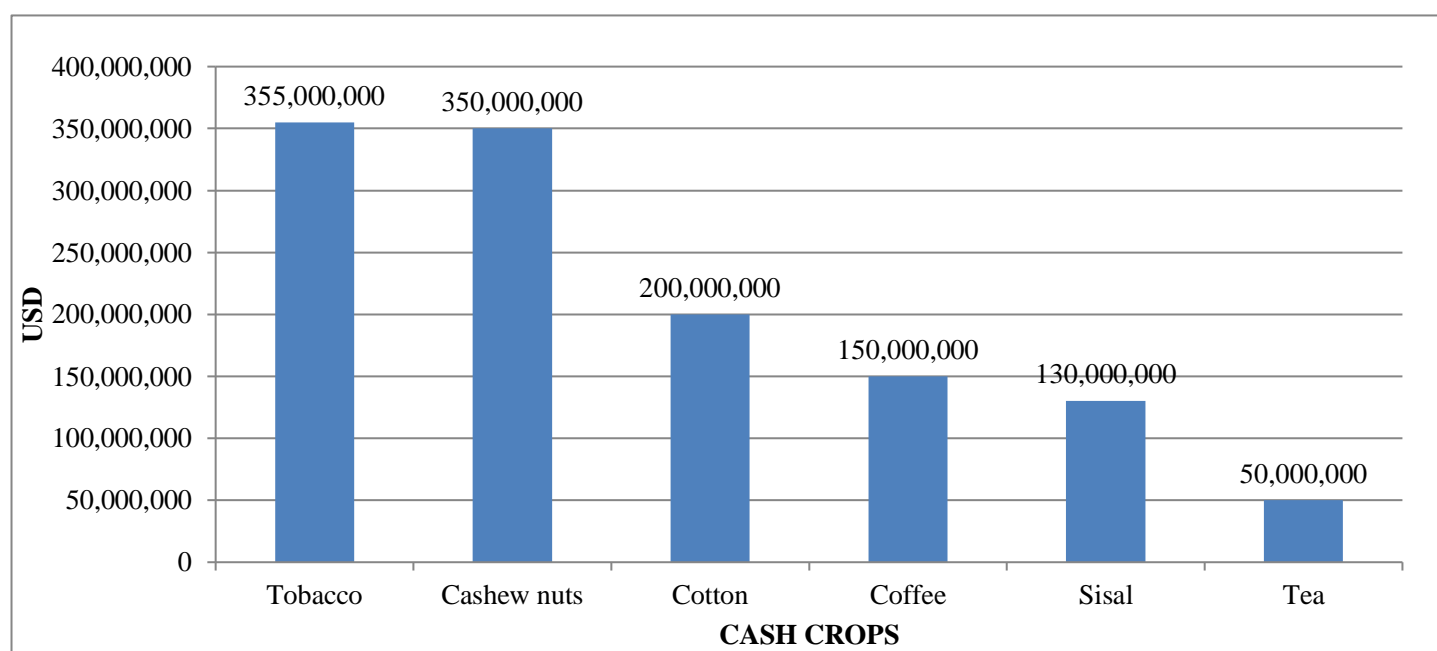


Figure 4.4. Main agricultural crops that are contribute more revenue through export (in USD).

Source; Ameh et al., (2025)

Also researcher prepared some questionnaires to the respondents so as to know the reliable production of cashew nuts and its export that makes to take second position on the list. The factors studied here were; the credit advanced to the cashews farmers that helped them to increase production and the level of exported cashews. The respondents were required to choose between numbers 1-5 to answer the questionnaire of researcher so as to know the volume of production and export of cashews among various cash crops. 1- not satisfied; 2- less satisfied; 3- Neutral; 4- satisfied; 5- very satisfied. The chosen option would generate the expected mean 3.0 that will be used to compare and analyze the finding.

Credit advanced to the cashew farmers.

In order to measure the rank of cashew in main crops that generates high revenue, researcher look on the credit that offered to the farmers so as to expand their production capacity. Questionnaires were addressed to the farmers of different unions (84 respondents), and their responses were evaluated so that to justify the production of cashew was increased leading to be on top of among the main cash crops. Table 4.8 above showed the finding of the respondents;

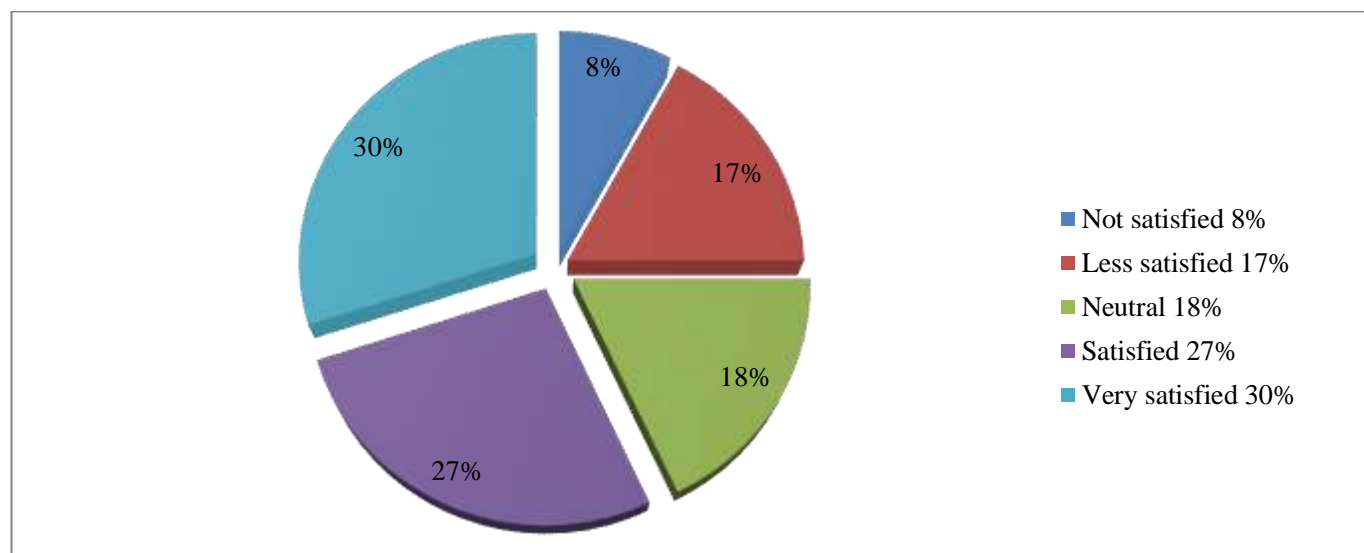


Figure 4.5. Credit advancement to the Farmers on the production of cashews

Source; Field survey, 2025

The finding above showed the computed mean score and the average mean score for all questions (3.5), which is greater than the average means score of (3.0), implying that the advancement of the credit to cashew farmers has essential to influence the top position of cashew nuts. The factors contributing to the loan advancement to the cashew farmers was, satisfied with the amount of loan provided (3.9); bank charges and duration of repayment of loan (3.6); followed by the imposed bank requirement (3.3) and the satisfaction with the interest on repayment (3.1).

Cashew nut exportation

The cashew nut export tax applied to all export of raw cashew nut to foster in country processing, the rate was 10% of the Free On Board price (FOB) value, but were increased to 15% in 2011. The Government also funds the Naliendele Agricultural Institute (NARI) in Mtwara; NARI is the among of agricultural research zone centers under Ministry of Agriculture, food security and Cooperatives; established in 1970 to conduct agricultural research that address the needs and aspirations of the farmers, improve crop productivity and quality. The questionnaire was designed and addressed to the TRA respondents (12 respondents) in order to figure it out the exported amount of cashews and how it generate the revenue to the Government through export duty. Table 4.9 below analyzed the response of the respondents.

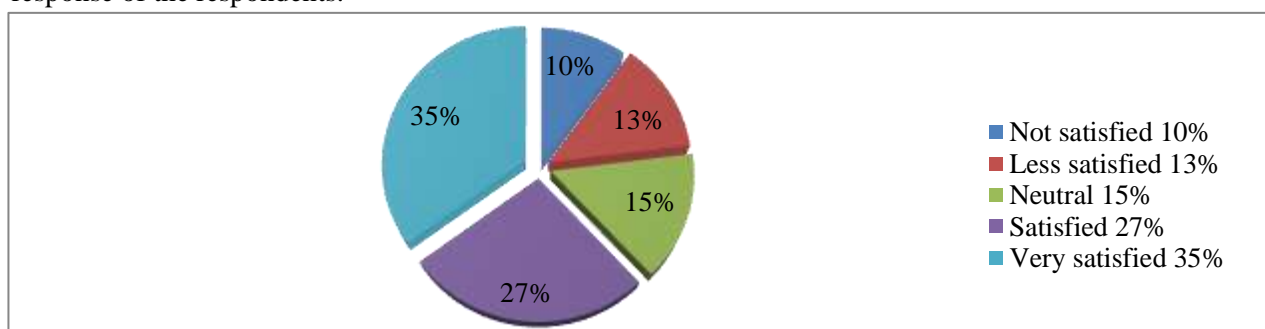


Figure 4.6. Level of cashew nut exportation

Source; Field survey, 2025

The finding above shows the computed mean score and the average mean score for all questions (3.6), which is greater than the average means score of (3.0), implies that the level of exportation of cashew from our country has significant contribution to influence the top position of cashew nuts from the list of the most revenue generated crops. The prices of cashew nut were TZS 3,381 in 2015/2016; and increased to TZS 3,772 in 2016/2017; in 2017/2018 to TZS 3,864; keep increased to 3,910 in 2018/2019; and finally reached to TZS 3,956 in 2019/2020 (According to the Cashew Board of Tanzania, 2025). A researcher collected data on the export quantity (volume) and the value earned from the export of cashew from Tanzania. Data were collected and presented using Excel, where the charts inserted from it.

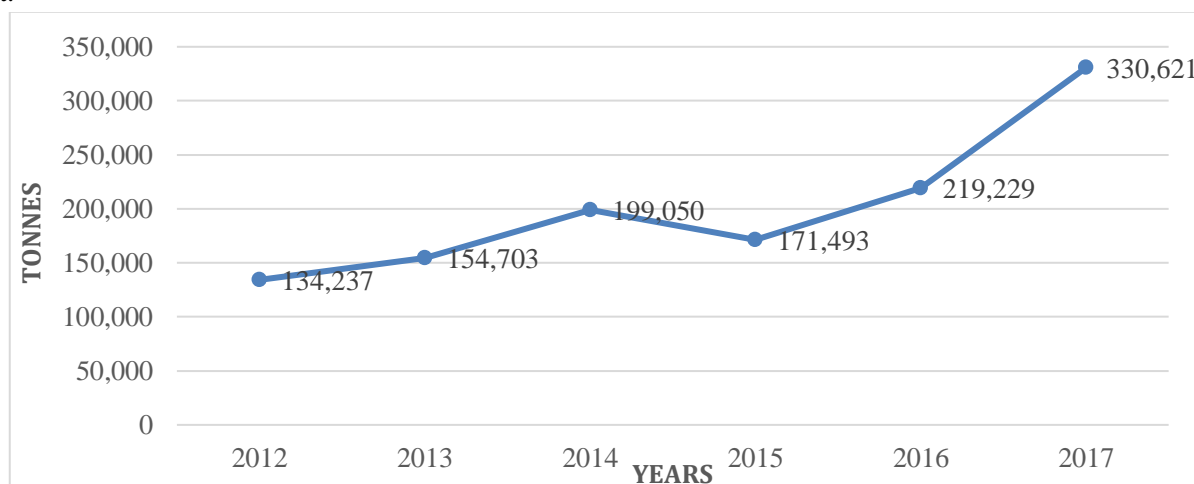


Figure 4.7. Cashew nut export quantities on 2012 to 2017 in Tanzania (in Tons).

Source; Field survey, 2025

Also researcher showed the revenue generated from the export of our Cashew to abroad, this statistic justify that cashew nut has great contribution to the national income of Tanzania, that's why it holds the top position on the list of the cash crop with high revenue generated in the country after tobacco. Below were the statistical data;

Source; Field survey, 2025

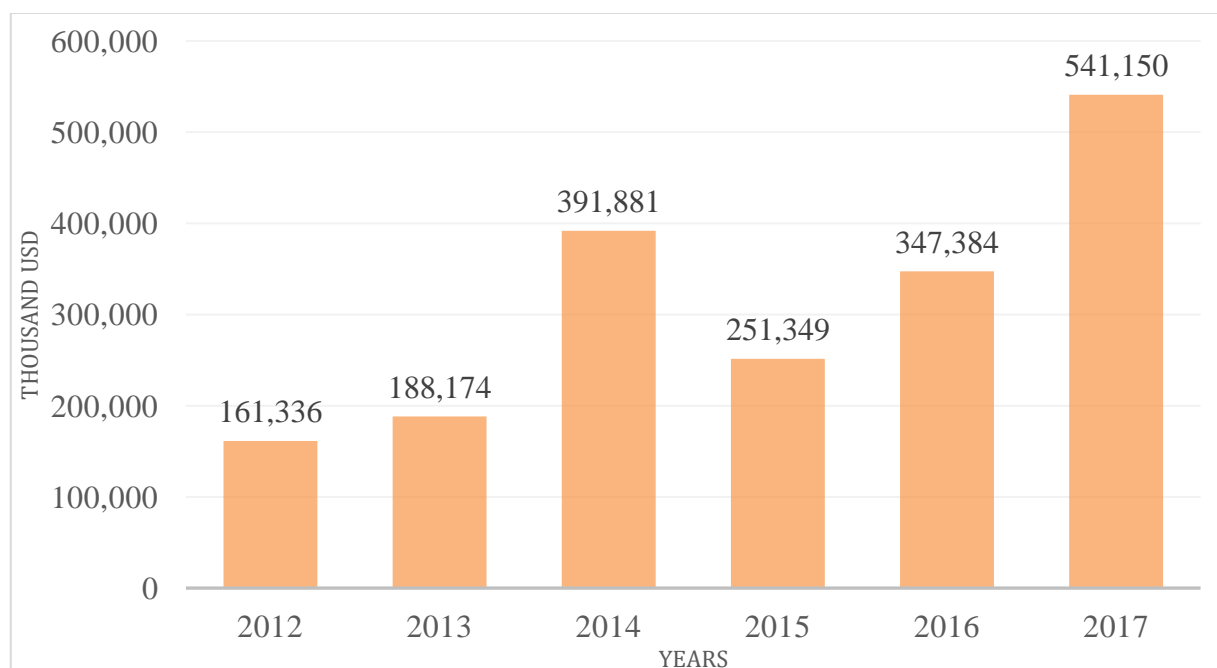


Figure 4.8. Revenue earned on export of Cashew nut in Tanzania (in thousands USD).

Source; Field survey, 2025

Mitchell (2004), on his journal article, explains that the cashew is among the favorable position on the list of the world's agricultural commodities with the more rapid growth in the world imports demand. Cashews grown almost exclusively in developing countries for the domestic and export consumption, about 93% of cashews are exported to the developed countries. The price of cashews increased by 1.2% a year in USD terms from 1990 to 2000, the coefficient of variation of price of the cashew nut during 1990 to 2000 was 7.9% compared with the 14.7% for all of the agricultural commodities.

Role of the Government that should be taking into consideration to increase the tax base revenue on agribusiness sector in Tanzania economy.

The questionnaire was designed and addressed to respondents so that to find out some ways that can be adopted or improved in order to boost the tax revenues contribution from agribusiness; the following were some of those ways initiated by respondents through questionnaire and interview (Alhshem and Ghader, 2022).

Imposition of direct tax to agribusiness farmers.

Among the ways suggested by respondents was to levy tax to the farmers since there is no direct tax involved to them like other traders possess apart from deductions like storage fee, Produce fee, and municipal fee. But the Government should ensure that the tax rate is relative fair to the farmers so as to create equality to the taxpayers. The Government can impose a withholding tax on the sale of cashew, this will be effective since the taxpayer will not feel the burden of tax directly and the Government will increase its revenue on the same time (Abesha et al., 2022).

4.5.2. Awareness to the people on the benefits of paying tax.

Then the community should be provided with the sufficient education on the tax benefit. Not only the benefit also how to pay it properly, many people especially in Masasi lack the tax education, this leads to create difficult on tax collection, but if the community (farmers) having the knowledge on how the development achieved through the collected tax then the taxpayers will be feel it positive and start to pay the imposed taxes. Awareness can be provided through radio, televisions or through seminars and magazine that will contain the benefit of the taxes in the economy (Alemu et al., 2022).

4.5.3. Advanced and regular training to the tax collection officers.

Also the Government through TRA should establish a proper way to conduct training to their members on how to widen and increase the collection through cashew farmers so as to ensure the collection goal is reached. According to the questionnaire the that are addressed to the TRA officers implies that the training is provided once per years, the Government should increase the number of training to the officers, by doing so the trained officers will have enough skills on how to tackle the poor collection and on what ways that the Government can be increase its revenues from the cashew farmers and on which rate to impose, and where is the base of taxing them, so as to ensure the proper taxing strategies are enhanced (Tamene and Ashenafi, 2022).

Increase subsidies to the farmers.

The Government incentive provided to agribusiness, agricultural organization to supplement their income, supply of the agricultural inputs like fertilizer and seeds. In order to boost the production of agribusiness crops, the Government should provide subsidies to the farmers so as to increase their production scale and leads to high tax collected. The focus of seed and fertilizer was attributed on the needs to boost rapidly the production in the sector, given the economic, political and social climate at the same time. The usage of the input subsidies is a step towards achieving developmental goals such as trade promotion and poverty reduction and food security (Tamene and Ashenafi, 2022).

Introduction of development levy that will be used to develop agribusiness sector.

Again the Government should establish a levied tax that will be used for the developing the sector of agribusiness so as to support them towards the sector improvement. A levy like Skills Development Levy (SDL) to vocational training should be established also to the agribusiness sector in order to promote the agriculture development in the country (Tamene and Ashenafi, 2022).

Proper way of paying and collecting tax.

The ways and methods used to pay taxes also should be simple and convenience, that will ensure a taxpayer's tax payments are made in good manner and simple. As the canon of tax says that, simplicity should always involve to both taxpayers and the collectors, so as to lead that the Government revenues are always paid without any prolonged procedures economy (Alemu et al., 2022).

Enhance audit and verification program.

Also the Government should initiate that the collection and all the collected funds are verified and reviewed using may be some electronic software that will track the taxpayer's obligation and the real amount that actually paid, and detect if there's any fraud or some errors on appropriation or any mispresentation of the collected funds. The software will be used so as to detect the level of fraud that the officers may be used to earn some illegal money (corruption) economy (Alemu et al., 2022).

Management, governance and human resources.

Involves the proper unit of command, meaning that the management have it all and assign the workers on their activities properly and given them authority to operate and collect all the Government revenues having spirit on the revenue collected by the Government through them. The human resources also should be considered that the people are employed with the required skills and knowledge on how the tax is collected and what its benefits to the society, through human resources, the Government will have the qualified workers that will use well the public offices in order to have the potential tax collection in our country economy (Alemu et al., 2022).

High level of political commitment in the country.

The economy will not be built if the political situation is not well enough to support people to engage in the economic activities, therefore the Government through their specialized bodies should ensure that the country maintain peace and order that will be essential to the farmers to engage and expand their scale of agriculture yielding high level of output produced and resulting to the high amount of the taxes that will be collected on the agribusiness sector. Also, Agricultural Non State Actors Forum (ANSAF) says that in order to increase the tax revenue the Government should protect the domestic industries from the external unfair competition through increasing the tariff on the products with comparative advantage in the local market, also restricting the agricultural raw products exports like cashew export so as to promote the value addition. A researcher argued to support the forum that the Government should develop the home industries so that the raw cashews will be processed internally and make exportation of the valued cashew nut which will be used to the direct consumers, by doing so the Government will earn more revenues rather than exporting it as a raw cashew economy (Alemu et al., 2022).

CONCLUSION AND RECOMMENDATIONS

The study was to account the significant contribution of the agribusiness on tax-base revenue growth in the economy of the country, the study conducted at TRA Masasi. The research showed that the agribusiness contributes on the national income through export, though VAT paid on each stage of production within the country and also through the employment opportunities that created to the Tanzania citizens; although the study entailed that the agribusiness does not contribute directly to the tax-revenue, since there is no any tax imposed by TRA through the Government that collected from the agriculture farmers like other business entities assessed. Also a researcher showed some theories that are relevant on the agribusiness, and describe the methodologies that were used to approach to the

research results. In order the country to increase the tax collection on every aspect, the government should make people aware on the tax issues and their significant benefits to the country. The Government through TRA should initiate the law that will impose the direct tax to the farmers in order to diversify the scope of the tax to be collected. The imposition of direct tax to the agribusiness farmers will not be efficient if the method of paying it is not well appropriate and known to the taxpayers. In fact, customer service is one among the strategies that will help the customer to enjoy the received service from the servers and The number of the specialist tax officers should be increased in order to fasten the service provision to the customers in a particular region.

ACKNOWLEDGMENTS

The achievement of this article was not a simple assignment; it was an extremely extensive stage. I am thankful for the adoring and cordial God who has allowed me to finish this work. To the remembrance of my ever-loving and helpful father Daniel Marshall Chindengwike, my mother Ester Daniel Chindengwike, their efforts and sacrifices are behind everything I achieved.

DISCLOSURE

The authors report no conflicts of interest in this work.

REFERENCES

- Abesha, N., Assefa, E., & Petrova, M. A. (2022). Large-scale agricultural investment in Ethiopia: Development, challenges and policy responses. *Land Use Policy*, 117, 106091.
- Aidoo, R., Kwofie, E. M., & Ngadi, M. O. (2022). Circularity of cashew apples: examining the product-process pathways, techno-functional, nutritional/Phytomolecular qualities for food applications. *ACS Food Science & Technology*, 2(7), 1051-1066.
- Alemu, Y., & Tolossa, D. (2022). Livelihood impacts of large-scale agricultural investments using empirical evidence from shashamane rural district of oromia region, Ethiopia. *Sustainability*, 14(15), 9082.
- Alhshem, H. H. M., & Ghader, M. (2022). A study of agriculture value added percentage of gross domestic product for selected Asian countries. *Journal of Asian Multicultural Research for Social Sciences Study*, 3(4), 33-42.
- Ameh, O. E., Ater, I. P., & Ayoola, J. B. (2022). Market Performance of Cashew Nuts among Marketers in North–Central Geo-Political Zone, Nigeria. *International Journal of Innovative Science and Research Technology*, 7(2), 479-491.
- Brenya, R., Akomea-Frimpong, I., Ofosu, D., & Adeabah, D. (2023). Barriers to sustainable agribusiness: a systematic review and conceptual framework. *Journal of Agribusiness in Developing and Emerging Economies*, 13(4), 570-589.
- Chindengwike, J. (2022). The influence of value added tax revenue on private domestic investment in developing countries. *Journal of Global Economy*, 18(4), 289-310.
- Chindengwike, J. (2025). Introducing Environmental Taxes in Tanzania: An Empirical Analysis. *Journal of Sustainable Economics*, 3(1), 55-62.
- Chindengwike, J. D. (2020). *Factors influencing taxpayers' voluntary compliance in Tanzania: a case of Dodoma region* (Doctoral dissertation, Doctoral dissertation, The University of Dodoma).
- Chindengwike, J. D. (2024). Effects of taxpayer's attitudes on tax evasion among SMEs in Tanzania: A case of Singida tax. *African Journal of Economics and Business Research*, 3(2).
- Chindengwike, J. D. (2025). Relationship between Governments' Spending on the Education Sector and Economic Growth in Tanzania.
- Demem, M. S. (2023). Impact and adaptation of climate variability and change on small-holders and agriculture in Ethiopia: a review. *Heliyon*, 9(8).

James Daniel Chindengwike. Influence of Agribusiness on Tax Base Expansion in Tanzania: A Case on Cashew Production at Mtwara Region

- Guteta, G., & Worku, H. (2023). Sustainable industrial parks development in Ethiopia: Analysis of policy framework gaps. *Sustainable Production and Consumption*, 38, 210-224.
- Guyalo, A. K., Alemu, E. A., & Degaga, D. T. (2022). Impact of large-scale agricultural investments on the food security status of local community in Gambella region, Ethiopia. *Agriculture & Food Security*, 11(1), 43.
- Hidayati, D. R. (2023). *Sustainable agrifood value chain transformation in developing countries: Indonesia's cashew sector case: a thesis with publication presented in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Agribusiness, Massey University, Palmerston North, New Zealand* (Doctoral dissertation, Massey University).
- Mihret, Y. C., Takele, M. M., & Mintesinot, S. M. (2025). Advancements in Agriculture 4.0 and the Needs for Introduction and Adoption in Ethiopia: A Review. *Advances in Agriculture*, 2025(1), 8828400.
- Sayoga, A. A. H. E. (2022). Cashew Agribusiness Value Chain Study in Wonogiri Regency. *Eko-Regional: Jurnal Pembangunan Ekonomi Wilayah*, 17(2).
- Sufrianto, S., & Danggi, E. (2021). The improvement agribusiness models on cashew nut production based integrated farming systems at South East Sulawesi Province during Covid 19 pandemic. *International Journal of Management and Education in Human Development*, 1(01), 38-45.
- Svi, K., Adamson, D., & Griffith, G. (2021). Profitability of Cashew Nut Processing in Cambodia. *Australasian Agribusiness Perspectives*, 24(19).
- Tamene, L. D., & Ashenafi, A. (2022). Digital agriculture profile: Ethiopia.
- Witjaksono, J., Rusdin, R., Dahya, D., Sutisna, E., Sirnawati, E., Indrasti, R., ... & Arianti, F. D. (2022). A review of smallholder cashew nuts processing industry in indonesia and its sustainability. Available at SSRN 4006227.