THE UNITED REPUBLIC OF TANZANIA
NATIONAL AUDIT OFFICE

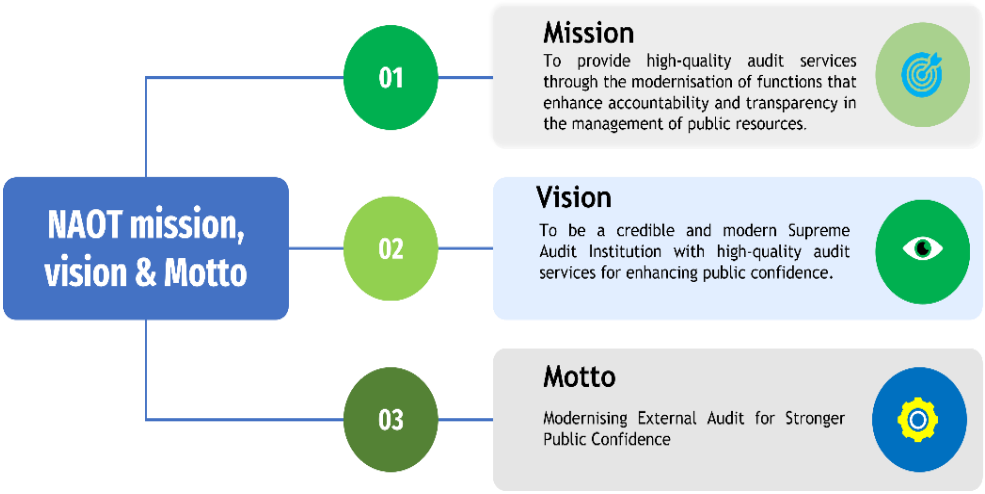
ISO 9001:2015 Certified

PERFORMANCE AUDIT REPORT ON THE REGULATION OF DISTRIBUTION OF FERTILIZERS

CONTROLLER AND AUDITOR GENERAL
MARCH 2024

About the National Audit Office

The statutory mandate and responsibilities of the Controller and Auditor General are provided for under Article 143 of the Constitution of the United Republic of Tanzania, 1977 and in Section 10 (1) of the Public Audit Act, Cap. 418.



Independence and objectivity

We are an impartial public institution, independently offering high-quality audit services to our clients in an unbiased manner.

Teamwork Spirit

We value and work together with internal and external stakeholders.

Results-Oriented

We focus on achievements of reliable, timely, accurate, useful, and clear performance targets.

Professional competence

We deliver high-quality audit services based on appropriate professional knowledge, skills, and best practices

Integrity

We observe and maintain high ethical standards and rules of law in the delivery of audit services.

Creativity and Innovation

We encourage, create, and innovate value-adding ideas for the improvement of audit services.

PREFACE

Section 28 of the Public Audit Act, CAP 418 gives mandate to the Controller and Auditor General to carry out Performance Audit (Value-for-Money Audit) to establish the economy, efficiency and effectiveness of any expenditure or use of resources in the Ministries, Departments and Agencies (MDAs), Local Government Authorities (LGAs) and Public Authorities and Other Bodies which involves enquiring, examining, investigating and reporting, as deemed necessary under the circumstances.

I have the honour to submit to Her Excellency, the President of the United Republic of Tanzania, Hon. Dr. Samia Suluhu Hassan, and through her to the Parliament of the United Republic of Tanzania, the Performance Audit Report on the Regulation of Distribution of Fertilizers to Farmers.

The report contains findings, conclusions, and recommendations that are directed to the Ministry of Agriculture (MoA) and Tanzania Fertilizers Regulatory Authority (TFRA).

Ministry of Agriculture and Tanzania Fertilizer Regulatory Authority had the opportunity to scrutinize the factual contents of the report and comment on it. I wish to acknowledge that discussions with the Ministry of Agriculture (MoA) and Tanzania Fertilizers Regulatory Authority (TFRA) have been useful and constructive.

My Office will carry out a follow-up audit at an appropriate time regarding actions taken by the Ministry of Agriculture (MoA) and Tanzania Fertilizers Regulatory Authority (TFRA) in implementing the recommendations given in this report.

I would like to thank my staff for their commitment to preparing this report. I also acknowledge the audited entities for their cooperation with my Office, which facilitated the timely completion of the audit.

Charles E. Kichere
Controller and Auditor General
United Republic of Tanzania
March, 2024

TABLE OF CONTENT

LIST OF ABBREVIATIONS AND ACRONYMS

AO	Accounting Officer
ASDP	Agricultural Sector Development Programme
BPS	Bulk Procurement System
CAN	Calcium Ammonium Nitrate
CBD	Central Business District
DAP	Diammonium Phosphate
ETG	Export Trading Group
FFS	Fertilizer and Fertilizer Supplement
FIS	Fertilizer Information System
GDP	Gross Domestic Product
ICT	Information and Communication Technology
LGA	Local Government Authority
MoA	Ministry of Agriculture
MT	Metric Tons
NAOT	National Audit Office of Tanzania
NGOs	Non-Governmental Organizations
NPK	Nitrogen, Phosphorus and Potassium
PO-RALG	President's Office – Regional Administration and Local Government
QR CODE	Quick Response Code
SA	Ammonium Sulphate
SAI	Supreme Audit Institutions
SDGs	Sustainable Development Goals
SOPs	Standard Operating Procedures
TAEC	Tanzania Atomic Energy Commission
TARI	Tanzania Agricultural Research Institute
TBS	Tanzania Bureau of Standards
TFC	Tanzania Fertilizer Company
TFRA	Tanzania Fertilizer Regulatory Authority
TSP	Triple Superphosphate
TZS	Tanzania Shillings
URT	United Republic of Tanzania
WMA	Weight and Measurement Agency

LIST OF TABLE

LIST OF FIGURES

EXECUTIVE SUMMARY

Background of the Audit

Agriculture contributes to about 27% of Tanzania's GDP, 65% of employment, and 24% of export earnings. This is according to the National Five-Year Development Plan (2021/22-2025/26). Agriculture is the main source of food and raw materials for industries, employment, and foreign exchange. Fertilizers and fertilizer supplements are the major inputs in the development of the agriculture sector.

The audit objective was to assess whether the Ministry of Agriculture, through the Tanzania Fertilizer Regulatory Authority (TFRA), has effectively regulated the distribution of fertilizers and fertilizer supplements to ensure the timely availability and accessibility of good quality fertilizers and fertilizer supplements to farmers. The main audited entities were the Ministry of Agriculture (MoA) and the Tanzania Fertilizer Regulatory Authority (TFRA).

Audit Findings

Despite several efforts made by the Ministry of Agriculture and TFRA to ensure the availability and accessibility of good quality fertilizers and fertilizer supplements to farmers, the audit found the following areas for further improvement.

Presence of Fertilizers and Fertilizer Supplements with questionable quality in the Market

The reviewed inspection reports indicated that the number of identified unregistered fertilizers and fertilizer supplements by TFRA increased from seven (7) in 2020/21 to twelve (12) in 2022/23. Similarly, there were reported cases of fertilizer dealers selling fertilizers that were caked, expired and not well packed or kept in open bags, which impacted the quality of fertilizers. For instance, seventeen (17) out of fifty-one (51) inspected agro-dealers in the Tabora Region (equivalent to 33 per cent) were found to have fertilizers kept in open fertilizer bags, which affected the quality of the fertilizers. FFS with questionable quality might limit the productivity of agricultural produce. The existence of incidences of

fertilizers with questionable quality in the market calls for TFRA to enhance its regulatory framework.

Limited Accessibility of Fertilizers and Fertilizer Supplements to Farmers

In the review of the Register of Agro-dealers and Implementation Report of Subsidy Programme for the year 2022/23, the audit team noted that 1,712 out of 4,346 total registered agro-dealers (equivalent to 39%) in a subsidy programme were selling and distributing the subsidized fertilizers and fertilizer supplements. Similarly, in the five (5) sampled regions, the percentage of agro-dealers not selling subsidized fertilizers ranged from 58% to 75%. Furthermore, 41 out of 185 (equivalent to 22%) of LGAs in the country did not access fertilizers under the subsidy program, while eight (8) out of 39 (equivalent to 21%) LGAs did not have agro-dealers registered in the subsidy program in the five visited regions. As a result of the absence of agro-dealers in the respective LGAs, farmers had to travel to other LGAs searching for subsidized fertilizers.

It was also noted that, 2,551,239 out of 3,389,951 registered farmers in the subsidy program (equivalent to 75%) did not access and utilize fertilizers through the subsidy programme despite qualifying to access the subsidized fertilizers. This was due to various reasons, including a shortage of fertilizers packaged in 5kg and 10kg and the required type of fertilizers and fertilizer supplements preferred by small-scale farmers. Limited accessibility of fertilizers and fertilizer supplements to farmers contributed to the low utilization of fertilizers, which stood at 19 Kilograms per hectare[1]. This rate was below 50kg, the target from the Abuja Convention of 2006 of 31 kilograms per hectare (equivalent to 62%), being the target that the country aimed to achieve.

[1] Evaluation Report of Subsidy of July 2023

Ineffective Forecasting of the Demand for Fertilizers and Fertilizer Supplements

The audit noted that TFRA did not have an effective mechanism, system, or software for demand forecasting to capture sufficient and accurate needs and demand for and utilization of fertilizers and fertilizer supplements to arrive at the reliable quantities and types needed. Instead, TFRA collected data and information on the requirements from LGAs and used them to forecast the demand, which could not provide the accurate information required. Weaknesses in the collection of demand were caused by a shortage of agro-officers at the village level, which was needed to capture the demanded fertilizer type based on soil contents in their respective villages.

Furthermore, analysis of this mechanism used by the audit team revealed that TFRA did not adequately consider the quantities, type, application rate and agricultural seasons to provide reliable information. As a result, audit team analysis of FFS's demand and actual utilization statistics revealed that for the three years covered in this audit, the forecasted demand data for fertilizers and fertilizer supplements were higher than the actual utilization of the respective areas by 14% to 48%.

Regulatory Activities Performed by TFRA did not ensure Timely Distribution of FFS to Farmers

The audit team noted that due to inadequate coordination between TPA and TFRA, the fertilizer consignments expected to arrive on 22nd August 2022 were delayed and arrived on 02nd September 2022. This led to an additional price of TZS 1,086 per 50 kg bag of NPK fertilizers distributed during the agricultural season of 2022/23. It was further noted that, TFRA did not effectively regulate and control the importation of fertilizers and fertilizer supplements through the Bulk Procurement System (BPS). For the period from 2020/21 to 2022/23, TFRA announced four (4) bids requiring importers to import through Bulk Procurement System (BPS), but it was noted that importers were not interested in two (2) out of four (4) bids announced.

It was further noted that even the two (2) successful bids announced by TFRA did not consider importation of the approved fertilizers and fertilizer supplements, namely UREA, DAP, SA, CAN and NPK, as per the first schedule of the Bulk Procurement of Fertilizer Regulations of 2017. Instead, the two (2) successful bids announced by TFRA included only two (2) types of fertilizers, DAP and UREA, leaving other types that farmers mostly used. Similarly, the audit noted that, from 2020/21 to 2022/23, 48,530 out of 1,395,977 metric tonnes of fertilisers were imported through the Bulk Procurement System.

This implies that only 4 per cent of importation was done through the Bulk Procurement System. This denied the opportunity to enjoy the economy of scale, which could have been obtained if the procurement had been made in bulk. It also affected the formulation of indicative prices.

Ineffective Inspections of Fertilizers and Fertilizer Supplements, Distribution Centres and Agro-dealers

The audit noted that TFRA did not plan to inspect Fertilizer dealers as per the strategic targets identified in the TFRA strategic plan for 2021/22 - 2025/26. There was a mismatch between the annual planned inspection and five-year strategic plans. The annual inspection plan was below the plan for inspection as per the strategic plan for the two out of three years included in the audit.

It was also found that agro-dealers repeated the malpractices related to the absence of premises registration, not displaying indicative prices at an easily visible place to customers, workers not wearing Protective Gear and invalid licences despite being inspected more than once. Repeated malpractices were observed in two (2) regions, namely Morogoro and Arusha, out of five (5) sampled regions. Further, the audit noted that 109 authorized inspectors at the LGAs level did not inspect on behalf of TFRA as expected. This happened despite TFRA training them to strengthen inspection activities at the LGA level.

Audit Conclusion

Based on the findings of this report, it is concluded that the Ministry of Agriculture, through the Tanzania Fertilizer Regulatory Authority (TFRA), is not effectively regulating the distribution of fertilizers and fertilizer supplements to ensure the timely availability and accessibility of good quality fertilizers and fertilizer supplements to farmers. The regulatory functions performed by TFRA inadequately ensured the availability of good quality fertilizers and fertilizer supplements distributed in the market. This is evidenced by the presence of unregistered fertilizers and fertilizer supplements, agro-dealers, caked and expired fertilizers and fertilizer supplements in the market.

There are limited distribution centres and agro-dealers, which affect farmers' accessibility to fertilizers and fertilizer supplements. Also, the operationalization of the subsidy program is associated with weaknesses such as the lack of fertilizer packages that most farmers need, and 59% of agro-dealers are inactive. As a result, the utilization rate of fertilizers and fertilizer supplements has remained at 19 Kilograms per hectare, lower than 50 Kilograms per hectare as recommended by the Abuja Convention of 2006, which Tanzania as a country has signed.

Audit Recommendations

Recommendation to the Ministry of Agriculture

The Ministry of Agriculture is urged to:

(a) In collaboration with PO-RALG, to ensure the availability and equitable allocation of Agricultural Extension Officers in LGAs to carry out extension services, including availing accurate information for demand forecasting.

Recommendations to Tanzania Fertilizer Regulatory Authority

The Management of Tanzania Fertilizer Authority is urged to:

(a) Evaluate the effectiveness of the existing fertilizer procurement systems, i.e., the Bulk Procurement System and other available systems, and use the results to address all the identified

weaknesses to facilitate timely procurement and distribution to meet the agricultural seasons' demand;

(b) Enhance the mechanism for setting, announcing and reviewing the indicative prices to the lower levels to ensure transparency and fairness to farmers and agro-dealers, and

(c) Plan and regularly conduct FFS and agro-dealers inspections and take appropriate sanctions on defaulters. The inspection should also include evaluating the performance of agro-dealers adherence to the fertilizer regulations and producing reports for the same.

NATIONAL AUDIT OFFICE
NAOT

CHAPTER ONE

INTRODUCTION

1.1 Background of the Audit

Agriculture contributes to about 27% of Tanzania's GDP, 65% of employment, and 24% of export earnings. This is according to the National Five-Year Development Plan (2021/22-2025/26). Agriculture is the main source of food and raw materials for industries, employment, and foreign exchange. Fertilizer and fertilizer supplements are major inputs for developing the agriculture sector.

Fertilizer is a natural or artificial substance containing chemical nutrient element(s) used to improve soil productivity and supplement. Significantly, fertilizer fulfils the demand for essential nutrients in the topsoil for plant growth. These nutrients include nitrogen (N), phosphorus (P), and potassium (K). Secondary nutrients are Sulphur (S), Calcium (Ca) and Magnesium (Mg), while Micro-nutrients are Zinc (Zn), Iron (Fe), Boron (Br) and Manganese. These micro-nutrients can be included depending on the formulation[2]. According to the Fertilizer Act of 2009[3], fertilizer supplements are any substance or a mixture of substances other than a fertilizer manufactured, sold or presented for use in improving the physical condition of soils or aiding plant growth or crop yields.

Fertilizers and Fertilizer Supplements (FFS) assist in making profitable changes in farming. Farmers can increase productivity by reducing the costs per unit of production and increasing the margin of return over total cost by increasing fertilizer application on principal cash and food crops[4].

Distribution of fertilizers involves supplying and delivering fertilizers to farmers in the agricultural area. According to Section 4(1) of the Fertilizer Act of 2009, distribution of fertilizers and fertilizer supplements includes various activities such as registration, licensing of fertilizers and dealers,

[2] FAO, Global Soil Doctors Programme, Training Aid, Farmer to Farmer Training Programme (2019)
[3] Preliminary Provisions
[4] https://www.britannica.com/technology/agricultural-technology/The-economics-of-fertilizers accessed on 05 may 2023 at 0948hrs

issuance of importation and exportation permits inspections of FFS dealers and regulation of the price of fertilizers and fertilizer supplements.

To implement the Tanzania Agricultural Policy of 2003, the Government of the United Republic of Tanzania (URT), through the National Five Year Development Plan (2016/17 to 2020/21), targeted to achieve a 7.6% growth rate of the agriculture sector, 24.9% contribution of the agricultural sector to the GDP, 24.9% total share of export and 56.5% share to the total employment by June 2021.

Also, the National Five-Year Development Plan (2021/22 to 2025/26) aims to enhance strategic crop productivity by ensuring the timely availability and distribution of agricultural inputs, including fertilizers and fertilizer supplements, to farmers by 2025. Regarding fertiliser distribution, the Ministry of Agriculture (MoA) aims to increase fertilizer use from 430,000 to 559,000 metric tons by June 2026. This is expected to be supported by establishing and operationalising an efficient fertilizer distribution system.

In Tanzania, through the Tanzania Fertilizer Regulatory Authority (TFRA), the Ministry of Agriculture is responsible for regulating the distribution of fertilizers to farmers.

1.2 Motivation for the Audit

For the period from 2019/20 to 2022/23, TFRA cumulatively spent TZS 392 billion to regulate the availability and accessibility of fertilizer and fertilizer supplements. Also, the audit was motivated by other performance factors related to the accessibility and availability of fertilizers and fertilizer supplements. These performance factors are elaborated below:

a) Low Utilization Rate of Fertilizers and Fertilizer Supplements

It is worth noting that fertilizers account for the largest proportion of agricultural production costs compared to other farm inputs. Nevertheless, according to the Evaluation Report of Subsidy Fertilizers (July 2023), fertilizer utilization stood at 19 kilograms per hectare of arable land. This consumption is below the recommended rate of 50 Kilograms per hectare

as per the Abuja Declaration on fertilizer for the African Green Revolution (2006).

The report indicated that, with such a low utilization rate of FFS and rain-fed subsistence farming dominating Tanzania's agriculture, this contributes to low crop productivity, affecting the economy of individual farmers and the country. Until June 2023, TFRA had managed to register 3,389,951 farmers under the subsidy program. However, only 838,712 farmers managed to access fertilizers. The subsidy program intends to reduce the price of fertilizers and fertilizer supplements and increase the utilization of fertilizers in the country.

b) Reported Cases of Unregistered and Sub-standard Fertilizers Distributed to Farmers

TFRA's Inspection Report of 2020 revealed the existence of unregistered fertilizers in the Songwe and Mbeya regions. The Inspection involved 222 agro-dealers.

Similarly, the TFRAs' Internal Audit Report of July to September 2020 revealed that seven (7) varieties of foliar fertilizers that were circulated and sold to the market in the Arusha region were not registered by TFRA as required by section 8 (1) of the Fertilizer Act, 2009.

Furthermore, the Internal Audit Reports from TFRA for the period from 2020/21 to 2022/23 reported cases of fertilizers and fertilizer supplements being found in the market that did not meet the required quality standards in terms of nitrogen, ammoniacal nitrogen, soluble minerals, water-soluble phosphate, phosphorous and moisture contents. Other fertilizers were found held for sale while they were caked and expired.

The presence of incidences of distributed unregistered fertilizers and those of sub-standard indicates weaknesses in the regulation of fertilizer distribution by both the Ministry of Agriculture (MoA) and the Tanzania Fertilizer Regulatory Authority (TFRA).

c) Limited Farmers' Knowledge on the Proper Use of Fertilizers

The TFRA's Report on Status of Application of Fertilizers and Fertilizer Supplements of 2022 revealed low utilization of fertilizers. Actually, this situation was attributed to those farmers with limited knowledge of fertilizer use[5]. The report cited a case of two regions, Lindi and Mtwara.

Limited farmers' education and awareness about the proper use and benefits of fertilizers can hinder their effective utilization. Moreover, limited knowledge of appropriate fertilizer application rates and insufficient knowledge of fertilizer distribution timing and application techniques would eventually affect agricultural productivity.

d) Fluctuation of Price of Fertilizers

Since early 2020, fertilizer prices have kept increasing, putting a stable fertilizer supply out of reach to many small-scale farmers in Sub-Saharan Africa[6]. For example, the retail price of commonly used fertilizers in the country, namely DAP and UREA, has doubled from TZS 1,000 per kilogram in 2020 to an average of TZS 2,500 per kilogram in 2022.

To safeguard the interest of farmers, in March 2022, the Ministry of Agriculture, through a speech, released a statement that there would be a subsidy program for 2022/23 to regulate the price of fertilizers sold in Tanzania. This was also in response to the world's commodity price upsurge, the impacts of COVID-19, and the war between Russia and Ukraine. Thus, it was expected that improved regulation of the distribution of fertilizers and fertilizer supplements (FFS) would increase the availability and accessibility of FFS to smallholder farmers.

[5] https://www.tfra.go.tz/news/tfra-yapongezwa-kuhamasisha-matumizi-ya-mbolea-lindi-na-mtwara

[6] https://blogs.worldbank.org/voices/transformed-fertilizer-market-needed-response-food-crisis-africa

e) It supports the Achievement of National Plans, Programmes and SDGs

Tanzania implements three (3) key agricultural development agendas: Agenda 10/30 Kilimo Biashara, Building Better Tomorrow (BBT) and the Agricultural Sector Development Programme Phase II (ASDP II).

In 2022, the government launched "Kilimo Biashara"- Agenda 10/30- to transform agriculture into a business. The National Agenda 10/30 aims to ensure that the agriculture sector (crop - sub-sector) grows by 10 per cent by the year 2030. Similarly, the first phase of ASDP II (2018/19 – 2023/24) targeted achieving a 7% agricultural sector growth rate.

Moreover, the Agricultural Development Agenda aims to empower Tanzanians to participate effectively in the agricultural sector. It is further noted that it will be difficult to realize the target if the availability and accessibility of FFS are not well regulated. Thus, this audit will assist the Government in ensuring that fertilizers and fertilizer supplements (FFS) are well-regulated to achieve the Agricultural Development Agenda.

On the other hand, improving the regulation of the distribution of fertilizers and fertilizer supplements to farmers will facilitate the attainment of Sustainable Development Goals No. 2 and 12. These SDGs entail ending hunger, achieving food security, and promoting sustainable agriculture since the expected improvement will enhance agricultural productivity. In this regard, the implementation of the recommendations of this audit will facilitate the attainment of the above goals through improved regulation of fertilizer distributions.

Thus, it was expected that carrying out the audit in this area would facilitate the identification of areas for further improvement regarding the regulation of the distribution of fertilizers and fertilizer supplements (FFS) in the country.

1.3 Design of the Audit

1.3.1 Overall Objective

The main objective of the Audit was to assess whether the Ministry of Agriculture (MoA), through the Tanzania Fertilizer Regulatory Authority (TFRA), has effectively regulated the distribution of fertilizers and fertilizer supplements to ensure timely availability and accessibility of good quality fertilizers and fertilizer supplements to farmers.

Specific Audit Objectives

Specifically, the audit focused on assessing whether MoA, through TFRA, has ensured that:

(a) Good quality fertilizers and fertilizer supplements are available and accessible to farmers;

(b) Forecasting of the demand for fertilizers and fertilizer supplements has been effectively done;

(c) Distribution of fertilizers and fertilizer supplements is done in a timely manner to meet farming / agricultural seasons' requirements;

(d) The price of fertilizers and fertilizer supplements is effectively regulated to ensure that it is affordable to farmers;

(e) Inspections of fertilizers and fertilizer supplements, agro-dealers and sanctions to defaulters are appropriately planned, performed and applied; and

(f) Performance evaluation of TFRA and agro-dealers regarding the distribution of fertilizers and fertilizer supplements to farmers is periodically conducted.

1.3.2 Scope of the Audit

The main audited entities were the Ministry of Agriculture (MoA) and the Tanzania Fertilizer Regulatory Authority (TFRA). MoA was selected since it ensures farmers can access technical advice and modern agricultural inputs, including fertilizers and fertilizer supplements. At the same time, TFRA is responsible for registering fertiliser dealers and coordinating the procurement and distribution of fertilizers and fertilizer supplements in the country.

Also, the President's Office – Regional Administration and Local Government (PO-RALG), Regional Secretariat (RS) and Local Government Authorities (LGAs) were covered because they coordinate agricultural activities at the ward and village levels, supervise the distribution of fertilizers and fertilizer supplements, and establish a database of farmers in their areas to forecast fertilizer use. LGAs are also responsible for providing farmers with knowledge on using fertilizers and fertilizer supplements appropriately through extension officers. Furthermore, fertilizer dealers in the LGAs were visited during the audit as they were distributing fertilizers and fertilizer supplements to farmers. Farmers from the selected Regions were included to capture their views on the accessibility, affordability and availability of fertilizers.

The audit mainly focused on regulating the distribution of fertilizers and fertilizer supplements to farmers. Specifically, the audit focused on forecasting demand, distribution, price regulation and fertilizer and fertilizer supplement inspections. The audit also assessed the performance evaluation of the whole fertilizer distribution chain.

On forecasting demand for fertilizers and fertilizer supplements, the audit assessed the effectiveness of the forecasting models in establishing demands, adequacy of coordination and involvement of all key actors in forecasting the demand. It also assessed the extent of utilization of the demand forecast information to establish fertilizer requirements and ensure sufficient availability and accessibility of fertilizers to farmers.

Under the distribution of fertilizers, the audit assessed the effectiveness of the Bulk Procurement System (BPS) in facilitating the ordering and timely importation of fertilizers and fertilizer supplements and regulation

of agro-dealers and distributors in the distribution of fertilizers. The audit also assessed the inclusiveness/coordination of all actors to ensure timely submission of the requirements and importation of fertilizers.

Further, the audit focused on distributing fertilizers through registered fertilizers and fertilizer supplement dealers. The audit assessed the operational status of the registered agro-dealers and their involvement during the implementation of the subsidy programme.

Moreover, the audit focused on the effectiveness of the regulatory services provided by TFRA in regulating the price of fertilizers. In this aspect, the audit assessed the mechanism used in establishing the indicative fertilizer prices, adequacy of communication of such prices to all actors and compliance with the set indicative prices by fertilizer and fertilizer supplement dealers. Likewise, the effectiveness of the subsidy program in facilitating the distribution of fertilizers and fertilizer supplements to farmers at an affordable price was covered in the assessment.

Regarding the inspection and sanctioning of defaulters, the audit assessed the adequacy of inspection plans and procedures. The assessment also included the effectiveness of inspections to enhance compliance to ensure that quality fertilizers and fertilizer supplements are timely distributed to farmers, including the issuance of the appropriate sanctions to defaulters.

In the performance evaluation regarding the distribution of fertilizers and fertilizer supplements, the audit assessed the effectiveness of the established performance indicators, the availability of complete and reliable data to facilitate monitoring of the distribution process, and adequacy in conducting performance evaluation.

The audit covered six (6) fertilizers, namely DAP, UREA, CAN, NPK, SA and Foliar Fertilizers distributed by FFS dealers in the country.

The audit covered three (3) years from 2020/21 to 2022/23. This period was selected because it was the moment within which the government embarked on various initiatives to ensure the availability and accessibility of fertilizers in the country. The government initiatives that were taken during this period included promoting the domestic production of fertilizers and implementing a subsidy programme. Thus, the selected

period enabled the audit team to assess the effectiveness of these initiatives in improving access and availability of fertilizers and fertilizer supplements (FFS) to farmers.

1.3.3 Assessment Criteria

The assessment criteria were drawn from policies, legislations, standards, good practices and Strategic Plans of the Ministry of Agriculture (MoA) and Tanzania Fertilizer Regulatory Authority (TFRA). The following were the assessment criteria for each objective.

a) **Availability and Accessibility of Fertilizers and Fertilizer Supplements to Farmers**

TFRA is required to ensure fertilizers and fertilizer supplements are available to farmers throughout the year. This is per Guide 3.2 (ii) and 3.7 (iv) of the Guidelines for Implementing the Subsidy Program for the Agricultural Season, 2022/23.

Section 4(1) h of the Fertilizer Act, 2009 requires TFRA to regulate and control the import, production, transportation, dealing, storage and disposal of fertilizers or fertilizer supplements to ensure accessibility and availability of fertilizers.

Guide 5.4 (v) of the Guidelines for implementing the Subsidy Program for the Agricultural Season, 2022/23, requires TFRA to ensure fertilizer importers/manufacturers distribute fertilizers through their normal selling centres and approved agents.

b) **Forecasting of the demands of fertilizers and fertilizer supplements has been effectively done**

The Approved Function and Organization Structure of TFRA requires TFRA to collect the procurement requirements of fertilizer from registered fertilizer dealers and forecast the supply and demand of fertilizers in the country.

According to Regulation 4 of the Fertilizer (Bulk Procurement) Regulations, 2017, TFRA is required to coordinate, collect fertilizer requirements, conduct competitive bidding for the procurement process and ensure that fertilisers are imported using the Bulk Procurement System.

Furthermore, Para.3.2 (iv) of the Guidelines for the Implementation of Fertilizer Subsidy Programme, 2022/23 requires TFRA to prepare estimates of fertilizer needs for all regions of Mainland Tanzania.

c) Timely Distribution of Fertilizers to Meet Agricultural Seasons

According to Regulation 4(1) (k) of the Bulk Procurement Regulations, 2017, TFRA is required to make orders and undertake any function that aims to improve the efficiency of fertilizer procurement to ensure the timely distribution of fertilizers.

Section 3.1.1 (xv) of the Approved Functions and Organization Structure of Tanzania Fertilizer Regulatory Authority (TFRA) requires TFRA to coordinate the distribution of fertilizers up to the retail level.

Also, Para.3.2 (ii) and 3.7 (iv) of the same TFRA structure require TFRA to supervise the implementation of the fertilizer subsidy program and, through the agro-dealers, ensure the availability of subsidized fertilizers throughout the agricultural season.

d) Regulation of Prices of Fertilizers and Fertilizer Supplements

According to Section 4 (1) (u) of the Tanzania Fertilizer Act, 2009, TFRA is required to regulate fertilizer prices based on the appropriate methods.

Regulation 56(1) of the Fertilizer Amendments Regulations, 2017, and Guide 3.2 of the Guidelines for the Implementation of the Subsidy Program for the Agricultural Season, 2022/23, require TFRA to set and announce indicative prices for fertilizers or fertilizer supplements.

Regulation 56(2) states that the indicative price set pursuant to Sub-regulation (1) shall be the maximum price for selling fertilizers or fertilizer supplements at the farm gate level.

Section 3.1.1 (xii) and (xiv) of the Approved Functions and Organization Structure of Tanzania Fertilizer Regulatory Authority (TFRA) requires TFRA to recommend, facilitate the issuance of indicative prices, monitor and report the implementation of indicative prices of fertilizers.

e) Inspection of Fertilizers and Fertilizer Supplements

According to Objective D of the TFRA Strategic Plan, the Authority is targeted to inspect at least 80% of fertilizers and fertilizer supplement dealers annually.

Section 19(c) requires a person to sell fertilizers and fertilizer supplements packed in a container which is as per the prescribed requirements and is sealed and labelled or marked in such a manner as may be prescribed.

Additionally, Section 40(2)) of the Fertilizer Act, 2009 states that any person who commits an offence against the provisions of this Act or any subsidiary legislation made under this Act shall, except as otherwise provided, be liable on conviction to a fine not less than five million shillings and not more than ten million shillings or to imprisonment for a term of not less than six months and not exceeding three years or to both.

Section 3.2 (vi) of the Approved Functions and Organization Structure of TFRA states that TFRA shall inspect fertilizers and the premises of manufacturers and dealers.

Furthermore, Section 1.4 of the Approved Structure of Tanzania Fertilizer Regulatory Authority, 2019, requires TFRA to regulate and control fertilizer quality, including all matters relating to the quality of fertilizers and fertilizer supplements.

Section 3.2 (iv) of the Approved Functions and Organization Structure of Tanzania Fertilizer Regulatory Authority (TFRA), 2019, requires TFRA, through its Regulatory Services Directorate, to provide training to key stakeholders of fertilizers and fertilizer supplements, including Inspectors from the Local Government Authorities to assist TFRA to inspect at the LGA level.

Regulation 32(1) (b) of the Fertilizer Regulations, 2011, requires fertilizer bags to be secured in lock stitches without opening. On the other hand, Regulation 32 (4) states that the fertilizer is to be sold in weights of 50kg, 25kg, 10kg and 5kg.

Moreover, Regulations 47 (1) and (2) of Fertilizer Regulations, 2011, require proper storage of fertilizers and fertilizer supplements for quality control as provided in the Fourteenth Schedule of the Fertilizer Regulations, including Part 2.6 of Fourteenth Schedule of Fertilizer Regulations, which states storage of bulk fertilizers and fertilizer supplements shall employ facilities that ensure good ventilation.

f) Periodic Performance Measurement of TRFA and agro-dealer on the Distribution of Fertilizers and Fertilizer Supplements

Sections 3.2.2 (i) and 3.3.3 (i) of the Approved Functions and Organization Structure of Tanzania Fertilizer Regulatory Authority state that TFRA shall coordinate the preparation, implementation and review of the Authority's Strategic Plans, Annual Plans and Programs to ensure they are aligned with the National Strategies, Policies and Priorities. Also, Sections 3.8 (vii) and 3.8 (viii) require TFRA to develop tools and methods for convenient data access, statistics reporting and facilitating collection, analysis, collation and reporting on Authority's statistics.

Guide 6 of the Guidelines for Implementing the Subsidy Program for the Agricultural Season 2022/23 requires TFRA and the Ministry of Agriculture to monitor and evaluate the distribution of fertilizers and fertilizer supplements to farmers in the country.

1.4 Sampling Techniques, Methods of Data Collection and Analysis

Below are the detailed explanations for sampling techniques and the methods used for data collection and analysis:

1.4.1 Sampling Techniques

The audit used a ***purposive sampling technique*** to select types of fertilizers and fertilizer supplements to audit and the areas (Regions and Local Government Authorities) to be visited for data collection. The factors for the selection are the following:

a) Sampling of Types and Specific Fertilizers

According to the Guidelines of Subsidy Fertilizer of 2022/23, there are two types of fertilizers based on the time of application. These are:

i. ***Fertilizers Used at the Planting Stage*:** These are the fertilizers that are applied at the time of planting because they dissolve slowly, and their nutrient contents are more needed when the plants are at the early stage of growth. Examples of these fertilizers include DAP, NPK, TSP and Minjingu NPK; and

ii. ***Fertilizers Used at a rapid Plant Growth Stage:*** These fertilizers are applied to enhance the vigorous stage of plant growth because they contain nutrients in a more soluble form and are required in large quantities at this stage of plant growth. Most of these have nitrogen content, such as UREA, SA and CAN.

Since most crops require both types of fertilizers for effective productivity, the audit covered both fertilizers for planting and growing crops to widely assess the performance of MoA through TFRA in ensuring the availability and accessibility of both types of fertilizers to farmers.

The selection of the specific fertilizer to be audited for each type of fertiliser was made by considering the respective fertilizer's utilisation level. Based on the 2020/21 and 2021/22 Fertilizer Importation Reports, the audit team ranked fertilizers as low, medium and highly imported. Fertilizers with an import quantity ranging from 74,001 to 110,000 Metric tons were ranked as highly utilized, and those with imports ranging from 37,001 to 74,000 Metric tons were ranked as medium, while those with utilization ranking from 0 to 37,000 Metric tons were ranked as low imported fertilizers as presented in **Appendix 3**.

Based on this factor, the audit team selected fertilizers with high and medium importation amounts for comparison purposes. Also, high or medium importation indicates high demand for and utilization of fertilizers. Thus, this enabled the audit team to assess the performance of TFRA in managing the distribution of these highly demanded fertilizers in the country.

The audit selected six (6) fertilizers: DAP and NPK, which had high and medium utilization rates, respectively, as the fertilizers for planting.

UREA, SA, and CAN fertilizers, which had high and medium utilization rates, were selected as growing fertilizers. Foliar fertilizers were selected to be part of the Audit due to many reported unregistered and wrongly labelled cases. **Table 1.1** presents a summary of selected fertilizers under each type.

Table 1.1: Summary of the selected Fertilizers for each type of Fertilizer

Types of Fertilizer	Name of the Fertilizer	Level of utilization (High, Medium, Low)	Comment on Selection
Planting Fertilizers	DAP	Medium	Selected
	NPK	Medium	Selected
Top dressing /growing Fertilizers	UREA	High	Selected
	SA	Medium	Selected
	CAN	Medium	Selected
	Foliar Fertilizers	Low	Selected

Source: *Auditors' Analysis of TFRA Imports' Permit Data (2023)*

b) Selection of the Regions to be Visited

In selecting Regions to be visited, the audit team used a combination of three factors. First, the regions were clustered into five (5) agricultural geographical zones based on TFRA's categorization: Eastern, Northern, Central, Lake and Southern Highland. Then, in order to ensure geographical representation, one region was selected from each zone. Therefore, a total of five (5) Regions were selected.

The selection of these five (5) Regions was based on meeting a combination of factors, such as the utilization rate of sampled fertilizers and cereal crop production, since they are the categories of crops that utilized most of the fertilizers sampled. Also, the audit took into consideration the availability of zonal offices. The justifications of the criteria used to select regions are as explained below:

i. ***Utilization of Sampled Fertilizers*:** The utilisation rate of the sampled fertilizers (CAN, DAP, and Urea) was considered when selecting the regions from each zone. Based on the Fertilizers Utilization Statistics, 2022/23, regions were ranked based on the

utilisation level of the sampled fertilizers, whereby Regions were ranked as Low, Medium and High. In this case, the Region was ranked high if its utilization at a regional level ranged between 50,000 Tons to 75,000 Tons; those Regions with utilization rates ranging from 25,001 Tons to 50,000 Tons were ranked as Medium.

ii. In comparison, those Regions with utilization ranging from 0 Tons to 25,000 Tons were ranked Low. **Appendix 4** provides a detailed analysis of the utilization of sampled fertilizers (total utilization for CAN, DAP and UREA) in each region.

iii. ***Production of Cereal Crops:*** Based on the Import Permits Issued and Crop Production Statistics, 2021/22, the most commonly used fertilizers that were highly imported and produced include UREA, DAP, CAN, MINJINGU, NPK, MINJINGU and SA. These fertilizers were highly applied in cereal crops compared to non-cereal crops (oil seed and horticultural crops), as presented in ***Appendix 5***.

Therefore, the production of cereal crops was also considered in selecting regions as the high crops that utilise fertilizers to assess the performance of the TFRA in responding to the demand for this category of crops. In doing so, the production level was determined by considering the sum of production of cereal crops named maize, rice, wheat and millet.

The crops' production levels were then ranked low, high, and medium. Regions with a total production ranging from 0 to 350,000 Tons were ranked as Low. In contrast, those Regions with production ranging from 350,001 to 750,000 were ranked as medium, and Regions were ranked as high if the production ranged between 700,001 to 1,050,000, as shown in **Appendix 6.**

In combining the two factors, five (5) Regions that were selected included Morogoro (Low Utilization and High Production), Arusha (Low Utilization and Medium Production), Tabora (Low Utilization and Medium Production), Mwanza (Low Utilization and Medium Production) and Mbeya (High utilization and High Production). This combination of factors was used for comparison purposes and for

identifying different challenges and success factors based on the performance of the selected regions.

iv. ***Availability of TFRA's Zonal Offices:*** Also, the audit team considered another factor: regions with and without TFRA's Zonal Offices. In this case, the audit team selected regions without and those with TFRA's zonal offices to compare the performance of TFRA in those regions. In this case, there is one (1) Region where TFRA's Office is unavailable and four (4) where TFRA's Zonal Offices are available among the five (5) selected regions.

The selected regions are Morogoro, Arusha, Tabora, Mbeya and Mwanza. **Appendix 7** shows a summary of the regions chosen from each zone.

c) Selection of the Visited LGAs

One LGA was purposefully selected from each region, whereby a District with high and low utilization rates of sampled fertilizer was selected. The summary of the selected Districts is summarized in **Table 1.2**:

Table 1.2: Selected LGAs

Region	Rank	Selected LGAs
Arusha	Low	Arumeru District Council
Mbeya	High	Mbeya District Council
Morogoro	Low	Morogoro District Council
Tabora	High	Uyui District Council
Mwanza	High	Sengerema District Council

Source: *Auditors' Analysis from the fertilizers utilization rate (2023)*

The selected LGAs were Uyui District Council, Sengerema District Council, Arumeru District Council, Mbeya District Council and Morogoro District Council. Also, purposive sampling was used to select two wards and two villages in the LGAs, one urban ward and one semi/rural ward, to capture information from a wide range of agro-dealers and farmers for comparison purposes.

1.4.2 Methods for Data Collection

Both qualitative and quantitative data were collected to provide strong and convincing evidence for regulating the distribution of fertilizers and fertilizer supplements to farmers. The team used three methods to collect data from MoA and TFRA. These methods were interviews, document reviews and physical verifications, as explained hereunder:

a. Document Reviews

Various documents regarding regulating the distribution of fertilizers and fertilizer supplements to farmers were reviewed. Also, the documents reviewed contained information falling within the audit period from the Financial Year 2020/21 to 2022/23. These documents were those related to importation, manufacturing, registration of fertilizer dealers, demand establishment reports, and laboratory results during the registration of fertilizers to identify performance problems and respective root causes.

The documents which were reviewed included (a) Budget Implementation reports, (b) Performance and Progress Reports, (c) Inspection and Registration Reports, (d) Import Permits and Productivity Statistics, (e) Fertilizer Demands Reports, and other fertilizer subsidy reports. **Appendix 8** presents a summary of the documents reviewed and the reasons for reviewing them.

b. Interviews

Interviews were conducted with officials from the Ministry of Agriculture and TFRA to obtain and clarify information regarding regulating the distribution of fertilizers to farmers. The audit team interviewed officials from the Ministry of Agriculture, TFRA, PO-RALG, RS and LGAs. Details of officials and other individuals interviewed in this Performance Audit are provided in **Appendix 9**.

c. Physical Verifications

Physical verifications were made to sixteen (16) agro-dealers who were visited by the audit team. During the observation, notes were taken on the

condition of the fertilizer dealers, and pictures of the warehouses, premises, and stores were taken.

The audit team also verified compliance with the established indicative prices, quality requirements, registration requirements and the existence of trained agro-dealers.

1.4.3 Methods for Data Analysis

Quantitative data were analyzed by organizing, summarizing, and compiling them using different statistical methods for data computation. The analyzed data were then presented in tables and graphs.

Qualitative data were described, compared, and related so that they could be explained and brought into a finding compared to the audit objective. The analysis involved looking for categories such as events, descriptions, consistencies or differences to develop a theory or conclusion from the collected data.

Qualitative information was transformed into quantitative data by going through interviews/documents to determine how many subscribed to a positive or negative statement about a certain issue or how many concurred with or even came up with similar statements. Therefore, calculations to express the percentage of the views/opinions deduced from the investigated documents or interviews with respect to a particular type of statement were made quantitatively.

1.5 Data Validation

The Audited Entities were given the opportunity to go through the draft report and comment on the information presented therein. The Ministry of Agriculture and the Tanzania Fertilizer Regulatory Authority have agreed that the information and figures used and presented in this report are accurate.

In the same way, the draft report was submitted to the subject matter experts with knowledge of soil and general agriculture to get their independent opinions and authenticate the factual contents of the details presented in the report.

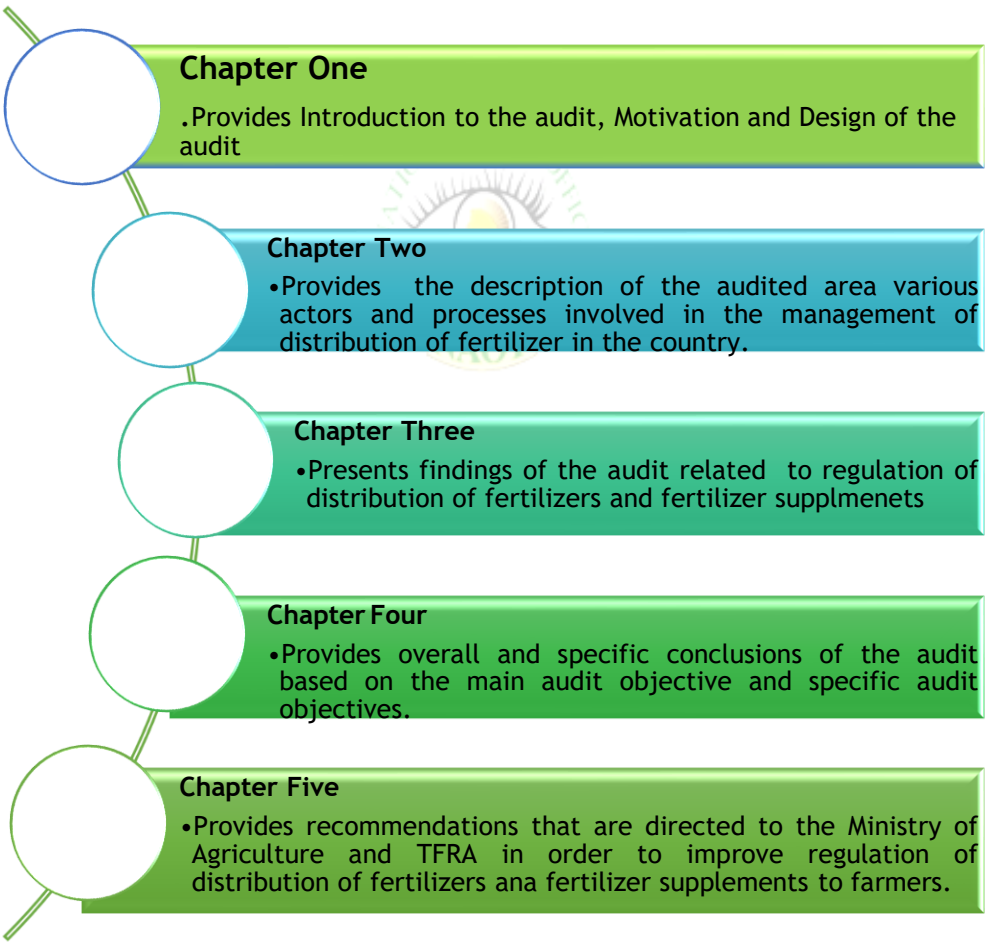
1.6 Standards Used for the Audit

The audit was conducted as per the International Standards for Supreme Audit Institutions (ISSAIs) issued by the International Organization of Supreme Audit Institutions (INTOSAI).

These standards require that the audit is planned and performed to obtain sufficient and appropriate evidence that provides a reasonable basis for the findings and conclusions based on the audit objectives.

1.7 Structure of the Report

The Chapters of this Audit Report are presented below:



CHAPTER TWO

SYSTEMS FOR REGULATION OF DISTRIBUTION OF FERTILIZERS TO FARMERS

2.1 Introduction

This chapter describes the system for regulating the distribution of fertilizers and fertilizer supplements to farmers. It presents key players' policy, legal framework, roles and responsibilities. Furthermore, the chapter describes the process used to regulate the distribution of fertilizers and allocated resources (both human and financial) for regulating the distribution of FFS to farmers.

2.2 Governing Policy, Legal Framework, Regulations and Strategies

2.2.1 Policy

The National Agriculture Policy of 2013

The policy aimed to improve the availability and accessibility of agricultural inputs, including fertilizers by reducing the shortage of fertilizers in the country and increasing the utilization of fertilizers and fertilizer supplements in the agricultural activities.

2.2.2 Legal Framework

The Fertilizer Act of 2009

- The Fertilizer Act established the Tanzania Fertilizer Regulatory Authority (TFRA) as a corporate body mandated to regulate the manufacturing, importation, use and trade of fertilizers and fertilizer supplements. The Act also describes the registration of fertilizers and licencing of fertilizer dealers.

The Fertilizer Regulations of 2011

- The Regulations provide guidelines and rules for the distribution, importation, production, labelling, quality control, and use of fertilizers. They also detail the registration and deregistration of fertilizers, fertilizer supplements, sterilizing plants and dealers in the country.

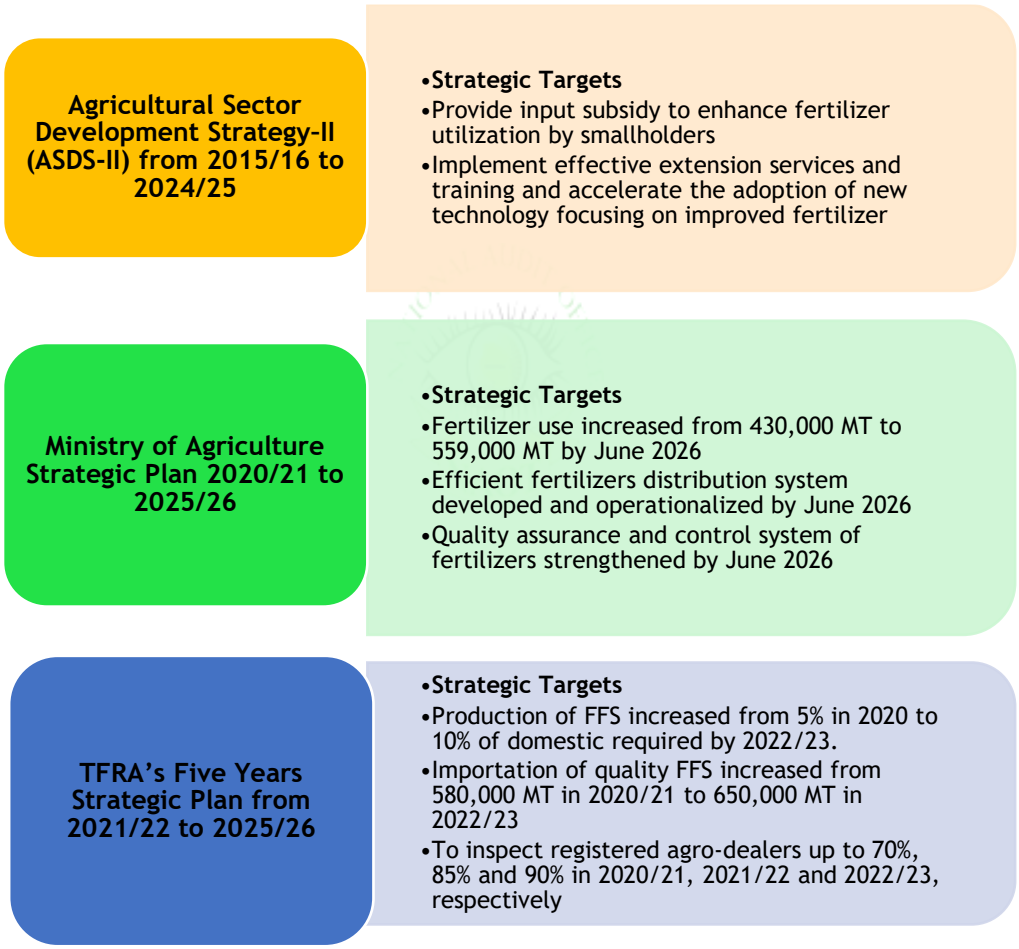
The Fertilizer (Bulk Procurement) Regulations of 2017

- The Regulations provide the regulation for fertilizer (bulk procurement) and distribution to ensure the availability of quality fertilizers at affordable prices to support the country's agricultural productivity and food security.

2.2.3 Strategies

The strategic targets of Agricultural Sector Development Strategy-II (ASDS-II) from 2015/16 to 2024/25, Ministry of Agriculture Strategic Plan 2020/21 to 2025/26 and TFRA's Five Years Strategic Plan from 2021/22 to 2025/26 are presented **Figure 2.1;**

Figure 2.1: The strategic targets of Agricultural Sector Development Strategies



2.2.4 Guidelines

Guideline of Subsidy Fertilizer of 2022/23

This guideline provides a guide to ensure subsidized fertilizers are distributed to farmers in the country. The primary objective of the guideline was to reduce FFS costs to farmers to increase agriculture productivity, food security, and access to raw materials for local industries. Fertilizers involved in the Subsidy programme are fertilizers used for planting and growing, like DAP, UREA, and others, according to market demand.

The guidelines for the 2022/23 subsidy programme outline the goal of the subsidy programme, implementation levels, operation of the subsidy programme, items considered, follow-up and evaluation of the subsidy, and receiving and handling complaints procedures.

2.3 Roles and Responsibilities of Key Actors and Stakeholders

2.3.1 Roles of Key Actors

The Ministry of Agriculture

The Ministry's role and responsibility is to provide expertise and services to ensure the availability of fertilizers and fertilizer supplements. According to the Approved Organization Structure of the Ministry of Agriculture of 2022, the Ministry has the mandate to formulate, review and monitor the implementation of policies, legislations and rules related to agricultural activities in the country. Also, its Crop Development Division is responsible for developing crop development strategies and programs.

More specifically, MoA through the Agricultural Input Section, which is under the Division of Crop Development, performs the following functions:

a) Initiate and review of policies and strategies on agricultural inputs;
b) Enforce the implementation of agricultural input legislation through responsible authorities and institutes;

c) Establish national supply and demand for Agro-Inputs distribution and utilization; and
d) Establish and enforce appropriate input delivery systems.

Guide 3.1(i) and (ii) of the Guideline of Subsidy Fertilizer program of 2022/23 require the Ministry of Agriculture to allocate the budget for the funds to be used to cater for activities related to the implementation of the subsidy program.

Tanzania Fertilizer Regulatory Authority (TFRA)

Tanzania Fertilizer Regulatory Authority (TFRA) is the institution under the Ministry of Agriculture responsible for ensuring that fertilizers and fertilizer supplements are distributed to farmers.

The functions of TFRA are stipulated under Section 4(1) of the Tanzania Fertilizers Act, 2009. The Authority provides regulatory services in the fertilizer industry through the Regulatory Service Directorate and Domestic Manufacturing and Bulk Procurement Directorate.

In particular, it is responsible for:

a) Regulating all matters relating to the quality of fertilizers, fertilizer supplements and sterilizing plants;
b) Registering all fertilizer and fertilizer supplement dealers and their pr emises;
c) Licensing fertilizer dealers;
d) Issuing permits for importation and exportation of fertilizers and fertilizer supplements;
e) Maintaining a register of fertilizers, fertilizer supplements and sterilizing plants;
f) Regulating and controlling the import, production, transportation, Dealing, storage, and disposal of fertilizer or fertilizer supplements;
g) Inspecting or cause to be inspected fertilizer or fertilizer supplements for quality assurance; and
h) Fertiliser prices should be regulated based on the appropriate methods as set out in the regulations.

The Guideline of Subsidy Fertilizer of 2022/23 requires TFRA to register farmers in the subsidy program, set and announce the fertilizer indicative price and supervise the programme's implementation.

2.3.2 Roles of Other Stakeholders

Other stakeholders regulating FFS distribution are PO-RALG, Tanzania Agricultural Research Institute (TARI), Tanzania Bureau of Standards (TBS), Domestic Manufacturers, Importers, Agro dealers and Farmers. Their roles are described below:

a) President's Office-Regional Administration and Local Government (PO-RALG)

PO-RALG is responsible for the supervision of the distribution of fertilizer to farmers through the Regional Secretariat (RS) and Local Government Authorities (LGAs). PO-RALG facilitates the smooth distribution of fertilizer through collaboration with TFRA in public education campaigns on sound application and management of fertilizers and supplements.

Regional Secretariat

The Regional Secretariat is required to raise awareness among farmers to increase registration in the farmers' database and to prepare monthly progress reports on the implementation of the subsidy program.

Local Government Authorities

According to the Subsidy Fertilizer Guideline of 2022/23, Local Government Authorities are responsible for:

(i) Registration and preparation of a database of farmers at the village/ward level;
(iii) Provision of education to farmers about the principle of good agriculture according to crop ecology relevant to the area; and
(iii) Manage farmers' correct use of subsidized fertilizers and ensure fertilizer is used for the intended purposes.

Further, the Guideline of Subsidy Fertilizer of 2022/23 requires PO-RALG, through the Regional Secretariat, to compile a register of farmers from the Local Government Authorities. Also, it requires LGAs to prepare a database of farmers at the village/town level used to forecast the demand for the subsidy program and manage the provision of subsidy fertilizer at the set indicative prices.

b) Tanzania Bureau of Standards (TBS)

The Tanzania Bureau of Standards (TBS) is mandated to conduct sample tests for quality control on the arrival of fertilizers. Most imports into Tanzania come through the port of Dar es Salaam, where the Tanzania Bureau of Standards (TBS) is mandated to conduct sample testing for fertilizer quality control on arrival. In terms of process, importers should apply for testing of their sample two weeks before the arrival of the cargo.

Furthermore, according to Regulation 13(3) of the Fertilizer Bulk Procurement Regulations of 2017, the Tanzania Bureau of Standards is responsible for providing final fertilizer laboratory results for the imported fertilizer.

c) Fertilizer Domestic Manufacturers and Fertilizer Importers

These are companies that are involved with the importation and production of fertilizers in the country. Companies that import and produce fertilizer have the following responsibilities according to the fertilizer subsidy guidelines for 2022/23.

(i) To enter or produce fertilizer to be sold to farmers at the price of subsidies;
(ii) Entering contracts and dealers/agents who will buy and distribute subsidized fertilizer on behalf of the company and a copy of relevant contracts should be submitted to TFRA;
(iii) To make sure bags of subsidized fertilizer are written and labelled “Subsidized fertilizer” and have a QR code issued by TFRA; and
(iv) Submitting documents for claims for payments to TFRA after the fertilizer is sold to a farmer.

The Guideline of Subsidy Fertilizer of 2022/23 requires Importers or manufacturers of FFS to produce or import fertilizer to be sold to farmers at a subsidy price. Importers and manufacturers are required to manage all contracted dealers for the distribution of fertilizers and fertilizer supplements.

Specifically, the following were the roles and responsibilities of Domestic Manufacturers and Fertilizer Importers.

Fertilizer Importers

Sections 21 and 25 of the Fertilizer Acts of 2009 and Regulation 48 of the Fertilizer Regulations of 2011 require the Importers to comply with the following requirements:

- Registration of fertilizer or fertilizer supplements;
- Imported fertilizer is packed in a sealed container;
- Fertilizers are imported through a prescribed port or place; and
- Keep records of the imported fertilizers.

Domestic Manufacturers

These are local producers of fertilizers who produce, prepare, and process compounds; formulate, fill, transform; package, re-pack; and label fertilizer or fertilizer supplements within Mainland Tanzania. Section 20 of the Fertilizer Acts of 2009 requires them to be licensed by TFRA or register the fertilizers manufactured by these manufacturers.

d) Agro-dealers of Fertilizers

These stakeholders have great potential for the growth of the agriculture sector as they facilitate a smooth fertilizer distribution chain in the country and manage the movement of fertilizers from regional distribution points to farmers. They are responsible for storing, selling and providing knowledge to farmers on applying fertilizers and ensuring farmers have access to fertilizers throughout the agricultural season.

e) Farmers

These are the end users of fertilizers in the distribution chain of fertilizers and are specifically responsible for buying and applying FFS in crop production.

2.4 Processes for Regulation of Distribution of Fertilizers and Fertilizer Supplements to Farmers

The process, activities and responsible actors involved in regulating the distribution of FFS are described below:

Table 2.1: Process for regulating the distribution of fertilizers in the country

Stage Name	Activities Involved	Responsible Actor (s)
Registration and Licensing of Fertilizer and Fertilizer Dealers	❖ Registration of Fertilizers and Fertilizer Supplements (FFS) ❖ Registration of Fertilizer or Agro-dealers ❖ Licensing of Fertilizer Dealers	Tanzania Fertilizer Regulatory Body (TFRA)
Establishment of Demand for Fertilizers and Fertilizer Supplements	❖ TFRA requests the regions to establish the demand before the commencement of the agricultural season ❖ Regions and LGAs request village Agricultural Officers to establish and compile the demand. ❖ TFRA and Regions discuss the demand forecasted	❖ Tanzania Fertilizer Regulatory Body (TFRA) ❖ Regional Secretariat ❖ Local Government Authorities ❖ Agricultural Officers
Importation and Manufacturing of Fertilizers	❖ Importation of FFS through demanded Bulk Procurement System (BPS) or Outside BPS. ❖ Domestic Manufacturing Industries produce needed FFS ❖ TFRA Coordinates with TPA to ensure timely offloading of fertilizers at the Port by TPA	❖ Tanzania Port Authorities (TPA) ❖ Tanzania Fertilizer Regulatory Body (TFRA) ❖ Fertilizer Dealers
Inspection of Fertilizer and Fertilizer Supplements	Tanzania Bureau of Standards (TBS) conducting sample testing for quality control of fertilizer on arrival	Tanzania Bureau of Standards (TBS)
Packing and Distribution of Fertilizers	❖ Pack the fertilizers in 5kg, 10kg, 25kg and 50 kg bags as specified in Regulation 32 (4) of the Fertilizer Regulations of 2011	❖ Fertilizer Dealers

Stage Name	Activities Involved	Responsible Actor (s)
Price Regulation	❖ Set and Announce Indicative Prices ❖ Monitor compliance of Indicative prices to Agro-dealers	❖ Tanzania Fertilizer Regulatory Body (TFRA)
Quality Control to Fertilizers	Inspection of Fertilizer dealers to ensure compliance with the quality requirements	Tanzania Fertilizer Regulatory Body (TFRA)
Performance Evaluation	Monitor activities on the distribution of FFS in the country	Tanzania Fertilizer Regulatory Body (TFRA) Ministry of Agriculture (MoA)

Source: *Auditors' Analysis of the System Description (2023)*

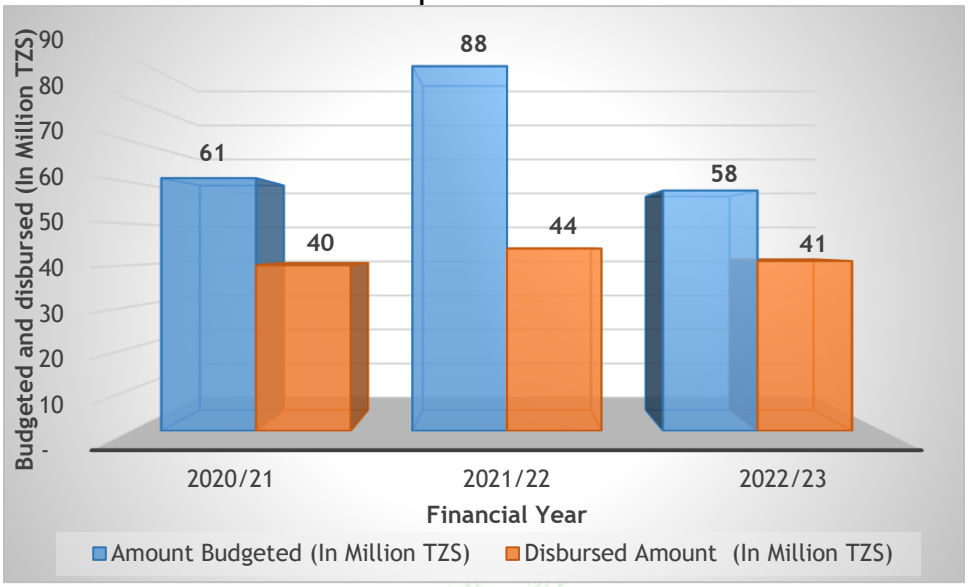
2.5 Resources Employed for Regulation of Distribution of Fertilizers to Farmers

To ensure the implementation of activities for the distribution of fertilizers to farmers, the Ministry of Agriculture and TFRA require both human and financial resources to execute the planned activities related to the distribution of fertilizers in the country.

Financial Resources at the Ministry of Agriculture

The budgeted and disbursed funds for monitoring the use of agricultural inputs, including fertilizers and promotion of soil amendments in the 185 LGAs by the Directorate of Crop Development for the period from 2020/21 to 2022/23 are presented in **Figure 2.2.**

Figure 2.2: Budgeted and disbursed fund to facilitate use of agricultural inputs to farmers



Source: *Auditors' Analysis of Budget Execution Report 2020/21 to 2022/23*

Figure 2.2 shows an increase in the amount disbursed to facilitate monitoring and evaluation of the application of fertilizers at the Directorate of Crop Development TZS 40 Million in 2020/21 to TZS 41 Million in 2022/23.

Financial Resources at TFRA

The following were the associated costs incurred by TFRA to ensure quality fertilizers were distributed to farmers for the three years. **Table 2.2** provides details.

Table 2.2: Budgeted and disbursed funds for regulation of distribution of quality fertilizers to farmers At TFRA

Financial Year	Budgeted Amount (In Million TZS)	Disbursed (In Million TZS)	% Of Expenditure
2020/21	6,310	5,685	90
2021/22	9,297	8,762	94
2022/23	11,415	377,663	3308

Source: *Auditors' Analysis from Subsidy Distribution Report and Audited Financial Statement 2020/21 to 2022/23*

During 2022/23, TFRA introduced a subsidy program in August 2022, hence experiencing over budgetary expenditure by 3,308 per cent from the initially budgeted amount.

Human Resource Status at MoA

Activities related to regulating the distribution of fertilizers are administered in the Division of Crop Development. **Table 2.**3 shows the status of human resources at the Division of Crop Development.

Table 2.3: Human Resource Status at the Division of Crop Development at MoA

Division	2020/21		2021/22		2022/23	
	Required (No. of Staff)	Available (No. of Staff)	Required (No. of Staff)	Available (No. of Staff)	Required (No. of Staff)	Available (No. of Staff)
Crop Development	77	46	77	46	77	46

Source: *MoA Human Resource Status of 2020/21 to 2022/23*

Throughout the three years from 2020/21 to 2022/23, MoA maintained a constant number of 46 staff members responsible for the regulation of the distribution of fertilizer against 77, which is the optimal requirement.

Human Resource Status at TFRA

According to the TFRA-Approved Functions and Organization Structure of 2019, there are three key departments responsible for regulating activities related to fertilizer availability and accessibility. These departments are the Department of Regulatory Service, the Department of Quality Control and Management, and the Department of Corporate Services. Staff from these Departments were allocated to two working station levels, namely TFRA Headquarters at Dar es Salaam and the TFRA zonal offices. The human resource status of TFRA for the period from 2020/21 to 2022/23 is summarized in **Table 2.4:**

Table 2.4: Human resource status at TFRA for the period from 2020/21 to 2022/23

Station	2020/21		2021/22		2022/23	
	Required (No. of Staff)	Available (No. of Staff)	Required (No. of Staff)	Available (No. of Staff)	Required (No. of Staff)	Available (No. of Staff)
Head Quarter	78	43	78	64	78	69
Zones	42	8	42	16	42	17

Source: *Auditors' Analysis on the Human Resource Status (2023)*

Table 2.4 reveals an increasing trend in reducing the gap between the staff needed to cater for activities related to the distribution of fertilizers in the country. From 2020/21 to 2022/23, the gap was reduced from 69 to 34 staff.

CHAPTER THREE

AUDIT FINDINGS

3.1 Introduction

This chapter presents audit findings on regulating the distribution of fertilizers and fertilizer supplements to farmers as managed by the Ministry of Agriculture (MoA) and Tanzania Fertilizer Regulatory Authority (TFRA). The findings are focused on the audit objectives as presented in Section 1.3 of the first chapter of this report.

The audit findings are presented below:

3.2 Extent of Availability and Accessibility of Good Quality Fertilizers and Fertilizer Supplements to Farmers

The audit acknowledges the efforts made by the Ministry of Agriculture and TFRA to ensure the availability and accessibility of good quality fertilizers and fertilizer supplements to farmers. These include an increase in the number of registered fertilizer dealers in the country, an increase in domestic production of fertilizers, and the implementation of a subsidy program in 2022/23 that ensures quality FFS is available to farmers at an affordable price.

The audit noted that the supplied Fertilizers and Fertilizer supplements in the market were utilized, and the country remained with a closing balance showing an increasing trend from 16% in 2020/21, 18% in 2021/22 and 48% in 2022/23. This increasing trend indicates that the utilization of fertilizers did not match supplied fertilizers to meet the demand for fertilisers.

Table 3.1 provides an analysis of the extent of availability of fertilizers and fertilizer supplements from 2020/21 to 2022/23.

Table 3.1: Extent of the availability of Fertilizers and Fertilizer Supplements

Details	2020/21 ("000" MT)	2021/22 ("000" MT)	2022/23 ("000" MT)
Estimated Fertilizers and Fertilizer Supplements Demand	718	698	678
Total Available Fertilizers and Fertilizer Supplements (Imported and Manufactured less Exported)	594	463	907
Utilization	476	364	581
Closing Balance	118	127	326
Percentage of Closing Balance to Established Demand (%)	**16**	**18**	**48**

Source: *Auditors' Analysis from Established Demand, Importation Permits, Exportation Permits, and Domestically Produced FFS for the period from 2020/21 to 2022/23*

Table 3.1 shows that for financial years 2020/21 and 2021/22, fertilizers available for domestic utilization were below the demanded fertilizers except for 2022/23. Also, Fertilizer utilization increased from 476 MT in the year 2020/21 to 581 MT in the year 2022/23, highly influenced by the implementation of the subsidy program.

However, the balance of the fertilizers remained influenced by other factors such as accessibility, affordability, and the extent of accuracy of the demand forecasting based on the reported information. Despite such efforts and the noted increasing trend of the closing balance stock of fertilizers and fertilizer supplements, the audit noted the availability of sub-standard fertilizers and fertilizer supplements in the country. The quality of fertilizers can be measured through standard sets such as required nutrients (both primary and secondary).

Substandard fertilizers were evidenced by unregistered fertilizers in the markets, which pose a risk to their quality due to a lack of assurance that they meet the required quality parameters.

Also, there were reported incidences from TFRAs' Fertilizer Inspection Report 2021/22 to 2022/23 of substandard fertilizers and fertilizer supplements in the market, fertilizers and fertilizer supplements in Agro-dealers that were not stored properly and the presence of unregistered fertilizers and fertilizer supplements that did not meet the required quality standards as per laboratory test results.

The details of each of the problems are explained below:

3.2.1 Presence of Fertilizers and Fertilizer Supplements with questionable quality in the Market

Regulation 3(1) of the Fertilizer Regulation of 2011 requires the Fertilizer used in the country to be registered. Also, Regulation 4(1) of the Fertilizer Regulations (2011) requires that every fertilizer or fertilizer supplement submitted for its registration be subjected to testing to assess the suitability of the FFS. Maintaining the quality of fertilizers requires fertilizer not to be exposed to the sun. Fertilizer bags are kept properly on palates, with both production and expiration dates indicated on the pack and properly sealed fertiliser packs.

Through the review of TFRA's Inspection Reports and Internal Audit Reports for the period from 2020/21 to 2022/23, it was noted that there were reported matters that indicated the presence of fertilizers and fertilizer supplements with questionable quality in the markets, as elaborated below:

a) 2.5% of the Foliar Fertilizers Inspected were Unregistered

A review of TFRAs' Inspection Report of 2020/21 to 2022/23 and Internal Audit Report of July to September 2020 revealed that 28 types of unregistered foliar fertilizers were circulated to the market and sold to farmers. This contradicts Para 1.4 of the Approved Functions and Organization Structure of Tanzania Fertilizer Regulatory Authority of 2019, which requires TFRA to register and maintain a register of fertilizers and fertilizer supplements before they are supplied to the market.

The registration, among other things, ensures that fertilizers and fertilizer supplements distributed to the market meet the required quality standards. Unregistered fertilizers in the market imply that the supplied foliar fertilizers were not tested to verify their content and chemical composition, proving the quality of fertilizers distributed. **Table 3.2** provides the analysis of identified unregistered fertilizers by TFRA.

Table 3.2: Ratio of Registered to Unregistered Foliar Fertilizers

Financial Year	Registered FFS	Unregistered Foliar Fertilizers Found in the Market	Percentage of the Unregistered Foliar Fertilizers (%)
2020/21	282	7	2.48
2021/22	360	9	2.50
2022/23	470	12	2.55

Source: *Auditors' Analysis from TFRAs' Internal Audit Report, Zonal Inspection Report (2023)*

Table 3.2 shows an increase in the number of registered fertilizers and fertilizer supplements from 282 in the financial year 2020/21 to 470 in the financial year 2022/23. On the other hand, during the same period, there was a percentage increase in identified unregistered foliar fertilizers found in the market through the inspections conducted by TFRA. The percentage of unregistered foliar fertilizers increased from 2.48% in the financial year 2020/21 to 2.55% in the financial year 2022/23. This implied an increase in the percentage of imported fertilizers that did not comply with the registration procedures established by TFRA yet distributed to farmers.

Further, **Table 3.2** shows that, from 2020/21 to 2022/23, the ratio of registered to unregistered FFS remained constant at 1:40 and decreased slightly to 1:39 in 2022/23. This ratio implied that one unregistered foliar fertiliser was circulated for every 40 registered FFS supplied in the market between 2020/21 and 2021/22.

Unregistered fertilizers and fertilizer supplements are due to inadequate inspection at the entry points, agro-dealers and manufacturers, as detailed in section 3.6.

b) Presence of Fertilizers and Fertilizer Supplements in the market which did not pass the quality test

Fertilizers and fertilizer supplements are required to meet the required quality standards such as nitrogen, ammonical nitrogen, soluble minerals, water-soluble phosphate, phosphorous, and moisture content. However, a review of the Internal Audit Report of January to March 2021 from TFRA revealed that, based on a sample of twenty-one (21) reviewed registered fertilizers, three (3) registered FFS did not pass the quality test. **Table 3.3**

summarises registered fertilisers that did not pass the laboratory test results.

Table 3.3: Fertilizer supplements registered without passing quality test

Certificate No	Manufacturer Declaration	Laboratory Results	Date of Laboratory Results	Date of Registration	Remarks
0056	Ca2+=40%	Ca2+=34.62%	25/01/2021	20/01/2021	• The Fertilizer Supplement was registered before Laboratory test results. • -The Fertilizer/ Supplement was registered without meeting the declared nutrient content
0141	Ca2+=19.99 % $CaCo_3$=48%	Ca2+=15.74% $CaCo_3$=39.6 %	25/01/2021	11/02/2021	The Fertilizer/Fertilizer Supplements were registered without meeting the declared nutrient content.
0153	P_2o_2=0.7% Ca=5%	P_2o_2=0.426 % Ca=0.5%	14/01/2021	24/02/2021	The Fertilizer/Supplement was registered without meeting the declared nutrient content.

Source: *Auditors' Analysis from TFRAs' Internal Audit Report (2023)*

Table 3.3 shows non-compliance with TFRAs quality test procedures before the registration of fertilizers, as some fertilizers were registered while they did not meet the required nutrient contents. It also shows that three (3) out of twenty-one (21) (equivalent to 14%) fertilizers registered between January and March 2021 did not pass laboratory test results.

Interviews with TFRA Officials indicated that fertilizers were registered before receiving laboratory test results. There were no standards or procedures that govern the approval of fertilizers.

The application of fertilizers and fertilizer supplements that did not pass the quality tests misled the farmers on the amount of fertilizer to be applied per unit area.

c) Caked and Expired Fertilizers held for Sale in Agro-dealers' shops and warehouses

In reviewing the Fertilizer Inspection Report of November 2020 of the Mbeya Region, the audit team noted the existence of fertilizer dealers who held caked and expired fertilizers for sale.

The FFS caked and expired fertilizers were required to be disposed of as they were no longer suitable for use in farming to increase soil productivity. This case was noted in one (1) out of five (5) visited regions, namely, Mbeya Region, where the audit noted that a consignment of 33.75 MT of expired and caked fertilizers was found in the warehouses of the agro-dealers.

Table 3.4 summarises the expired and caked fertilizers found in the market.

Table 3.4: Existence of Expired and Caked Fertilizers Held for Sale in the Mbeya Region

Batch No	Package (kg	Quantity of caked and Expired Fertilizers (MT)
0620/JL/DAP14	50	0.50
TZ27-0116	50	9.15
P138A24IP001	50	2.05
P138A218P908	50	7.50
9273KEWWG910	50	8.00

Batch No	Package (kg	Quantity of caked and Expired Fertilizers (MT)
P273KEUV809	25	0.68
P273KEZFG909	50	1.30
P273KEU9G802	50	4.00
P273KEXTG912	50	0.50
P273KEXTG908	25	0.08
Total		33.75

Source: *Auditors' Analysis of Inspection Reports on Quality of Fertilizer, Compliance with Indicative Prices in Mbeya and Songwe Region (2023)*

Table 3.4 shows that a total of 33.75 MT of caked and expired fertilizers, mostly packed in 50 kg bags, were circulated in the market in the Mbeya region from the warehouses of distributors of fertilizers.

The reason for caked fertilizers being circulated in the market is attributed to the non-compliance to the storage requirement by agro-dealers and the untruthfulness of fertilizer dealers who were required to dispose of fertilizers under the supervision of TFRA. This implies limited awareness on the side of the agro-dealers who were involved in the distribution chain of fertilizers.

The presence of caked and expired fertilizers implied that the fertilizers circulated in the market were below the quality established from the date of manufacturing to the date of expiration. Actually, the distribution of such fertilizers limits the productivity of crops.

d) The existence of Agro-dealers selling open-bagged FFS poses quality risks

Section 47 (1) and (2) of the Fertilizer Regulations of 2011 require proper storage of fertilizers and fertilizer supplements for quality control. It states that bulk fertilizers and fertilizer supplements should be stored in facilities that ensure good ventilation and should be kept in properly closed bags or containers.

A review of the Internal Auditor's Report for April-June 2021 revealed agro-dealers selling fertilizers kept in open fertilizer bags in the Tabora region. It was noted that seventeen (17) out of fifty-one (51) agro-dealers

inspected by TFRA in the Tabora Region (equal to 33 per cent) had fertilizers and fertilizer supplements kept in the open fertilizer bags. Details of the identified fertilizers are presented in ***Appendix 10***.

Leaving fertilizers and fertilizer supplements in open containers can expose their contents to moisture, lowering their quality and effectiveness. Also, leaving the fertilizers in open containers may expose them to the sunlight, affecting their nutrients and eventually lowering their quality.

Interviews with agro-dealers indicated that they were leaving fertilizers in open containers to assist farmers who required small quantities (i.e. less than 25 kgs) of fertilizers. Selling fertilizers in open bags was attributed to limited fertilizers packed in small packages as most FFS were only packed into 25 kg and 50 kg bags. It was also noted that even indicative prices were set for 25 kg and 50 kg packages while farmers require small packages, which they can afford.

Officials from TFRA acknowledged the existence of this problem of opening the fertilizer bags and indicated that the Authority would continue to conduct training to agro-dealers on the negative impacts on the quality of fertilizer sales kept in open bags.

3.2.2 Limited Accessibility of Fertilizers to Farmers

The accessibility of good quality fertilizers is influenced by the availability of distribution centres and agro-dealers where farmers can easily access fertilizers based on their needs and at affordable prices.

Up to 30 June 2023, TFRA managed to register 3,389,951 farmers in a database and out of them, it was noted that 838,712 farmers accessed fertilizers and fertilizer supplements for agricultural activities.

Both the Ministry of Agriculture and TFRA revealed that the willingness and capacity of a farmer to purchase fertilizers depends on the financial capacity of the individual farmer.

Despite the responses provided by both MoA and TFRA, the audit noted other challenges regarding the accessibility of FFS to farmers, namely:

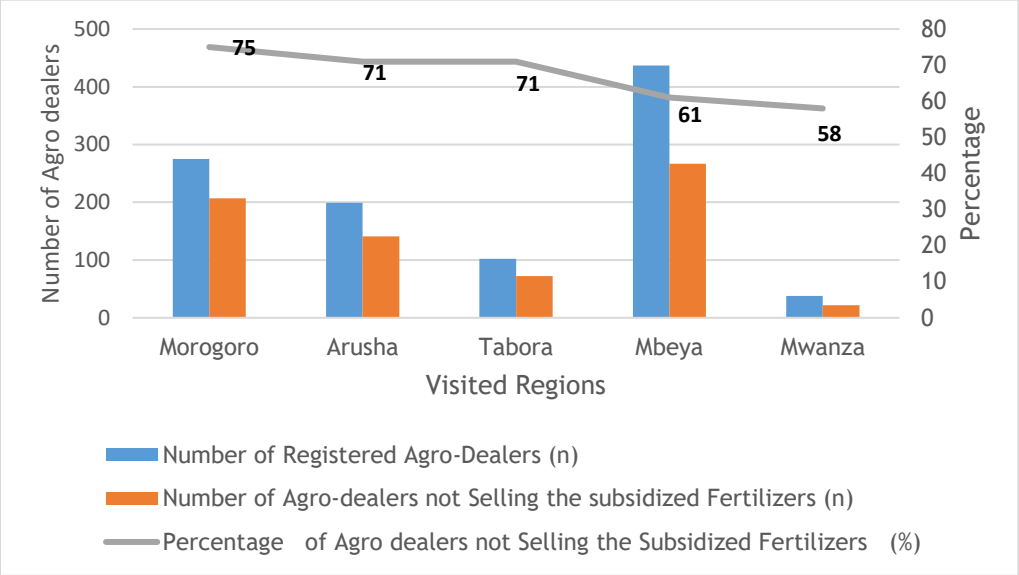
(a) Only 39% of the Registered Agro Dealers were Selling Subsidized Fertilizers

In reviewing the Register of Agro-dealers and Implementation Report of Subsidy Programme for 2022/23, the audit team noted the existence of registered agro-dealers who did not sell and distribute the subsidized fertilizers.

As of June 2023, 1,712 out of 4,346 registered agro-dealers (equivalent to 39%) were involved in distributing fertilizers to farmers through a subsidy programme. This means that 61% of registered dealers were not using the subsidy programme.

Further, in all five (5) visited regions, the audit noted the existence of registered agro-dealers who were not selling the subsidized fertilizers. The percentage of agro-dealers who were not selling the subsidized fertilizers ranged from 58% to 75%, as shown in **Figure 3.1**:

Figure 3.1: Percentage of Agro-dealers who are not Selling Subsidized Fertilizers in the Visited Regions



Source: *Auditors' Analysis from Registered Fertilizer Dealers under Subsidy (2023)*

Figure 3.1 indicates that the percentage of registered agro dealers involved in the subsidy program in the five (5) visited Regions was below 50%. The percentage of agro-dealers not involved in the Subsidy Program

was high in the Morogoro Region, whereby 75% of the registered agro-dealers were not involved in the distribution of subsidized fertilizers, while in the Mwanza region, it was 58% of the registered agro-dealers.

Further, the Guideline for the Implementation of the Subsidy Program for the Agricultural Season, 2022/23, requires Importers /Manufacturers to enter into a contract with agro-dealers to distribute fertilizer on their behalf. This was to facilitate the accessibility of fertilizer through improved distribution using agro-dealers. However, the audit noted that 709 out of 1,051 agro-dealers in the visited regions signed contracts with Importers or Manufacturers.

The low number of agro-dealers who signed contracts with importers or manufacturers was attributed to financial constraints among the agro-dealers, thus causing only 41 per cent of the registered agro-dealers to be involved in selling fertilizers. As a result, the audit team noted that 3,689 registered farmers from Monduli DC, 10,638 farmers from Ngorongoro DC and 3,194 farmers from Longido DC have to move to another LGA at a distance of an average of 50 Kilometers looking for fertilizers. Also, the low number of agro-dealers may create a shortage of fertilizers for farmers, hence the low rates of application of fertilizers.

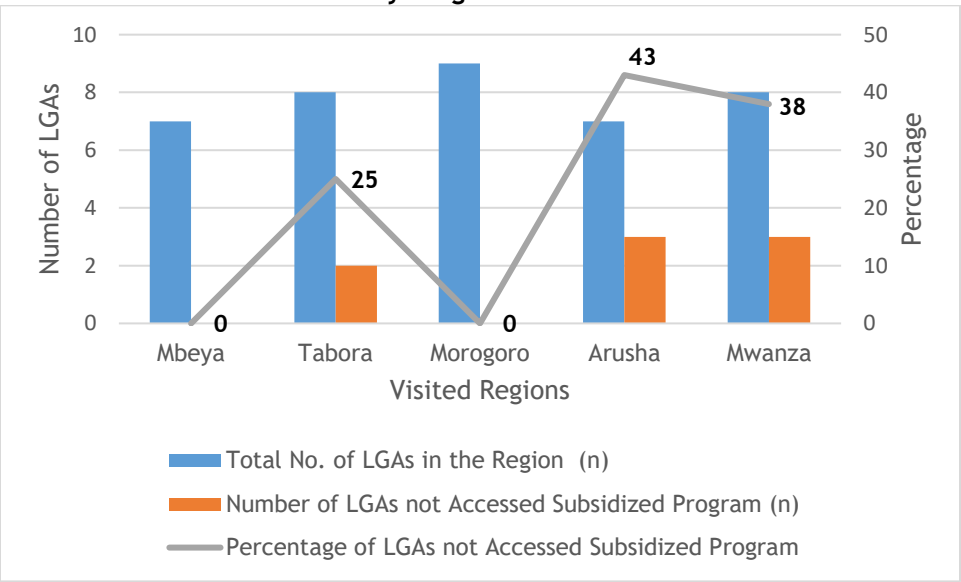
Interviewed Officials from TFRA indicated that all agro-dealers were fully involved in the distribution of fertilizers for two (2) out of three (3) agricultural seasons except for the year 2022/23, which involved the subsidy program. The officials added that the financial constraint among agro-dealers limited their involvement in the subsidy program since agro-dealers were required to buy fertilizers at full price, and the subsidy amount would be paid later.

(b) 22% of the LGAs did not have Agro-dealers to distribute Fertilizers to allow Farmers to Access Subsidized Fertilizers

The audit noted that as of June 2023, at the national level, 41 LGAs (equivalent to 22%) out of 185 LGAs were involved in the subsidy programme while not having agro-dealers to allow registered farmers to access the subsidized FFS. Thus, there was a non-recognition of the costs of subsidized fertilizers in forty-one (41) LGAs.

Further analysis of the availability of agro-dealers in the visited regions indicated eight (8)[7] out of thirty-nine (39) LGAs within the visited five (5) regions lacked agro-dealers to facilitate the distribution of the subsidized fertilizers. Notably, all LGAs from the Morogoro and Mbeya regions had agro-dealers who distributed fertilizers. Conversely, in Mwanza, Tabora and Arusha, eight (8) LGAs had no agro-dealers. Non-availability of agro-dealers in the LGAs ranged between 0% and 43% of the total LGAs in the region. The percentage of LGAs that did not have agro-dealers in the visited regions is presented in **Figure 3.2:**

Figure 3.2: Percentage of LGAs Without Agro-dealers to Distribute Fertilizer of the Subsidy Program in the visited LGAs



Source: *Auditors' Analysis from Registered Fertilizer Dealers under Subsidy (2023)*

Figure 3.2 shows that Arusha is the region that was mostly affected by the unavailability of agro-dealers, whereby its three (3) LGAs, namely Ngorongoro DC, Monduli DC and Longido DC, did not have registered agro-dealers to distribute the subsidized fertilizers. In the Mwanza region, three LGAs, namely Ukerewe DC, Kwimba DC, and Ilemela MC, did not have agro-dealers. In the Tabora Region, two LGAs, namely Uyui DC, and Nzega DC

[7] Ukerewe DC, Kwimba DC, Ilemela MC, Ngorongoro DC, Monduli DC, Uyui DC, Nzega DC and Longido DC

did not have agro-dealers. In the Morogoro and Mbeya regions, agro-dealers were available in all LGAs.

Figure 3.2 also shows that in the visited regions, farmers from eight (8) out of thirty-nine (39) LGAs in the sampled regions accessed fertilizers from other nearby LGAs that have agro-dealers.

Furthermore, TFRA's response revealed that fertilizer application is concentrated in a few regions (food basket regions[8]). In the remaining region of the Tanzania mainland, farmers used fertilizers to a low extent since fertilizers are not considered commercially feasible by fertilizer dealers in such regions. Thus, the audit revisited the guidelines of subsidy and noted that the aim of distributing fertilizers was not only to increase food security but also to increase the production of crops that act as raw materials for industries, i.e., cotton. Given this situation, TFRA is required to ensure that registered agro-dealers are available and involved in distributing subsidized fertilizers.

(c) The subsidy Program did not include the Minimum Authorized Fertilizer Package as per Fertilizer Regulations

Regulation 32 (4) of the Fertilizer Regulation of 2011 requires fertilizers to be packed into 5kg, 10kg, 25kg and 50kg bags.

Reviewing the Internal Audit Report on implementing the Subsidy Programme of October 2022, covering the Southern Highlands and Central zones, revealed that the subsidized fertilizers were not packaged in a minimum package of 5 kg. Rather, the minimum packages distributed were 25 kg and 50 kg, contrary to the requirement of Regulation 32(4).

Similarly, the physical verification which was conducted by the audit team on the sampled agro-dealers noted that only two (2) out of sixteen (16) visited agro-dealers had fertilizers stocked in 5 kg packages. The absence of 5 kg bags, which were in high demand among small-scale farmers, increased the likelihood of agro-dealers opening larger fertilizer bags to meet the demand of the small-scale farmers. This situation restricted

[8] Mbeya, Iringa, Njombe, Rukwa, Ruvuma, Kigoma and Katavi

farmers' access to subsidized prices and hindered their ability to obtain fertilizers in suitable quantities.

The absence of the minimum package of 5 kg was due to the reason that Guide 5.4(iv) of the Guideline for Implementing the Subsidy Program requires importers/manufacturers to pack fertilizer bags of 25kg and 50kg only.

TFRA's response revealed that the reason for the exclusion of 5 kg and 10 kg was the costs associated with packaging, which were almost the same for fertilizers in the country. Also, the review of TFRA's Letter dated March 2023 with Reference Number BD.29/190/01/256 addressed to producers revealed that the Authority directed them to pack 5 kg and 10 kg fertilisers to accommodate the needs of the small-scale farmers. However, the response did not indicate whether the producers and importers had started implementing the directives.

The above weaknesses related to the availability and accessibility of good quality fertilizers and fertilizer supplements to farmers in the country may result in the following:

i. ***Non-attainment of Fertilizers utilization target of 50kg per hectare***

As part of the strategy for achieving the African Green Revolution to end hunger, the African Union Member States targeted to increase fertilizer use to an average of at least 50 kilograms per hectare by 2015. As a member, Tanzania ratified the agreement intended to attain the target of using an average of 50 kilograms per hectare by 2015.

Evaluation Report of Subsidy Fertilizers, July 2023, showed that the fertilizer utilisation rate stood at 19 kilograms per hectare. This rate was below 50kg per hectare, the country's target. The current rate is below the target by 31 Kilograms per hectare (equivalent to 62%).

Since the target was not attained, the Evaluation Report of Subsidy Fertilizers of July 2023 reveals that the country revised the target to attain 50 kilograms per hectare by 2025/26.

ii. 75% of Registered Farmers did not Access the needed Fertilizer through the Subsidy Program

During the financial year 2022/23, the Ministry of Agriculture, in collaboration with PO-RALG through RS, LGAs and TFRA, managed to register farmers to facilitate access to fertilizers and fertilizer supplements to farmers.

At a national level, the total number of registered farmers was 3,389,951 as of 30 June 2023. However, 838,712 out of the 3,389,951 registered farmers, equivalent to 25%, accessed and utilized fertilizers, implying that 2,551,239 farmers, equivalent to 75%, did not access fertilizers through the subsidy program despite being qualified to access them.

Similarly, a review of the Subsidy Implementation Report revealed that in the visited five (5) Regions, there were farmers who did not access fertilizers during the year 2022/23. The percentage of farmers who did not access fertilizers ranged between 62% and 91%. **Table 3.5** presents the percentage of registered farmers who did not access the subsidized FFS.

Table 3.5: Percentage of farmers not accessing Fertilizer through subsidy program in the visited LGAs

Regions	Number of Registered Farmers (n)	Number of Farmers Who Accessed the Subsidized Fertilizers (n)	Number of Farmers who did not Access subsidized Fertilizers (n)	Percentage of Farmers not Accessed Subsidized Fertilizers (%)
Mwanza	49,278	4,583	44,695	91
Morogoro	126,539	18,368	108,171	85
Tabora	148,714	28,954	119,760	81
Arusha	84,160	19,646	64,514	77
Mbeya	277,371	105,801	171,570	62

Source: *Auditors' Analysis of Subsidy Implementation Report (2023)*

Table 3.5 shows that there were farmers who were registered and qualified to access the subsidized fertilizers but could not. For farmers from the Lake zone, specifically the Mwanza region, 91% of the registered farmers did not access the subsidized fertilizers, meaning that only 9% of

the farmers from this region accessed fertilizers. It was further noted that, in this zone, farmers mainly used natural fertilizers.

In the Southern Highland regions, which include the Mbeya region, where fertilizers were highly used, 38% of the registered farmers managed to buy subsidized fertilizers.

Weaknesses in the availability and accessibility of fertilizers are attributed to the following factors:

a) Ineffective forecasting of the demand for fertilizers and fertilizer supplements;
b) Untimely distribution of fertilizers and fertilizer supplements;
c) Ineffective regulation of prices of fertilizers and fertilizer supplements;
d) Ineffective Inspections of fertilizers and fertilizer supplements, distribution centres and agro-dealers; and
e) Inadequate performance evaluation of TFRA and agro-dealers regarding the distribution of fertilizers and fertilizer supplements.

The details of each contributing factor are as presented in the subsequent sections 3.3, 3.4, 3.5, 3.6 and 3.7.

3.3 Ineffective Forecasting of the Demand for Fertilizers and Fertilizer Supplements

Para 3.1 of the Approved Functions of TFRA of 2019 requires the authority to collect the procurement requirements of fertilizer from registered fertilizer dealers and to forecast the supply and demand of fertilizers in the country.

The audit noted that, in establishing the demand for FFS, the Ministry of Agriculture, on behalf of TFRA, initiated the process by writing a letter to PO-RALG to request fertilizer demand forecasts from each region for every financial year. The PO-RALG, after receiving the request from TFRA, writes a letter to all Regions in the country requesting the same, whereby the respective Regions also write a letter to all their LGAs requesting the same. Similarly, upon receiving the letter from the respective Regions at the LGA

level, the Agricultural Officers prepare and submit their demand to their regions. Similarly, at the MoA, the audit noted that the Ministry was using the information compiled from TFRA.

The effectiveness of forecasting demand was assessed based on the adequacy of the available forecasting mechanism to capture the key needs, the use of information from the demand forecast to procure fertilizers, and the coordination of key actors in demand forecasting. The results have revealed that forecasting was ineffective in meeting the demand for fertilizers in the country. This is as detailed below: -

3.3.1 Ineffective Mechanism for Establishing Demand for the Required Fertilizers and Fertilizer Supplements

To effectively establish accurate demand, MoA and TFRA were expected to have a mechanism that captures key factors such as the location of the farm, soil type, type of fertilizer needed, amount of fertilizer and timing for distribution of fertilizer to have reliable and accurate information that match with the needed demand.

Through interviews held with Officials from TFRA, the audit noted that TFRA has an ineffective mechanism for demand forecasting to capture the sufficient and accurate needs of the FFS in the country.

It was noted that TFRA lacks an effective mechanism, system, or software for establishing the demand and utilization of FFS in the country to arrive at the reliable quantities and types of fertilizers needed. Instead, TFRA collected data and information on the requirements from LGAs through letters and used them to forecast the demand, which could not provide the accurate information required.

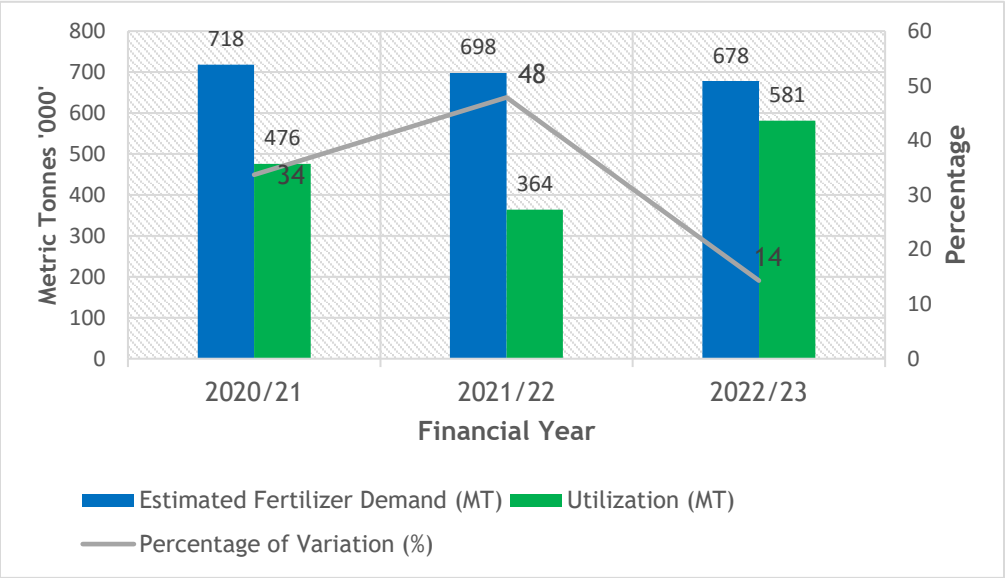
Furthermore, the audit team analysis of this system revealed that TFRA did not consider farm size, quantity of fertilizer needed, and type of crops during the establishment of demand. Hence, the considered factors were ineffective in providing reliable information.

As a result, auditors' analysis of FFS's demand and actual utilization statistics revealed that forecasting demand in that manner provided data

that was higher than the utilization rate for the three years covered in this audit.

At the national level, the mismatch between demand and utilization rate is presented in **Figure 3.3**.

Figure 3.3: Variation between demand forecast and utilization of FFS



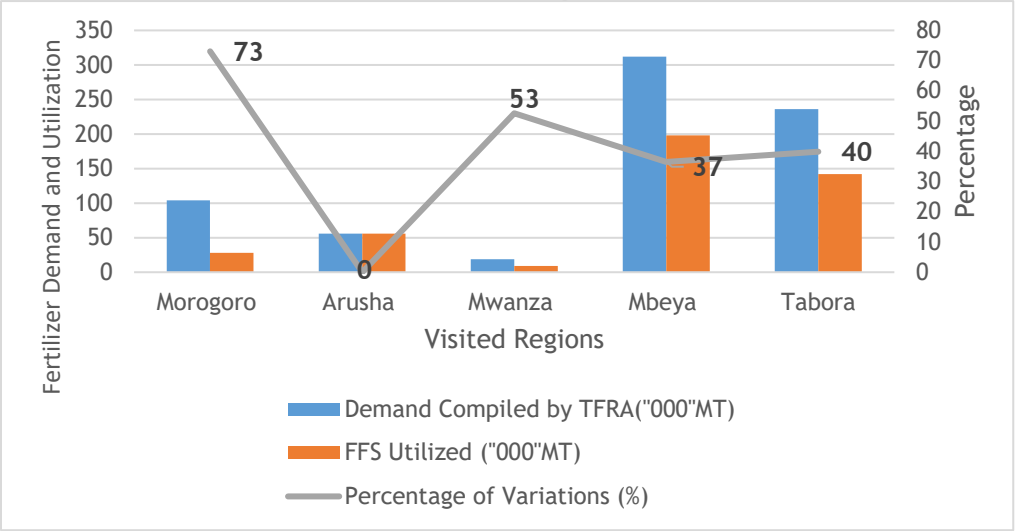
Source: *Auditors' analysis from demand and utilization data from TFRA (2023)*

Figure 3.3 shows that for all three years, the demand forecast was higher than the utilization rate of the respective years. It further shows that percentage variation ranged from 14% to 48%, with the highest percentage noted in 2021/22. Other factors influencing the utilization rate are higher variations between the demand forecast and the utilization, which indicates inadequate use of correct data as input for forecasting, such as historical data, utilization rate, and associated risks.

a) Variation in demand forecast and utilized Fertilizers in the visited Regions

Further analysis of demand and utilization from the sampled regions also indicated variations between demand established from farmers and actual utilization of fertilizers, as presented in **Figure 3.4**:

Figure 3.4: Fertilizer demand forecast and utilized from 2020/21 to 2022/23 in the visited regions



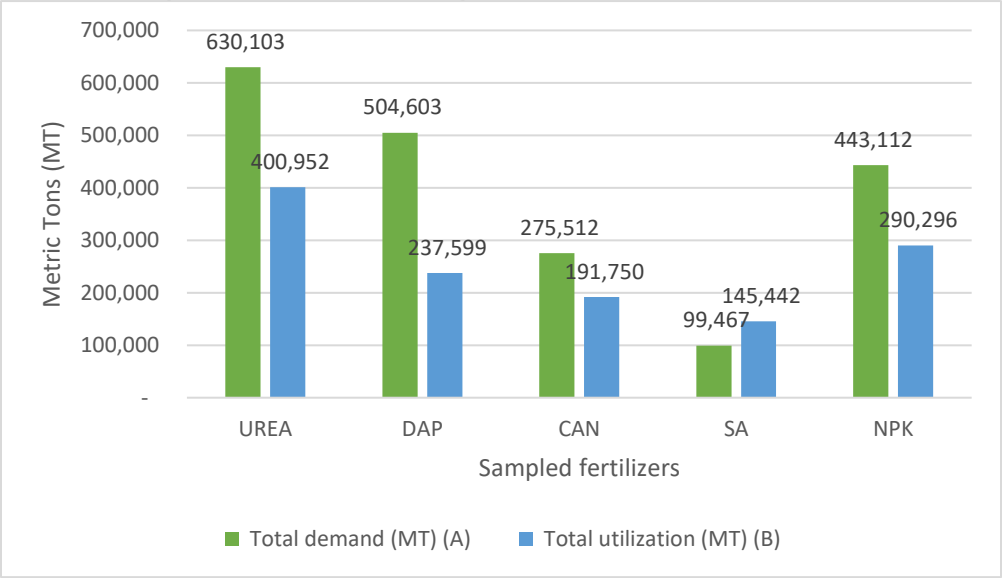
Source: *Auditors' Analysis of the Fertilizer demand forecast and utilization data from TFRA (2023)*

Figure 3.4 shows differences between the total amount of fertilizer demand forecasted and the total amount utilized from 2020/21 to 2022/23. The amount of fertilizer utilized was lower than the fertilizer demand forecast for the four (4) regions of Morogoro, Mwanza, Mbeya and Tabora. Except for Arusha, the total amount demanded for fertilizer was equal to the amount utilized. Huge discrepancies were noted in the Morogoro region, where the variation was 73%, while the discrepancies were noted in the Mbeya region, where the variation accounted for 37%.

b) Variation in demand forecast and utilized fertilizers in the sampled Fertilizers

Further analysis of the sampled Fertilizers revealed a mismatch between the utilization and demand for the sampled fertilizers. For four (4) fertilizers, namely UREA, DAP, CAN and NP, the fertilizer demanded was above the fertilizers utilized. Also, SA utilization was above demand. **Figure 3.5** provides the summary and extent of variation.

Figure 3.5: Mismatch between Fertilizer demand forecast and utilized for the Sampled Fertilizers for the period from 2020/21 to 2022/23



***Source**: Auditors' analysis from demand and utilization data from TFRA (2023)*

Figure 3.5 shows a mismatch between the fertilizer demand forecast and the amount utilized based on the type of fertilizers. From 2020/21 to 2022/23, the total amount utilized was lower than the total demand forecast for fertilizers and fertilizer supplements for UREA, CAN, DAP and NPK, except for SA fertilizer, where the demand was lower than the amount utilized.

Moreover, the interviewed farmers and agro-dealers in the visited LGAs also revealed challenges in accessing the specific FFS per their demand forecast, as detailed in **Table 3.14** provided elsewhere in this report.

Interviewed Officials from TFRA revealed that the demand for fertilizer is very dynamic and volatile due to factors such as rainfall availability and distribution, prices of outputs, government and donor-funded projects and farmers' awareness of fertilizer use. Officials also indicated that TFRA has been improving the mechanism for forecasting demand for fertilizers and fertilizer supplements to ensure that projections are as close to reality as possible.

The reasons for the absence of an effective forecasting mechanism to accurately determine the demand for FFS are discussed below:

a) Unreliable Forecast Data for the Village where Agricultural Officers were not available

The audit noted a shortage of Agricultural Officers at the village level to assist TFRA in capturing the reliable demand from farmers. Thus, it happens that the Agricultural Officers operate in more than one village, a practice which makes them inefficient in estimating the demand forecast.

On the other hand, given the prevailing situation in the practice of the Agricultural Officers at the village level, the non-availability of Agricultural Officers may lead to the provision of unreliable data. **Table 3.6** analyses the availability of Agricultural Officers to the existing villages in the visited LGAs.

Table 3.6: Ratio of available Agricultural Officers to villages in the visited LGAs

Name of the Visited LGA	Number of Villages	Number of Agricultural Officer	The ratio of Agricultural Officer to the Number of Villages in the LGAs
Arumeru DC	90	25	1:4
Mbeya DC	152	86	1:2
Morogoro DC	149	74	1:2
Uyui DC	156	26	1:6
Sengerema DC	71	30	1:2

***Source*:** *Auditors' Analysis on the Implementation of Fertilizer demand forecast and utilization (2023)*

Table 3.6 shows that not every village has an Agricultural Officer, and on average, one (1) Agricultural Officer saves two (2) to six (6) villages, whereas one(1) Extension Officer is required to serve one (1) village. The highest level of shortage of Agricultural Officers was noted in Uyui DC, where an Agricultural Officer was saving six (6) villages, and the lowest shortage of Agricultural Officers was noted in Mbeya DC, where one (1) Agricultural Officer saved two (2) villages.

The Ministry of Agriculture indicated that it has recognized these shortfalls and has taken measures to improve the situation. MoA has taken measures,

include the distribution of 5,889 motorcycles, 805 iPads, and 141 soil kits to farmers. MoA also indicated that it has in place the use of mobile extension services through M-Kilimo, whereby farmers can easily access the extension services through their mobile phones by asking questions on challenges faced during farming, and MoA responds to farmers through calls.

The following are the consequences of an ineffective demand forecast mechanism.

3.3.2 TFRA did not Use its Demand Forecasting Mechanism Information to Regulate the Ordering and Procurement of Fertilizers and Fertilizer Supplements

According to Para 3.1 of the Approved Functions and Organization Structure of TFRA of 2019, the Authority is required to forecast the demand and supply of fertilizers in the country.

Section 1.3 (ii) of the Approved Functions and Organization Structure of Tanzania Fertilizer Regulatory Authority (TFRA) of 2019 states that TFRA is mandated to regulate the manufacturing, importation, exportation, sale and utilization of agricultural fertilizers and to provide for the related matters. Furthermore, Section 1.4 states that the role of TFRA, as stipulated under the Fertilizers Act No. 9 of 2009, is to regulate and control the quality of the fertilizer industry through regulation and control of import, production, dealing, transportation, storage and disposal of fertilizers or fertilizer supplements.

The audit team noted that despite TFRA establishing the demand using inputs gathered from farmers through LGAs, the procurement was highly influenced by the market experience of importers and not the TFRA demand forecast mechanism, which did not take into consideration the market forces.

It was also noted that, when issuing import permits to Importers, TFRA encounters requests from the Importers soliciting to import the fertilizers and fertilizer supplements based on their demand prevailing in the market, but not the TFRA demand forecast mechanism, which did not take into consideration the market forces.

In assessing varieties of fertilizers demanded and imported fertilizers, the audit team noted variations between them, implying that the procurement of FFS was highly influenced by importers' market experiences and demand rather than farmers' demand. **Table 3.7** provides details.

Table 3.7: Demand forecast and imported of FFS for the period from the visited regions

Selected Fertilizer	Total demand (MT) (A)	Importation (MT) (B)	Variation (MT) (C=A-B)	Percentage of Variation (%)
UREA	630	345	285	45
DAP	505	277	227	45
CAN	276	146	130	47
SA	99	129	- 30	-30
NPK	443	243	200	45

Source: *Auditors' Analysis on the Fertilizer demand forecast and imported from TFRA, (2023)*

Table 3.7 shows that for the period between 2020/21 and 2022/23, there was a mismatch of sampled FFS between the demanded and imported. The variation ranged from 30% to 47%, with the highest variation noted for CAN fertilizer. **Table 3.7** also shows that the demand for UREA, DAP, and NPK was higher than the imported quantity by 45%. Unlike other sampled fertilizers that indicated over-estimation of demand, the imported amount was higher than the quantity of estimated demand by 30% for SA fertilizers.

With such a big variation between demanded and imported, the findings indicate that importation was done based on the established demand forecast data; however, it was based on the requirements of the importers and market trends. Relying highly on importers' information may result in inaccurate demand forecasts and underutilization, as the importers are likely to lack deep insights into the local agricultural conditions, which may lead to underutilization.

TFRA's response revealed a volatile demand for fertilizers and fertilizer supplements. Hence, actual procurement is mainly driven by actual market forces (effective demand), where traders import fertilizer based on their actual sales. Sales are mainly influenced by actual rain availability, distribution and farmers' purchasing power. Changes in such factors highly

affect the demand patterns and influence the traders' procurement and supply plans. However, TFRA did not provide an analysis indicating how it has been using these factors in forecasting the demand.

3.4 TFRA did not adequately ensure Timely Distribution of Fertilizers to Farmers

The audit team acknowledged the availability of fertilizers and fertilizer supplements in the country to satisfy the demand for fertilizers. It was noted that fertilizers were available in the market throughout the agricultural season.

However, the audit noted less coordination of TFRA with key actors to ensure the timely distribution of good quality fertilizers and fertilizer supplements to farmers.

The audit further noted that TFRA did not ensure that a bulk procurement system was used to procure or import fertilizers in the country. This is as detailed below:-

3.4.1 Adequate Regulation of Agro-dealers and Distributors to Ensure Timely Distribution of Fertilizers to Farmers

The audit noted that fertilizers and fertilizer supplements were available in the country during agricultural seasons, as evidenced by the availability of stock held by fertilizer dealers **(Refer Table 3.1).** Through the review of countrywide correspondence files covering the period from 2020/21 to 2022/23, the audit noted that fertilizers were available to farmers on time.

The audit team acknowledged the availability of fertilizers in the country. On the other hand, the audit noted that during the peak of the agricultural season, alternative fertilizers were accessed by farmers based on the following;

a) Presence of Fertilizers Stock to the visited agro-dealers

For the period from 2020/21 to 2022/23, the audit team noted that farmers utilized fertilizers and fertilizer supplements and remained with the stock. Specific for the visited regions during agricultural season 2022/23, the audit team noted that the stock of fertilizers that remained was 1,271 MT in the Arusha Region, 5,243 MT in the Mbeya Region, 234 MT in the

Morogoro Region, 570 MT in the Mwanza Region and 690 MT in the Tabora region.

During the site visit on September 2023, the audit team observed that all 16 agro-dealers were found with either foliar fertilizers or solid fertilizers for sale.

b) During the Peak of Agriculture season, alternative fertilizers were accessed by farmers

Furthermore, interviews with farmers in Morogoro DC, Meru DC, and Mbeya DC revealed that UREA and CAN were unavailable in agro-dealers shops in January and February 2023.

It was noted that when fertilizers were highly needed for top dressing, the agro-dealers utilised the opportunity to advise farmers to buy the available alternatives. Farmers were therefore convinced to buy alternative fertilizers, such as Intercom fertilizers, which were distributed in Meru DC. Also, interviewed farmers reveal that the performance of such available alternative fertilizers on the agricultural yield was not at the level compared to the commonly used fertilizers. **Table 3.**8 provides details on the percentage of farmers who were provided with alternative fertilizers.

Table 3.8: Unavailability of needed fertilizers by farmers during the agricultural season

LGAs	No of the Farmers Interviewed	No. of Farmers used alternative fertilizers during the peak of the agriculture season	% of used alternative fertilizers during the peak of the agriculture season
Morogoro DC	31	21	67
Meru DC	4	2	50
Mbeya DC	26	6	23

***Source**: Auditors' Analysis of Interview with Farmers in the Visited LGAs, (2023)*

Table 3.8 provides the extent to which farmers used alternative fertilizers during the peak of the agricultural season. **Table 3.8** further depicts that, to a large extent, the needed fertilizers were not adequately available during the peak of the agricultural season, when fertilizers were in high demand by farmers. In Morogoro DC, farmers were not satisfied with fertilizers distributed during the farming season by 67%.

3.4.2 Inadequate Coordination between TFRA and TPA to ensure Timely Distribution of Quality FFS to Farmers within 2022/23

Reviewing the correspondences between TFRA, TPA and importers, the audit noted that TFRA managed to coordinate well with TPA for 2 out of 3 years involved in the audit.

The letter from YARA to TFRA dated 3rd October 2022 reveals that TFRA did not adequately coordinate with TPA to ensure importers of fertilizers timely offload the imported fertilizers within the targeted timelines. It was noted that there was a gap in communication between the Expected Time of Arrival (EAT) for importers, which led to a delay in offloading the imported FFS and resulted in demurrage costs.

For instance, the fertilizers and Fertilizer Supplements (FFS) were expected to arrive on 22nd August 2022 and complete the offloading on 26th August 2022. However, the actual completion date for offloading was 2nd September 2022.

The delay in offloading created an additional price of TZS 1,086 per 50 kg bag of NPK fertilizers that were distributed during the agricultural season of 2022/23, and the burden of additional costs of TZS 1,086 per 50 kg was shifted to farmers.

TFRA's response revealed that engagement was done in time, including consultative meetings and writing letters to inform TPA of the expected arrival of fertilizer vessels and requesting priority berthing, but the reason for the delay to offloading was beyond their control as it was caused by the breakdown of facilities at the TPA.

3.4.3 Underutilization of Bulk Procurement System during Ordering and Importation of FFS that meet the Demand in the Country

The audit noted that the Bulk Procurement System (BPS), established to ensure availability and obtain price reductions due to importing FFS in bulk at once, was not functioning as expected. The audit noted the following underutilization of the Bulk Procurement System linked to the ordering and importation of FFS to meet the demands. These are as described below:-

a) The Bulk Procurement System was not used in ordering Fertilizers for 1 out of 3 years covered in the audit

The audit noted that for three years, from 2020/21 to 2022/23, the Bulk Procurement System (BPS) was not used to import Fertilizers for the agricultural season of 2020/21. For 2021/22, the Minister exempted the use of the Bulk Procurement system as per regulation 7(4) of the Fertilizer (Bulk Procurement) Regulations 2017. For the year 2022/23, the Bulk Procurement System was used to import fertilizers.

A review of Bulk Procurement System Reports found that TFRA announced four bids from 2020/21 to 2022/23. Out of these, two bids were successful in 2022/23. In 2020/21, two bids failed because bidders didn't meet the requirement of importing at least 5,000 metric tons of BPS.

The interviewed importers pointed out that some importers, especially those owning parent companies outside the country, are less likely to utilize the Bulk Procurement System because they could import FFS from their mother companies from abroad,

Table 3.9 compares announced and successful bids from 2020/21 to 2022/23.

Table 3.9: Comparison between Announced and successful bids in the BPS

Financial Year	No. of Bids Announced in the BPS (n)	No. of Bids that were Successfully (n)
2020/21	2	0
2021/22	0	Minister exempted the use of BPS
2022/23	2	2

***Source*:** *Auditors' Analysis on Bulk Procurement System Report (2023)*

Table 3.9 shows that two (2) bids out of four (4) announced were successful in the last three years. This means that the BPS system was not used to import FFS for one (1) out of three (3) years covered in this audit. In 2022/23, all two (2) bids announced were successful because the country implemented a subsidy program; hence, bidders met the conditions of importing BPS of the minimum quantity of 5,000 Metric Tonnes.

TFRA revealed the main reason that affected the performance of the Bulk Procurement System was the financing arrangement, where most of the

importers who submitted import requirements failed to meet bank requirements for obtaining Bank Guarantee (BG) and opening Letter of Credit (LC) as per Fertilizer (Bulk Procurement) Regulations and Guidelines. However, TFRA indicated that it was taking the initiative to facilitate the financing of Farmers' Cooperatives to import fertilizer through BPS by engaging crop off-takers such as the National Food Reserve Agency (NFRA) and Cereal and Other Produce Board (CPB).

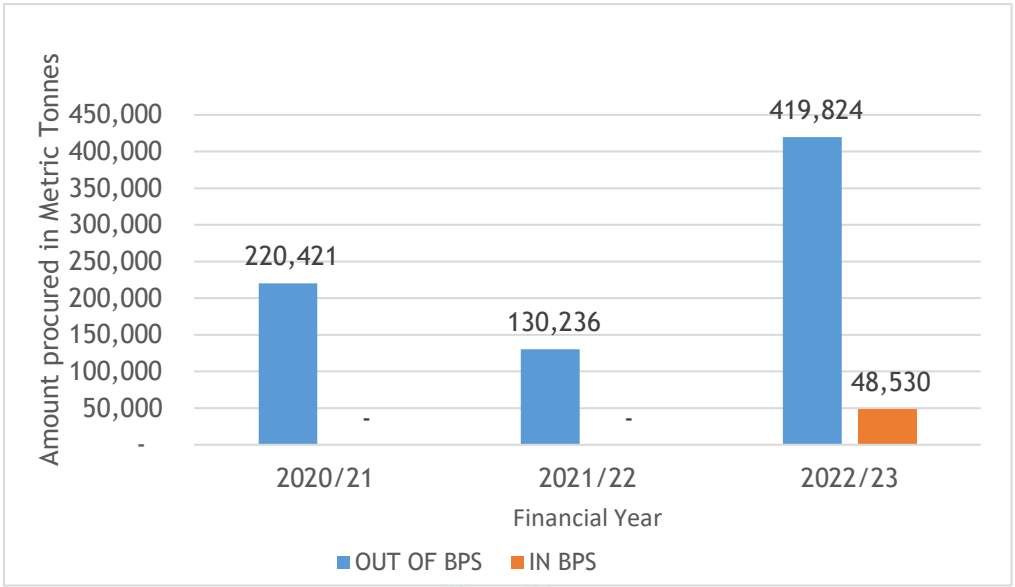
On the other hand, it was noted that the reason for not using BPS for one (1) year was that the quantity of FFS ordered by importers did not reach the minimum requirement for BPS of 5,000 MT. Given that situation, TFRA did not proceed with a few orders submitted by importers. Consequently, TFRA did not meet its objective of supplying FFS on time, with cost reduction.

b) TFRA did not coordinate Procurement of three (3) out of five (5) approved FFS through BPS

The first schedule of the Bulk Procurement of Fertilizer Regulations of 2017 stipulates that the Procurement of FFS is to be done through BPS and further mentions UREA, DAP, SA, CAN and NPK as the Fertilizers to be procured through BPS. Reviewing the Bulk Procurement System Reports that covered the period from 2020/21 to 2022/23, the audit team noted that TFRA managed to coordinate the procurement of FFS, namely UREA and DAP, for 2022/23.

Furthermore, it was noted that the BPS for these two (2) fertilizers was very low, as only 48,530 MT out of 770,481 MT (equivalent to 6.30%) were procured through BPS. **Figure 3.6** analyses the amount of DAP and UREA procured in BPS and out of BPS.

Figure 3.6: Comparison of the amount of DAP and UREA procured in BPS and out BPS



Source: *Auditors' Analysis of imported fertilizers data from TFRA, (2023)*

Figure 3.6 shows that the quantity of FFS imported out of BPS increased from 220,421 MT in 2020/21 to 419,824 MT in 2022/23. It further shows that all FFS were procured out of the bulk procurement systems for the two years, 2020/21 to 2021/22, because importers prefer to import fertilizers through their parent company and hence prefer to use BPS.

c) Bulk Procurement System Suffice 4% of the demanded fertilizer in the country

The audit team's analysis on the contribution of bulk procurement of fertilizers in the country revealed the amount of imported fertilizers through BPS tenders was not enough to meet the actual demand for fertilizers in the country, as only four (4) per cent of the fertilizers demanded was supplied through the Bulk Procurement System.

Analysis of fertilizer demand data from TFRA and Bulk Procurement System Reports from 2020/21 to 2022/23 revealed that out of 1,395,977 MT of demanded fertilizers in the three years, only 48,530 MT was imported through BPS.

The reason was due to less utilization of BPS since in the year 2020/21, the bids to ensure procurement through BPS were not successful; in the year 2021/22, as the Minister temporally exempted it, hence the system allowed procurement of fertilizers outside of BPS.

3.5 Regulation of Prices of Fertilizers and Fertilizer Supplements did not ensure Affordability to Farmers

Regulation 56(3) of the Fertilizer Amendments Regulations, 2017, requires TFRA to set the indicative price by considering the prevailing market prices of FFS, costs associated with transportation, regulatory bodies' fees, handling, and profit margins.

The analysis of the regulation of indicative prices was based on the affordability of fertilizers and fertilizer supplements to farmers, adequacy of the mechanism used to establish the price of fertilizers and fertilizer supplements, effectiveness of price control to Agro-dealers to ensure compliance with Indicative Prices and effectiveness of communication of indicative prices of fertilizers and fertilizer supplements at all levels by TFRA to ensure transparency.

The audit acknowledges the efforts made by the Ministry of Agriculture and TFRA to ensure effective regulation of the prices of fertilizers and fertilizer supplements. These include communication of indicative prices to various levels such as the President's Office - Regional Administration and Local Government (PO-RALG), formulation of indicative price structure, preparation of indicative price reports and site inspection of agro-dealers to ensure compliance with indicative price.

However, the results have revealed that the regulation of fertilizer prices and fertilizer supplements was ineffective in meeting the demand for fertilizers in the country. This is as detailed below:

3.5.1 Prices of Fertilizers and Fertilizer Supplements were relatively High for Farmers

Through the analysis of the subsidy implementation program and interviewing 61 farmers in the five (5) visited Local Government Authorities, the audit noted that the prices for various sampled FFS were relatively higher for farmers.

For the Financial Years 2020/21 and 2021/22, before implementing a subsidy program, interviewed farmers pointed out that fertilizer prices were relatively higher to them.

Similarly, during the year 2022/23, the year when the subsidy program was implemented, the interviewed farmers acknowledged that the prices of FFS were a bit affordable as the price of a 50kg bag was reduced from a range of TZS 70,000 to TZS 125,000 in 2021/22 to a range of TZS 50,000 to TZS 70,000 per 50Kg Bag of FFS. The extent of the price reduction for the sampled FFS is summarized in **Table 3.10.**

Table 3.10: Comparison of Retail Prices and Percentage Decrease for Five Fertilizers from 2020/21 to 2022/23

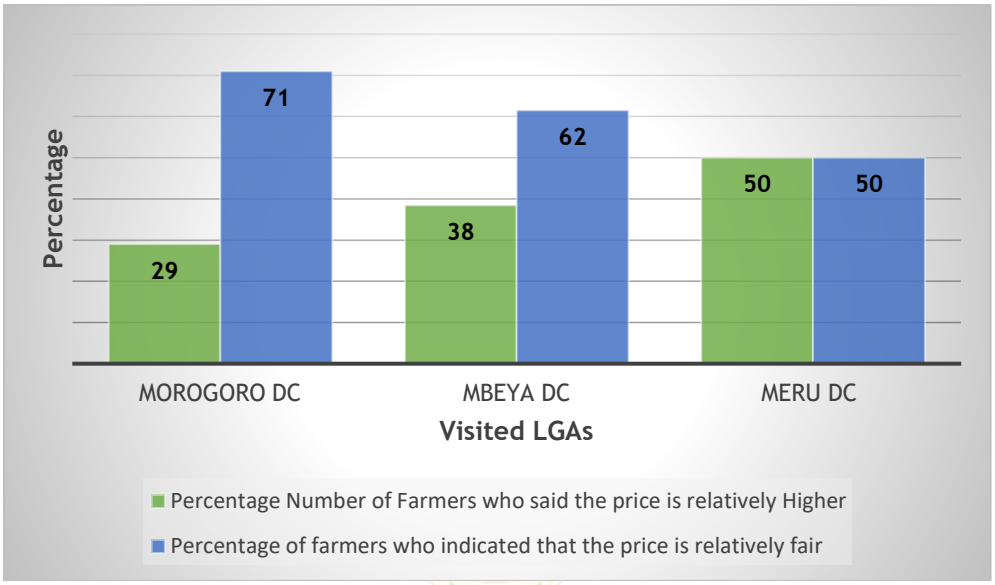
Name of Sampled Fertilizer	Price of 50 kg bag at Retail in Dar es Salaam (TZS)			Percentage Decrease (C=((A-B)/B)*100
	2020/21	2022/23 (before subsidy) (A)	2022/23 (after subsidy) (B)	
DAP	60,973	122,948	70,000	-43
UREA	47,791	115,183	70,000	-39
CAN	Not announced	98,315	60,000	-39
SA	Not announced	74,189	50,000	-33
NPK	Not announced	114,624	70,000	-39

***Source**: Auditors' Analysis of TFRA's Indicative Prices 2020/21 to 2022/23, (2023)*

Table 3.10 shows a price reduction after subsidy for all five (5) sampled FFS. The percentage reduction ranged from 39% to 43% in 2022/23 before and 2022/23 after the subsidy.

The analysis of 61 farmers in the visited LGAs reveals that 29%, 38%, and 50% of the interviewed farmers from Morogoro DC, Mbeya DC and Meru DC reveal the price of fertilizers was relatively higher. The analysis of farmers is presented in **Figure 3.7**:

Figure 3.7: Extent of affordability of price of fertilizer to farmers from the visited LGAs



***Source**: Auditors' Analysis of Farmers' Opinion on the Affordability of FFS Prices to Farmers (2023)*

From **Figure 3.7**, it can be noted that a number of farmers, ranging from 29% to 50% of the total number of farmers in the sampled visited LGAs, still had the view that prices of both fertilizers and fertilizer supplements were relatively higher.

Moreover, the Ministry of Agriculture indicated that, the prices of fertilizers were higher in the world market due to being influenced by the effects of the world pandemic (COVID-19), geopolitical factors and instability among fertilizers producer countries such as Russia and Ukraine.

Further analysis of the affordability of the price of fertilizers was made by considering the income levels of small-scale farmers, the average size of the farm and per capita income, as shown in **Table 3.11**:

Table 3.11 Analysis of Annual Income Per Household

Number of smallholder farmers	Ha planted	Ha per household	Income per household per month (TZS)	Average annual income (TZS)
4,772,012	4,931,111	1.03	39,549	474,588

Source: Auditors' Analysis from Finscope Tanzania 2017 and National Sample Census Report of Agriculture, 2019/20

Table 3.11 highlights key findings regarding maize cultivation and fertilizer usage among smallholder farmers in Tanzania. According to the National Bureau of Statistics 2019/20 data, maize is the predominant cereal crop among smallholders, with 99% of production coming from farmers owning an average of 1 hectare or less. Despite maize's importance, smallholder farmers have an average annual income of TZS 474,588, as reported by the Financial Sector Deepening Trust's Finscope Agriculture Report 2017.

Guide 6.2 of the Crop Production Guidelines of 2017 recommends specific fertilizer application rates for maize, including 120 Kg DAP, 125 Kg TSP, and 250 Kg UREA, totalling approximately 10 bags of 50 kg each at an average price of TZS 70,000 per bag. However, this fertilizer situation proves financially difficult for farmers given their income levels, suggesting affordability challenges in adhering to recommended fertilizer usage.

Further analysis of revenue generated against agricultural fertilizer input production cost is shown in **Table 3.12** for various regions.

Table 3.12: Analysis of Fertilizer Input Cost Against Revenue of Farmers

Region	Average price of maize tonne (TZS)	Tonne per Ha produced in maize	Revenue Generated by farmers per agriculture season (TZS)	Kgs of fertilizer required per Ha	Price of Fertilizer per Kg (TZS/KG)	Fertilizer Input cost required (TZS)	% of fertilizer cost against revenue generated per ha
Arusha	835,000	1.75	1,303,750	495	1,400	693,000	53.15
Morogoro	684,000	1.75	1,347,500	495	1,400	693,000	51.43
Tabora	450,000	1.75	1,400,000	495	1,400	693,000	49.50
Mwanza	810,000	1.75	1,855,000	495	1,400	693,000	37.36
Tabora	720,000	1.75	1,697,500	495	1,400	693,000	40.82

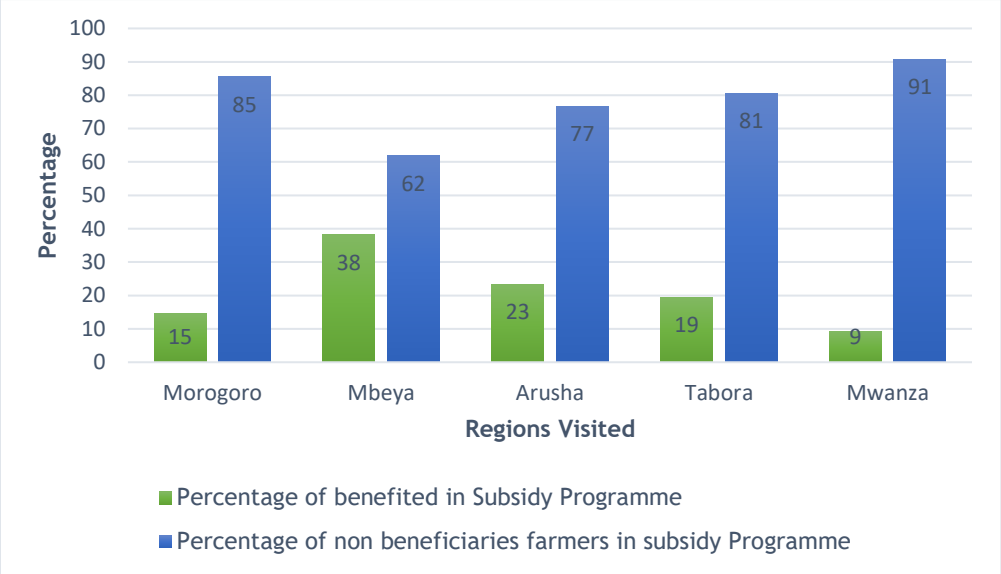
Source: Auditors' Analysis, 2023

Table 3.12 shows that fertilizer cost accounts for approximately 37% to 53% of the total revenue generated per hectare. The 37% to 53% is considered material as farmers must use other agricultural inputs such as seeds, pesticides, labourers, transport and post-harvesting costs.

Furthermore, interviews with farmers from five (5) visited regions revealed that the high prices of fertilizers led to low utilization of fertilizers and fertilizer supplements.

The analysis of registered farmers' statistics also indicated that most registered farmers, ranging between 62% and 91% in the subsidy program, could not buy subsidized fertilizers in the visited regions. **Figure 3.8** presents the percentage of registered farmers who could not afford to buy subsidized FFS.

Figure 3.8: Analysis of Farmers Beneficiaries in Subsidy Programme



Source: *Auditors' Analysis from the Reports of the Implementation of Subsidy Programme from 15th August 2022 to 30th June 2023*

Figure 3.8 shows the low number of beneficiaries, with the maximum amount not exceeding 40% of farmers who were registered in the subsidy programme.

The rise in fertilizer prices was due to the effects of the world pandemic (COVID-19), geopolitical factors, and instability among fertilizer-producer countries such as Russia and Ukraine.

3.5.2 TFRA's Mechanism for Establishing the Indicative Price did not Aid the Affordability of FFS to Farmers

Section 4(u) of the Fertilizer Act 2009 requires TFRA to regulate fertilizer prices using appropriate methods.

The Audit Team noted that TFRA was using the Indicative Pricing System (IPS) to calculate the price of FFS.

Appendix 11 presents a detailed breakdown of the components used to establish price structure and reports on indicative prices for imported fertilizers and fertilizer supplements.

Table 3.13 provides a summary of the key components used for price formulation of Indicative prices for imported fertilizers:

Table 3.13: Components Used for Price Structure for Imported Fertilizer

Cost Component	Description
Cost Free on Board (FOB)	Cost of Fertilizer from source
Cost, Insurance and Freight (CIF)	The sum of Free on-board, Freight, Insurance
Port wharfage	Percentage as of sum of free-on-board, Freight and Insurance
Corridor levy	Fixed Fee
TFRA regulatory fees	Percentage of the sum of Free on-board, Freight, Insurance
Bagging	Agreed amount
Storage at Distributor Warehouse	Agreed amount
Profit margins allocated	Percentage of the total sum of Delivery at the place and sum of all charges payable.

Source: *Auditors' Analysis from the Price Structure and Report on Calculation of Fertilizer Indicative Price (2023)*

Table 3.13 shows the seven (7) costs of components for the importation of fertilizers, which are charges imposed on regulators, bagging, storage costs, and profit margin charges charged to manufacturers or retailers.

Similarly, the components involved in formulating indicative prices for the fertilizers manufactured within the country are shown in **Table 3.14**.

Table 3.14: Cost Components of Price Structure for Fertilizer Manufactured

Cost Component	Description
Raw materials	Manure powder, DAP, UREA, Dolomite
Taxes	Royalty and Service
Empty bag	Agreed amount
Bagging	Agreed amount
Storage	Agreed amount
Profit margins allocated	Percentage of the total sum of cost of production and sum of charges

Source: *Auditors' Analysis from the Price Structure and Report of Calculation of Fertilizer Indicative (2023)*

Table 3.14 shows that for the fertilizers manufactured within the country, the establishment of indicative prices included cost components associated

with procuring raw materials, domestic taxes, bagging, storage and profit margins charged by the manufacturers.

A detailed breakdown of the established price structure and reports on indicative prices for manufactured fertilizers can be summarized in ***Appendix 12***.

However, during the analysis of the system and cost build-up of the factors used, the audit noted the following:

a) Profit Margins Allocated during formulation of Indicative Price were in line with the standards of calculation of Indicative Price

The audit team's analysis of the price calculation noted that TFRA allocated profit margin to wholesalers and retailers in compliance with the profit margin rate recommended for calculating indicative prices for all sellers and retailers.

The Review of Meeting Minutes between TFRA and importers or manufacturers from 20202/21 to 2022/23 revealed that the commonly recommended profit margin rate was 5% and 7% for wholesalers and retailers, respectively.

Table 3.15 presents the profit margin rates applied to wholesalers and retailers for the period under audit**.**

Table 3.15: Allocation of Profit Margins and the Indicated in the Price Structure

Item	% Profit Recommended for Calculation of Indicative Price	% Profit Margin Allocated in Price Structure of Fertilizer Indicative Price	% Deviation
Wholesalers' Profit Margin	5	5	0
Retailers Profit Margin	7	7	0

Source: *Auditors' Analysis from the Price Structure and Report on Calculation of Indicative Price (2023)*

Table 3.15 shows the profit margins allocated to the price structure from the year 2020/21 to 2022/23 complied with the calculation of indicative prices for fertilizers manufactured in the country.

b) The price formulated increased due to demurrage charges

The Audit team, through the analysis of price request approval correspondences from YARA Tanzania, dated 3rd October 2022, for the three NPK Grades of Yaramila Java, Yaramila Winner and Yaramila Tobacco and their price approvals, it was noted that demurrage cost was included in the price build-up as shown in **Table 3.16.**

Table 3.16: Demurrage Cost Incurred

Fertilizer Name	Proposed selling price with demurrage ZS/50 KG bag	Fertilizer Price /50KG without demurrage	Demurrage cost reported to be incurred per TZS/50 KG bag
UNIK 17 (NPK-17-17-17)	138,500	137,413	1,086
Yaramila Winner (NPK 15-9-20)	130,500	129,413	1,086
Yaramila Java (NPK 22-6-12)	116,000	114,913	1,086

Source: *Auditors' Analysis from Request of Price Approval Letter from YARA (2023)*

Table 3.16 shows that demurrage cost was included in the price structure for NPK fertilizer, resulting in additional costs of TZS 1086 per TZS/50 KG bag of fertilizers.

The inclusion of demurrage cost was attributed to ineffective coordination of TFRA and TPA **(**details provided in Section 3.4.2 of the report). Hence, fertilizers and fertilizer supplements become unaffordable to farmers due to delayed offloading of approximately 4.83 days, as shown in the request for a price approval letter from YARA Tanzania.

c) TFRA did not Set the Indicative Price for Foliar Fertilizers

Regulation 56(1) of the TFRA Regulation of 2017 requires the TFRA to set and announce indicative prices for fertilizers and fertilizer supplements.

In a review of indicative prices issued by TFRA from 2020/21 to 2022/23, it was noted that, despite farmers using varieties of FFS, TFRA issued indicative prices to five (5) out of six (6) FFS sampled by the audit.

The Audit sampled six (6) FFS, namely, DAP, NPK, UREA, SA, CAN and Foliar Fertilizers, but the Indicative Prices were regularly issued for DAP, NPK, UREA, SA and CAN. TFRA has not set indicative prices for foliar fertilizers for the past three years.

Officials from TFRA stated that the reason for not setting the indicative price of foliar fertilizer is that the said fertilizers are not imported through the BPS system. Hence, getting the actual cost for various foliar fertilizers is difficult.

In responding to this observation, TFRA indicated that there is a larger number of manufacturers of foliar fertilizers, each producing a foliar fertilizer with a unique combination of nutrients. Hence, it is complicated for TFRA to assess the production costs, set indicative prices for each producer, and monitor their compliance with the market.

3.5.3 Shortfall in Communicating Indicative Prices of Fertilizers to Agro-dealers and Farmers

Through verification made to agro-dealers and farmers, the audit team noted a clear line of communication from TFRA to the Regional and Local Government Authority levels. However, there is a shortfall in communicating indicative prices of fertilizers to agro-dealers and farmers.

Field visits to the sampled LGAs noted a non-display of indicative prices by agro-dealers, which is contrary to the Standard Operating Procedures (SOPs) of TFRA, which require agro-dealers to display the indicative price at the visible locations so that farmers could observe it, such was not the

practice. Hence, agro-dealers have not remained faithful in complying with the set indicative prices.

In a review of the Internal Audit Report of October to December 2020 conducted in Geita, Kagera and Kigoma, the audit team noted that the existence of fertilizer dealers deviated from the indicative prices announced by TFRA, as shown in ***Appendix 13***.

The shortfall in communicating Indicative Prices of Fertilizers to Agro-dealers and Farmers was caused by inadequate monitoring of Agro-dealers to ensure their compliance with Prices issued by TFRA and the non-display of indicative prices as required by standard operating procedures.

During the site visit to agro-dealers in the LGAs, it was noted that agro-dealers did not display indicative prices to aid farmers in viewing the indicative prices. The analysis of displaying indicative prices is shown in **Table 3.17.**

Table 3.17: LGAs analysis of Agro-dealers not-displaying Indicative Prices in the visited LGAs

Local Government Authority	The number of Agro dealers Observed	Number of agro-dealers who did not comply with the current indicative price	Percentage of agro-dealers Not Complying with Indicative price
Morogoro DC	5	5	100
Mbeya DC	6	4	67
Meru DC	5	4	80

Source: *Auditors' Analysis of the Visited Site Inspection (2023)*

Table 3.17 shows the existence of non-compliant agro-dealers' requirements for displaying prices in visible areas while complying with indicative prices. The existence of non-compliant agro-dealers with indicative prices makes it difficult for fertilizers and fertilizer supplements (FFS) to be accessible to farmers.

Moreover, for the LGAs located in remote areas, TFRA allows price adjustments based on the distance of the villages or wards. Price adjustment requires the committee at the LGA level to review prices whenever necessary in order to set a realistic cost that reflects the real transport costs to be incurred in the remote areas.

However, the review of correspondence files from the Regional and LGA levels revealed that the committees did not conduct meetings to discuss FFS price adjustment in three (3) visited LGAs: Arumeru DC and Morogoro DC. Analysis of the status of the meetings that were conducted is shown in **Table 3.18,** which shows details of the visited LGAs.

Table 3.18: LGAs' Analysis of Agricultural Input Committee involvement in indicative Price Review

Local Government Authority	Subsidy Committee Discussing Fertilizer-Related Matters and Reviewing Indicative Price from TFRA	
	Conducted (v)	Not Conducted(x)
Arumeru DC		X
Mbeya DC	V	
Morogoro DC		X
Uyui DC	V	
Sengerema DC	V	

Source: *Auditors' Analysis from Field Verification October 2023*

Table 3.18 shows that three (3) out of the five (5) visited LGAs have an active agricultural input committee that conducts meetings to discuss fertilizer-related matters.

3.5.4 Subsidy program facilitates the distribution of fertilizers and fertilizer supplements to farmers at affordable price

Due to the rising prices of fertilizer in the world market and its impact on the country, the government planned and allocated 150 billion shillings to fund fertilizer subsidies. In the 2022/23 agricultural season, it was offered to all farmers in the country to reduce the cost. The fertilizer subsidy system has facilitated the affordability of fertilizers and fertilizer supplements, as shown in **Table 3.19**:

Table 3.19: Price Analysis Before After Subsidy

Fertilizer	Price for 50 kg before Subsidy (TZS)	Price 50 kg after Subsidy (TZS)	Subsidy amount (TZS)
DAP	122,948 - 135,973	70,000	52,948 - 65,973
CAN	98,315 - 112,214	60,000	28,315 - 42,214
SA	74,189 - 86,681	50,000	4,189 - 16,681
UREA	115,183 - 127,917	70,000	45,183 - 57,917
NPK	114,624 - 126,706	70,000	44,624 - 56,706

Source: *Auditors' Analysis from Indicative Price (2023)*

Table 3.19 shows that the government's fertilizer subsidy has enhanced fertilizer affordability, as illustrated in the case of DAP, a general price relief of TZS 52,948 to TZS 65,973.

Para.1.1 of Guidelines for Implementation of Fertilizer Subsidy Programme for 2022/23 planned to provide fertilizer subsidies in the country with a plan to reduce the cost of fertilizer to farmers to add production and productivity in agriculture, enhance food security and increase access to raw materials for local industries.

However, during the review of data from the Fertilizer Information System, the audit team noted inadequate controls of the subsidy programme, as explained below;

a) Inadequate Controls of the Subsidy Programme

The review of data from the Fertilizer Information System showed a lack of control over farmers' fertilizer limits. In the subsidy programme, there is a provision for the utilization of three (3) bags of 50 kg per acre without considering the types of crops grown by farmers. **Table 3.20** presents data for the level of control in the subsidy system from the visited Regions and LGAs.

Table 3.20: Regional Analysis of Control in Subsidy System

Region	Total No Farmers	Total No Acres	No. of farmers exceeded utilization of 3 bags/acre	Amount of bags exceeded	% of farmers exceeded utilization of 3 bags/acre
Arusha	19,774	97,765	1,571	13,615	7.95
Mbeya	101,328	1,432,074	7,452	82,215	7.35
Morogoro	17,012	132,080	564	10,405	3.32
Tabora	28,722	157,337	1,944	18,615	6.77
Mwanza	4,654	19,109	1,026	10,303	22.05

Source: *Auditors' Analysis from Fertilizer Information System (2023)*

Table 3.20 shows farmers utilising fertilizers above the required rate of three (3) bags in the visited regions. Bags were utilised above the rate due to the type of crops. In the visited LGAs, it was noted that there was inadequate control of the distribution of FFS, as shown in **Table 3.21**.

Table 3.21: LGAs Analysis of Control in Subsidy System

Local Government Authority	Total No Farmers	Total No Acres	No. of farmers exceed the limit of 3 bags/acre	The number of bags exceeds	% of farmers exceeded the limit of 3 bags/acre
Arumeru DC	8,100	27,692	614	2,466	7.58
Mbeya DC	35,488	179,542	3,653	21,549	10.29
Morogoro DC	248	3,284	18	212	7.26
Uyui DC	6,116	22,979	574	2,156	9.39
Sengerema DC	836	3,987	730	7,718	87.32

Source: *Auditors' Analysis from Fertilizer Information System (2023)*

Tables 3.20 and **3.21** illustrate a lack of control in the subsidy system, shown by the existence of farmers who have exceeded the provisional utilization of 3 bags/acre. The provisional utilization of 3 bags /acre has proven ineffective due to a lack of consideration of farmers' crop types and soil types in the specific regions.

3.6 Ineffective Inspections of Fertilizers and Fertilizer Supplements in distribution centres, Agro-dealers and Sanctioning of Defaulters

The strategic plan requires TFRA to inspect at least 80% of fertilizer and fertilizer supplement dealers annually. Section 40(2)) of the Fertilizer Act, 2009, requires TFRA to apply appropriate sanctions for the identified defaulters to enhance compliance with their registration requirements.

However, the audit team noted the following performance weakness of TFRA in executing its inspection role as a regulatory authority.

3.6.1 Inadequate TFRAs' Inspections Plan and Guidelines

The Audit team's analysis of the adequacy of TFRAs' inspection plans and guidelines revealed the following shortfalls:

a) The mismatch between Annual Planned Inspection and Five Years Strategic Plans

The review of TFRA's Strategic Plan (2021/22 - 2025/26) requires TFRA to conduct inspections of 75%, 85% and 90% of the registered fertilizer dealers in 2020/21, 2021/22 and 2022/23 respectively. Thus, it was expected that in its Annual Plan, the number of plans would reflect the target indicated in the strategic plan. Nevertheless, this was not the case.

Through the analysis of the number of registered fertilizer dealers and TFRA's Annual Plans for the period from 2020/21 to 2022/23, the audit team noted a disparity between the planned inspections outlined in the Strategic Plan and the actual annual plan. The annual inspection plan of TFRA was below the established target as per the Strategic Plan for the years 2020/21 and 2022/23. However, during the financial year 2021/22, the number of planned inspections was above the target that was indicated in the strategic plan, whereby an additional 309 fertilizer dealers were included in the plan.

Table 3.22 provides the percentage deviations of the annual plan from the strategic plan's annual targets.

Table 3.22: Planned Inspection by TFRA from 2020/21 to 2022/23

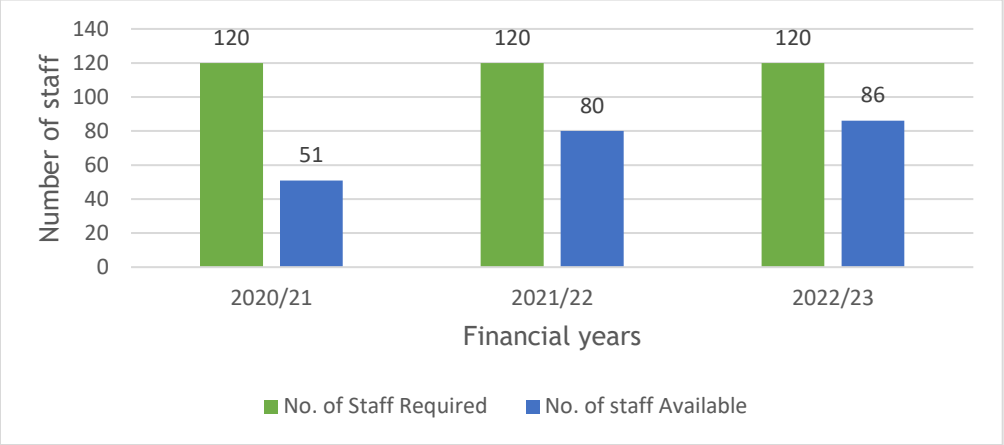
Financial Year	Number of Registered Fertilizer Dealers (n)	Annual Planned No. of Inspection based on Strategic Plan (n) (A)	Actual Annual Planned Inspection (n) (B)	The deviation between the Strategic Plan and Annual Plan (A-B)	% Deviation between Strategic Plan and Annual Plan ((A-B)/A)*100
2020/21	1,891	1,418	1,050	368	26
2021/22	3,069	2,609	2,918	(309)	(12)
2022/23	4,136	3,722	1,008	2,714	73

Source: *Auditors' Analysis from Strategic Plan, Annual Plans and Implementation Reports (2023)*

Table 3.22 shows an increase in deviations between the planned inspections and the strategic plan. It shows that the deviation increased from 26 per cent in 2020/21 to 73 per cent in 2022/23, below the number of targeted inspections indicated in the strategic plan.

Discussions with TFRA officials indicated that the available resources highly influenced the plan to conduct the inspection. However, the audit noted a shortage of staff at the TFRA's Zonal Offices and Headquarters that led to the deviation from the targets set in both the strategic plan and annual plan, as shown in **Figure 3.9**.

Figure 3.9: Human resource status at TFRA for the period from 2020/21 to 2022/23



Source: *Auditors' Analysis from Strategic Plan, Annual Plans and Implementation Reports (2023)*

Figure 3.9 shows that for the period covering the TFRA Strategic Plan (2020/2021 to 2022/23), the number of TFRA staff was less than the required number of staff as per its establishment. Despite the increase in staff at TFRA from 51 staff in 2020/21 to 86 staff in 2022/23, there was a decline in the actual annual plan for inspection from 1050 in 2020/21 to 1,008 in year 2022/23.

b) Trained authorized inspectors at LGAs did not conduct inspection activities as required

Reviewing the TFRAs' Progress Report for the Financial Year 2021/22, the audit team noted that TFRA managed to execute its annual inspection plans by conducting inspection training for 20 inspectors from TFRA and 35 inspectors from LGAs and Regional Secretariats. For 2022/23, it was noted that the Authority spent TZS 56 Million to train LGA officials to be authorized Inspectors from LGAs. Nevertheless, the trained officials from LGAs did not conduct the inspection activities as expected.

It was further noted that despite the training being successfully conducted for the LGA officials, there was inadequate reporting from LGA officials to TFRA on the inspection conducted. The absence of a clear and comprehensive Memorandum of Understanding that could have guided the LGA officials on the aspects to be assessed and the reporting structure was the key reason for the trained inspectors not conducting inspections and reporting the inspection activities.

Also, through reviewing the TFRA's Annual Plan and Budget, the audit team noted that TFRA did not allocate funds to facilitate the trained inspectors from LGAs to conduct inspection activities as expected because such a role is under TFRA.

3.6.2 TFRA exceeded its target for the inspection of agro-dealers

The audit acknowledges that TFRA managed to attain its inspection targets for agro-dealers as per its annual plan. For the period starting from 2020/21 to 2022/23, TFRA managed to inspect 7,853 against 4,968 targeted fertilizer dealers. This indicated that the achievement was 58% above the target. **Table 3.23** details the extent of the attainment of the plan for the inspection of fertilizer dealers.

Table 3.23: Extent of Attainment of Annual Inspection Target for Agro-dealers

Financial Year	Number of Planned Inspection	Number of Actual Inspection Conducted	Percentage of Achievement (%) Above the Required Level
2020/21	1,050	1,068	2
2021/22	2,918	3,732	28
2022/23	1,000	3,053	205
Total	4,968	7,853	158

Source: *Auditors' Analysis from Annual Implementation Reports (2023)*

From **Table 3.23**, TFRA exceeded its planned inspections for all three years. As Table 3.23 shows, the percentage increase in the attainment of targeted inspections above the planned level ranged from 2% in 2020/21 to 205% in 2022/23.

Despite such attainment, the audit noted that during the inspection, TFRA was required to ensure the availability and accessibility of quality

fertilizers to farmers. However, further analysis indicated that the inspection conducted was not effective since the fertilizer market still circulated low-quality fertilizers (this has been covered in section 3.2 of this report). On top of that, there were LGAs that had no agro-dealers to distribute FFS to allow farmers to access FFS easily.

3.6.3 Ineffective Inspections of FFS Dealers

The inspection procedures require agro-dealers to have a registration certificate displaying indicative prices, workers to have protective gear, comply with fertilisers' storage requirements, and workers to wear protective gear.

A review of the inspection report from the TFRA office reveals despite the established requirements for agro-dealers, the following were noted in the visited regions;

(i) Repeated Common Non-compliances

The audit noted that eight (8) agro-dealers repeated the malpractices despite being inspected by TFRA in two out of five visited regions. The common malpractices repeated by agro-dealers included the presence of invalid licenses to dealers and the price not being displayed in a place easily visible to customers and workers without having protective gear. **Table 3.25** shows the FFS dealers who repeated similar non-compliances over time.

Table 3.24: Recurring of Anomalies by FFS Dealers

Sampled Region	Number of Agro-dealers with recurring anomalies (N)	The number of Agro-dealers with Common Non-compliances noted			
		Absence of Premise Registration Certificate	Not Displaying Prices at a place that is easily visible to customers	Workers not wearing Protective Gears	Invalid Licence
Morogoro	7	1	7	2	2
Arusha	1	0	1	0	0

Source: *Auditors' Analysis from Inspection Reports (2023)*

Table 3.24 shows that some agro-dealers repeated non-compliance despite being inspected more than once. Repeat non-compliance was observed in two (2) out of five (5) regions visited.

(ii) TFRA delayed to collect outstanding fees from defaulters amounting to TZS 1,400,000

Through the analysis of information from the Report of Fertilizer Information System and Compounded Offences for 1/7/2022 to 30/6/2023, it was noted that TFRA did not manage to collect outstanding fines from fertilizer defaulters amounting to TZS 1,400,000. Moreover, the following were noted: TFRA identified forty-one (41) incidences from fertilizer dealers, whereby TZS 20,400,000 were expected to be collected from forty-one (41) fertilizer dealers who were found with malpractices such as selling fertilizers or fertilizer supplements above the indicative price or selling fertilizer or fertilizer supplements in an open bag or packaging or labelling in a manner contrary to the requirements and Operating fertilizer business without TFRA License.

Revenue reports from the Fertilizer Information System revealed that out of forty-one (41) fertilizer dealers who were found with offences, seven (7) fertilizer dealers could not pay the amount to TFRA regarding the fines they were required to pay.

Furthermore, auditors, through their analysis of the findings, found that of TZS 20,400,000 that was expected to be paid from forty-one (41) fertilizer dealers, TZS 19,000,000, equivalent to 93%, was paid within the year, and the outstanding balance that was unpaid amounted to TZS 1,400,000.

(iii) Non-Collection of Revenue from Fertilizer Dealers with Malpractices amounting to TZS 329 Million

Considering the period from 2020/21 to 2021/2022, the audit team was not provided with a report on the Compounded Offences and Revenue Report from the Fertilizer Information System to enable them to assess if the fertilizer dealers found with offences actually paid the fines established as required.

In a review of the inspection report for the period from 2020/21 to 2021/22, the audit team managed to develop a list of fertilizer dealers

with their offences and uncollected amounts that were supposed to be paid to TFRA. The results are presented in **Table 3.25.**

Table 3.25:Uncollected Amount from Fertilizers Dealers

Malpractices	The number of the Fertilizer Dealers who did not comply with the requirement	Charges per Offence (TZS)	Amount Uncollected (TZS)
Selling fertilizer in an open bag	12	200,000	2,400,000
Operating a Fertilizer business without a Fertilizer dealers license	35	200,000	7,000,000
Selling Prices above the Indicative Prices	32	10,000,000	320,000,000
Total			**329,400,000**

Source: *Auditors' Analysis from Inspection Reports and Internal Audit Reports (2023)*

Table 3.25 reveals that TFRA did not manage to collect the amount of TZS 329 million from Fertilizer dealers who were found with offences related to Selling Prices above the Indicative Prices, Operating Fertilizer business without Fertilizer dealers' license and selling fertilizer in an open bag.

For more details on the offences and unverified amounts paid, refer to **Appendices 10 and 13**.

3.7 Performance Evaluation of TFRA and Agro-dealers regarding the distribution of FFS to farmers

Periodic performance evaluation of TFRA and agro-dealers regarding the distribution of fertilizers is key to ensuring the availability and accessibility of FFS to farmers. While this is the case, the audit noted weaknesses related to performance evaluation as detailed below:

3.7.1 Ineffective Implementation of Monitoring Recommendations issued by the Planning Monitoring and Evaluation section

Section 3.3.3 (ii) of the Approved Functions and Organization Structure of Tanzania Fertilizer Regulatory Authority (TFRA) of 2019 requires TFRA to monitor the implementation of the Authority Strategic Plan. During the Monitoring of the activities performed by TFRA, the monitoring team issued recommendations that expected timely implementation to ensure TFRA attained its strategic targets.

The Audit Team reviewed monitoring and evaluation reports from five (5) TFRA Zonal Offices and the Fertilizer Implementation System in 2021/22 and 2022/23. Through the review of monitoring and evaluation reports, the audit team noted some recommendations that were issued by the TFRA Planning, Monitoring and Evaluation Section. However, they were not implemented to address the challenges encountered by TFRA towards improving the distribution of FFS in the country. **Table 3.26** provides details.

Table 3.26: Level of Implementation of M&E Recommendations

M&E Report	Issued Recommendations	Auditors' Remarks on the Level of Implementation as of 30th September, 2023
M&E Report from five (5) TFRA's zonal offices and Fertilizer Implementation System in 2021/22	LGAs authorized the Inspector to be facilitated to conduct inspectorate activities.	Not Implemented
M&E Reports of six (6) Regions, i.e. Songwe, Rukwa, Ruvuma, Kigoma, Iringa, Mbeya, Njombe and Ruvuma, during 2022/23	Increase the number of Fertilizer dealers to increase the accessibility of FFS by farmers	Not Implemented as evidenced by: • The existence of LGAs without FFS dealers • Farmers move from one LGA to another, searching for FFS.

Source: *Auditors' Analysis from Monitoring and Evaluation Reports (2023)*

Table 3.26 shows that not all issued recommendations have been implemented. The recommendations aimed to facilitate LGA officials in conducting inspections and increase the number of distributors to increase officials' ability to conduct inspections and increase the accessibility of fertilizers to farmers.

Non-implementation of issued recommendations limits the timely solving of the challenges that TFRA identified during the implementation of strategic activities. LGAs authorized Inspectors to be facilitated to conduct inspectorate activities.

CHAPTER FOUR

AUDIT CONCLUSION

4.1 Introduction

This chapter presents an audit conclusion based on the audit objective and specific objectives provided in Chapter One of this report. The conclusion is categorized into two main parts: the overall and specific audit conclusions.

4.2 Overall Audit Conclusion

The audit acknowledges the effort made by the Ministry of Agriculture (MoA) and Tanzania Fertilizer Regulatory Authority (TFRA) to ensure the availability and accessibility of good quality fertilizers and fertilizer supplements to farmers. These include an increased number of registered fertilizer dealers in the country, increased domestic production of fertilizers and the implementation of a subsidy program in 2022/23 that ensures quality FFS are available to farmers at affordable prices.

However, based on the Findings presented in Chapter Three of this report, it is concluded that the Ministry of Agriculture (MoA), through the Tanzania Fertilizer Regulatory Authority (TFRA), is not effectively regulating the distribution of fertilizers and fertilizer supplements to ensure the timely availability and accessibility of good quality fertilizer and fertilizer supplements to farmers.

The regulatory functions performed by TFRA have weaknesses in ensuring the availability of good quality fertilizers and fertilizer supplements circulated in the market. This is evidenced by unregistered fertilizers and fertilizer supplements, agro-dealers and expired fertilizers in the market.

Limited distribution centres and agro-dealers affect farmers' accessibility to fertilizers and fertilizer supplements. The subsidy program is not effectively functioning as its operationalization is associated with weaknesses such as the lack of fertilizers packages that most farmers need, and 59% of agro-dealers are found to be inactive.

On the other hand, the regulation of the price of fertilizers and fertilizer supplements did not ensure the affordability of fertilizers to farmers. Also, TFRA did not set the indicative price for foliar fertilizers, and there is weak enforcement of agro-dealers to comply with the set indicative prices, among other factors that affect the prices of fertilizers and fertilizer supplements. Thus, the Ministry of Agriculture (MoA) and the Tanzania Fertilizer Regulatory Authority (TFRA) need to employ more efforts to ensure that the regulation of the distribution of FFS is effectively performed to facilitate the availability and accessibility of fertilizers and fertilizer supplements to farmers.

4.3 Specific Audit Conclusions

4.3.1 Forecasting of the Demand for Fertilizers and Fertilizer Supplements is Ineffectively done

TFRA lacked an effective mechanism for demand forecasting to capture the sufficient and accurate needs of fertilizers and fertilizer supplements. The current TFRA approach does not adequately consider the quantities, type, application rate and agricultural seasons to provide reliable information. There is minimal coordination with other key stakeholders, such as PO-RALG, when forecasting the demand. As a result, a variation was observed between FFS's demand and actual utilization statistics for the three years covered in this audit. The demand and utilization data vary from 14% to 48%.

Moreover, it was noted that TFRA has no system or software for establishing the demand and utilization, and the procurement or manufacturing was highly influenced by the market experience of either importers or manufacturers.

4.3.3 TFRA has Not Ensured Timely Distribution of Fertilizers and Fertilizer Supplements to Meet the Farming Seasons

There are fewer coordination efforts between TFRA and other actors to ensure the timely distribution of Quality fertilizer to farmers. The existence of demurrage cost evidence reveals delayed offloading of the imported fertilizer in the country.

Moreover, the Bulk Procurement System has shown weakness that affects the ordering and importation of fertilizer that meets the demand. Common fertilizers such as SA, CAN and NPK are not procured using the Bulk Procurement System. In this light, the Bulk procurement System does not meet the demand requirement for fertilizers and fertilizer supplements. On top of that, BPS has failed to facilitate the timely distribution of fertilizer.

4.3.4 Regulation of Prices of Fertilizers and Fertilizer Supplements did not Adequately Ensure Affordability to Farmers

Prices of fertilizers and fertilizer supplements are relatively high. This is evidenced by the low number of beneficiaries in the subsidy programme, with the maximum percentage of beneficiaries not exceeding 25% of the registered farmers.

The price formulated increased due to the presence of demurrage charges in the indicative price calculation for fertilizer imported. Hence, the retail price of fertilizer in the country kept on increasing.

Furthermore, TFRA did not set the Indicative Price for one (1) out of the six (6) Sampled FFS. The audit further concluded that there are shortfalls in displaying the Agro-dealers indicative prices of fertilizers and fertilizer supplements.

4.3.5 Ineffective Inspections of Fertilizers and Fertilizer Supplements, Distribution Centres, Agro-dealers and Sanctioning of Defaulters by TFRA

The audit concludes that there is a mismatch between the Annual Planned Inspection and Five Years Strategic Plans of TFRA. This was evidenced by 26% (12%) and 73% deviation between the planned number of inspections on the strategic plan and annual planned inspection for the financial year 2020/21, 2021/22 and 2022/23, respectively.

TFRA trained local government-authorized fertilizer inspectors. However, the inspectors did not conduct any inspections during the three financial years due to a lack of coordination between TFRA and local government

authorities. On the other hand, there were no clear guidelines for conducting and reporting on the inspection activities.

Moreover, TFRA did not effectively take appropriate sanctions on defaulters, evidenced by delays in the collection of fines from fertilizer dealers and repeated common non-compliance caused by the lack of a mechanism to track defaulters.

4.3.6 Ineffective Performance Evaluation of TFRA and Agro Dealers Regarding the Distribution of FFS to Farmers

The audit concludes that there was inadequate implementation of recommendations issued during monitoring by TFRA. Two recommendations were issued by the TFRA Planning, Monitoring and Evaluation Section. However, they were not implemented to address the challenges encountered by TFRA in improving the distribution of FFS in the country.

CHAPTER FIVE

AUDIT RECOMMENDATIONS

5.1 Introduction

This chapter provides recommendations to the Ministry of Agriculture (MoA) and Tanzania Fertilizer Regulatory Authority (TFRA) to improve the regulation of the distribution of fertilizers and fertilizer supplements to farmers.

The National Audit Office believes that these recommendations must be fully implemented to improve the distribution system and facilitate the availability and accessibility of good quality fertilizers and fertilizer supplements to farmers to increase agricultural productivity.

5.2 Audit Recommendations to the Ministry of Agriculture

5.2.1 To Improve Forecasting of the Demand for Fertilizers and Fertilizer Supplements

The Ministry of Agriculture is urged to:

a) Collaborate with PO-RALG to ensure the availability and equitable allocation of Agricultural Extension Officers in LGAs to carry out extension services, including providing accurate information for demand forecasting.

5.2.2 To Facilitate Timely Distribution of Fertilizers and Fertilizer Supplements to Meet Agricultural Seasons

The Ministry of Agriculture is urged to:

a) Collaborate with PO-RALG to evaluate the effectiveness of the fertilizer subsidy program and use the evaluation results to determine its coverage, package and control mechanisms that will promote the availability and accessibility of fertilizers to the intended beneficiaries.

5.2.3 To Effectively Measure the Performance of TFRA and Agro Dealers Regarding the Distribution of FFS to Farmers

The Ministry of Agriculture is urged to:

a) Establish and implement a mechanism for periodically evaluating the performance of TFRA in regulating the distribution of FFS, covering price, quality, quantity, and timeliness of fertilizer distribution.

5.3 Recommendations to Tanzania Fertilizer Regulatory Authority (TFRA)

5.3.1 To Improve Demand Forecasting for Fertilizers and Fertilizer Supplements

The Management of the Tanzania Fertilizer Regulatory Authority is urged to:

a) Establish an effective mechanism for demand forecasting to match the actual need for fertilizers and fertilizer supplements. The mechanism should be able to capture reliable and accurate information that matches the actual needs of fertilizers, including but not limited to quantity, type and agricultural season.

5.3.2 To Facilitate Timely Distribution of Fertilizers and Fertilizer Supplements to Meet Agricultural Seasons

The Management of the Tanzania Fertilizer Regulatory Authority is urged to:

a) To evaluate the effectiveness of the existing fertilizer procurement systems, i.e., the Bulk Procurement System and other available systems, and use the results to address all the identified weaknesses to facilitate timely procurement and distribution to meet the agricultural seasons' demand.

5.3.3 To Improve the Effectiveness of Regulation Price of Fertilizers and Fertilizer Supplements to ensure it is Affordable to Farmers

The Management of the Tanzania Fertilizer Regulatory Authority is urged to:

(a) Enhance the mechanism for setting, announcing and reviewing the indicative prices to the lower levels to ensure transparency and fairness to farmers and agro-dealers.

5.3.4 To Improve Inspections of Fertilizers and Fertilizer Supplements, Agro-dealers and Sanctioning of Defaulters

The Management of the Tanzania Fertilizer Regulatory Authority is urged to:

(a) Fast-track the finalization of the Memorandum of Understanding with LGAs to ensure effective inspection of FFS and agro-dealers, and LGAs authorized inspectors to submit the inspection reports to TFRA;

(b) Plan and regularly conduct FFS and agro-dealers inspections and take appropriate sanctions on defaulters. The inspection should also include evaluating the performance of agro-dealers adherence to the fertilizer regulations and producing reports for the same; and

(c) Device effective FFS tracking mechanism and implement a laboratory testing program for fertilizers to ensure that only products meeting the required quality test standards are approved for registration before distribution to the market

REFERENCES

1. Boaz Keizire., Kapuya T, Njoroge L. Impact of Fertilizer Policy Reforms in Tanzania, November 2020
2. Hosea Mpogole., Provident Dimoso, Hozen Mayaya., Agriculture for Rural Development in Tanzania 2020
3. https://data.worldbank.org/indicator/AG.CON.FERT.ZS?locations=TZ, as visited on 30th May, 2023.
4. https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/africa-fertilizer-financing-mechanism/about-affm/abuja-declaration, as visited on 30th May, 2023.
5. https://www.afdb.org/sites/default/files/documents/publications/tanzania_country_food_and_agriculture_delivery_compact.pdf, as visited on 30th May, 2023.
6. https://www.bbc.com/swahili/articles/c2lxpgpqkqpo, as visited on 30th May, 2023.
7. https://www.mwananchi.co.tz/mw/habari/kitaifa/mbaroni-njombe-wakituhumiwa-kuchakachua-mbolea-ya-ruzuku-4092908, as visited on 30th May, 2023.
8. https://www.mwananchi.co.tz/mw/habari/kitaifa/upungufu-wa-mbolea-unavyowapasua-kichwa-wakulima-mawakala-njombe-2889342, as visited on 30th May, 2023.
9. https://www.tanzaniainvest.com/fertilizers, as visited on 30th May, 2023.
10. International Fertilizer Development Center, Assessment of Fertilizer Distribution Systems and Opportunities for Developing Fertilizer Blends in Tanzania, June 2018

11. International Fertilizers Development Center in Support of the African Fertilizer and Agribusiness Partnership, Tanzania Fertilizer Assessment, June 2012
12. Jessica H. Cagley., Professor Mary K. Gugerty and Professor Robert Plotnick., Political Economy of Fertilizer Policy in Tanzania,2009
13. Lutengano Mwinuka., Fostering Fertilizer Use and Welfare Distribution in Tanzania: Implications for Policy and Practice, November 2018
14. The United Republic of Tanzania, Agricultural Sector Development Programme (ASDP II),2017
15. The United Republic of Tanzania, National Five Year Development Plan (FYDP III; 2021/22 – 2025/26).
16. The United Republic of Tanzania, Ministry of Agriculture, Guidelines For Implementing Fertilizers Subsidy Program for the 2022/2023 Season.
17. United Republic of Tanzania, National Agricultural Policy, 2013
18. The United Republic of Tanzania, The Fertilizers Act, 2009 and its Regulations of 2011 and its amendments of 2017

APPENDICES

Appendix 1 (a): Responses from the Ministry of Agriculture

This part covers responses from the Ministry of Agriculture. The specific comments is detailed below:

Specific Comments

SN	Recommendation	Comments from MoA	Planned Action(s)	Implementation Timeline(s)
1	In collaboration with PO-RALG to ensure the availability and equitable allocation of Agricultural Extension Officers in LGAs to carry out extension services, including availing accurate information for demand forecasting.	With reference to Decentralization by Devolution (D by D) in 1998, day-to-day supervision of Extension officers is the mandatory President's Office - Regional Secretariat and Local Government Authority (PO-RALG), which has a full mandate to employ and supervise day-to-day activities of extension services. On the other hand, the Ministry of Agriculture is mandated to provide working tools for extension services.	Facilitate TFRA to sign MoU with PO-LARG with a clause outlining the duty of fertilizer inspectors in the District Councils to collaborate with Village/Ward Extension Officers on availing information for estimated fertilizer demand forecasting to TFRA. To collaborate with PO-RALG to recruit more extension officers and functional fertilizer inspectors at the LGA level.	2024 -2026

SN	Recommendation	Comments from MoA	Planned Action(s)	Implementation Timeline(s)
		From the year 2021/2022 to 2022/2023, the Ministry of Agriculture has distributed a total of 5,889 motorcycles, 805 iPads and 141 Soil kits to extension officers working under LGAs to enable them to provide services to farmers. To increase the number of extension officer, MoA has signed MoU with SUA to recruit young agriculture graduates for BBT- Youth Agricultural Graduates Agribusiness Scheme where they are employed within special arrangements. The Ministry undertakes to		

SN	Recommendation	Comments from MoA	Planned Action(s)	Implementation Timeline(s)
		train extension officers on fertilizer quality inspection in LGAs.		
2	In collaboration with PO-RALG, to evaluate the effectiveness of the fertilizer subsidy program and use the evaluation results to its coverage, package and control mechanisms that will promote the availability and accessibility of fertilizers to the intended beneficiaries.	Registration of farmers for the subsidy program is done in collaboration with PO-RALG, whereby extension officers register farmers in the register book and upload them to the digital fertilizer subsidy distribution and payment system. The system provides daily data on farmers, agro-dealers and stock positions.	Strengthen collaboration with LGAs and improve the digital system and physical verification.	2024 -2026
3	Establish and implement a mechanism for periodically evaluating the performance of TFRA in the regulation of the distribution of FFS, covering price, quality,	The Ministry of Agriculture has been evaluating the performance of TFRA in the regulation of the distribution of FFS, covering price, quality,	The Ministry will strengthen evaluation to improve the performance of input provision systems.	On-going activity

SN	Recommendation	Comments from MoA	Planned Action(s)	Implementation Timeline(s)
	quantity, and timeliness of fertilizer distribution.	quantity, and timelines for the distribution of fertilizer.		

Appendix 1 (b): Responses from the Tanzania Fertilizer Regulatory Authority

This part covers responses from the Tanzania Fertilizer Regulatory Authority. The specific comments is detailed below:

Specific Comments

S/No	Recommendation	Comments from TFRA	Planned Action(s)	Implementation Timelines
1.	Improve/Strengthern mechanism for demand forecasting to match the actual need for fertilizers and fertilizer supplements. The modal should be able to capture reliable and accurate information that matches the actual needs of fertilizers, including but not limited to quantity, type and agricultural season. Establish and implement an effective modal for demand forecasting to match the actual need for fertilizers and fertilizer supplements. The modal should be able to capture reliable and accurate information that matches the actual needs of fertilizers, including but not limited to quantity,	TFRA has been improving the mechanism of demand forecasting for fertilizers and fertilizer supplements to ensure that projections are as close to reality as possible. Initially, projections were made based on the expected area of cultivation and fertilizer recommendation per unit area. The approach resulted in an excessively high demand forecast compared to actual utilization. Improvements were made to involve LGAs through Regional Secretariats in	• Review existing mechanisms for demand forecasting. • Develop a fertilizer demand forecasting framework.	2024/25 - 2025/26

S/No	Recommendation	Comments from TFRA	Planned Action(s)	Implementation Timelines
	type and agricultural season.	forecasting the demand for fertilizers and fertilizer supplements for the reason that the Authorities have a broader understanding of the farming and farmers' situation in their respective areas. The mechanism was further improved to involve validation meetings between TFRA officials and Regional Agricultural Officers to discuss and improve the submitted projections based on the aforementioned factors. To further improve forecasting precision, the Authority realized that there is a need to establish a Framework for forecasting fertilizer demand		

S/No	Recommendation	Comments from TFRA	Planned Action(s)	Implementation Timelines
		in order to enhance responsibility and accountability.		
2.	To evaluate the effectiveness of the existing fertilizer procurement systems, i.e. Bulk Procurement System and other available systems and use the results to address all the identified weaknesses to facilitate timely procurement and distribution to meet the agricultural season demand	TFRA will evaluate the existing fertilizer procurement systems and improve accordingly.	Improve the identified gaps in the fertilizers procurement systems.	2024/25 - 2025/26
3.	Enhance the mechanism for setting, announcing and reviewing the indicative prices to the lower levels to ensure transparency and fairness to farmers and agro-dealers	Indicative prices are set as per Section 4(1)(U) of the Fertilizer Act No. 9 of 2009 and Regulation 56 of the Fertilizer Regulations 2011 as amended in 2017. The set indicative prices are published in newspapers and shared with LGAs through Regional Secretariats, Fertilizer	The Authority will continue monitoring the prices of foliar fertilizers and taking action when the need arises.	First and second quarter 2024/25

S/No	Recommendation	Comments from TFRA	Planned Action(s)	Implementation Timelines
		Importers and Manufacturers, and published through the Authority's website and social media. In the public notes, fertilizer dealers are instructed to display fertilizer-indicative prices in places easily visible to farmers. Prices for foliar fertilizers are currently determined by market forces, which is favoured by the existence of a large number of local manufacturers and Importers, rendering the prices low.		
4.	Fast-track the finalization of the inspection guideline and disseminate it to all inspectors, including those in LGAs, to ensure effective inspection	The authority will ensure the prepared Draft Memorandum of Understanding between TFRA and LGAs is signed and implemented	• To execute MoU between TFRA and LGAs • To monitor and evaluate the implementation of agreed responsibilities in the MoU	2024/25 Onwards

S/No	Recommendation	Comments from TFRA	Planned Action(s)	Implementation Timelines
	of FFS and agro-dealers and submit the inspection reports to TFRA.	in order to improve the efficiency of inspection.		
5.	Plan and regularly conduct inspections of FFS and agro-dealers and take appropriate sanctions on defaulters. The inspection should also include an evaluation of the performance of agro-dealers adherence to the fertilizer regulations and produce reports for the same.	TFRA has been preparing plans and conducting regular inspections of FFS through zonal offices as well as taking sanctions on defaulters, such as cancelling licenses and compounding.	Inspections to be strengthened	2024/25
6.	Device effective FFS tracking mechanism and implement a laboratory testing program for fertilizers to ensure that only products meeting the required quality test standards are approved for registration before distribution to the market	FFS tracking mechanism is through Fertilizer Information System (FIS) and routine inspection. The Authority is in final stage of operationalization of fertilizers laboratory which is geared towards improving laboratory test	• To finalize and equip TFRA laboratory • Building capacity to laboratory technician and scientists • To strength collaboration with other institution laboratories • Strengthen tracking system through FFS and Routine Inspection	

S/No	Recommendation	Comments from TFRA	Planned Action(s)	Implementation Timelines
		standards, registration processes and quality control of FFS.		

Appendix 2: Audit Questions and Sub-Audit Questions

This part provides the list of audit questions and sub-questions that were used during the audit.

S/No	Audit Questions and Sub-questions
Audit Question 1	**To what extent are good-quality fertilizers and fertilizer supplements available and accessible to farmers in the country?**
Sub-question 1.1	Are good quality fertilizers and fertilizer supplements available to farmers in the country?
Sub-question 1.2	Are good-quality fertilizers and fertilizer supplements accessible to farmers in the country?
Audit Question 2	**Is the forecasting of the demand for fertilizers and fertilizer supplements effectively done to meet demands?**
Sub-question 2.1	Are models for establishing demand for the required fertilizers and fertilizer supplements adequate and capturing all needs?
Sub-question 2.2	Do MoA and TFRA adequately coordinate with all key actors in forecasting the demand for fertilizers and fertilizer supplements in the country?
Sub-question 2.3	Does TFRA adequately use the demand forecast information to order and procure fertilizers and fertilizer supplements?
Audit Question 3	**Does TFRA ensure that the distribution of fertilizers and fertilizer supplements is in a timely manner to meet farming and agricultural seasons in the country?**
Sub-question 3.1	Do farmers receive fertilizers and fertilizer supplements right on time?
Sub-question 3.2	Does TFRA adequately regulate the agro-dealers and Distributors to ensure timely distribution of fertilizers to farmers?
Sub-question 3.3	Does TFRA coordinate key actors to ensure the timely distribution of fertilizers and fertilizer supplements to farmers in the country?
Sub-question 3.4	Is the Bulk Procurement System of fertilizers and fertilizer supplements effectively functioning to facilitate the ordering and timely importation of fertilizers and fertilizer supplements that meet the demand in the country?
Audit Question 4	**Are the prices of fertilizer and fertilizer supplements effectively regulated?**
Sub-question 4.1	Are the prices of fertilizers and fertilizer supplements affordable to farmers?

S/No	Audit Questions and Sub-questions
Sub-question 4.2	Is the mechanism used to establish the indicative price of fertilizers and fertilizer Supplements aid the affordability of fertilizers and fertilizer supplements to farmers?
Sub-question 4.3	Does TFRA effectively communicate indicative prices of fertilizers and fertilizer supplements to all levels to ensure transparency?
Sub-question 4.4	Does TFRA ensure that fertilizer and fertilizer supplement dealers adhere to the set indicative prices?
Sub-question 4.5	Does the subsidy program facilitate the distribution of fertilizers and fertilizer supplements to farmers at affordable prices?
Audit Question 5	**Are the inspections of fertilizers and fertilizer supplements, distribution centres,agrodealers and sanctioning of defaulters appropriately planned, performed and applied?**
Sub-question 5.1	Does TFRA develop adequate plans and procedures for inspections of fertilizers and fertilizer supplements?
Sub-question 5.2	Does TFRA conduct effective inspections to enhance compliance with regulations to ensure the availability and accessibility of quality distributed fertilizers and fertilizer supplements to farmers?
Sub-question 5.3	Does TFRA issue appropriate sanctions to defaulters?
Sub-question 5.4	Does TFRA have an appropriate mechanism to track and follow the sanctioned agro-dealers?
Audit Question 6	**Is the performance evaluation of TFRA and agro-dealers regarding the distribution of fertilizers and fertilizer supplements to farmers conducted periodically?**
Sub-Question 6.1	Do MoA and TFRA have systems that capture reliable data needed for monitoring the whole process of distribution of fertilizers and fertilizer supplements to farmers?
Sub-Question 6.2	Does the Ministry of Agriculture conduct monitoring of the key performance indicators to measure the performance of TFRA on the distribution of fertilizers and fertilizer Supplements to farmers?
Sub-Question 6.3	Do MoA and TFRA conduct periodic monitoring of the distribution of fertilizers and fertilizer supplements to farmers in the country?
Sub-Question 6.4	Are the performance evaluation reports prepared and the results used to make further improvements on regulating the distribution of fertilizers and fertilizer supplements to farmers?
Sub-Question 6.5	Do MoA and TFRA periodically follow through to establish the level of implementation of recommendations and reports thereof?

Appendix 3: Analysis of imported Fertilizers for two years (2020/21 to 2021/22)

Name of the Fertilizer	Imported in 2020/21	Imported in 2021/22	Total Imported	RANKING
UREA	15,005.00	90,626.50	105,631.50	High (74001-110000)
SA	7,133.44	59,260.51	66,393.95	Medium (37001-74000)
CAN	11,224.00	52,688.04	63,912.04	
NPK	10,759.12	52,259.75	63,018.87	
OTHER N	18,554.97	34,466.11	53,021.07	
DAP	10,603.00	41,323.64	51,926.64	
OTHER Fertilizer	10,842.58	15,467.75	26,310.33	Low (0-37000)
MOP	5,839.40	14,633.56	20,472.96	

Source: *Auditors' Analysis from Imported Fertilizers (2020/21 and 2021/22)*

Appendix 4: Selection of Region based on Utilization of Fertilizers

Raking	REGION	DISTRIBUTED FERTILIZERS (IN TONS)
Low (0-25,000)	SIMIYU	283
	LINDI	291
	DODOMA	479
	KAGERA	607
	GEITA	838
	SINGIDA	1,441
	MTWARA	1,443
	PWANI	1,591
	TANGA	1,608
	MWANZA	1,782
	MARA	2,769
	DAR ES SALAAM	2,983
	KATAVI	3,062
	MANYARA	4,795
	SHINYANGA	6,389
	TABORA	8,004
	MOROGORO	9,828
	KIGOMA	15,757
	ARUSHA	16,895
	KILIMANJARO	18,385
	RUKWA	18,541
Medium (25,001-50,000)	IRINGA	29,040
High (50,001-75,000)	SONGWE	54,189
	NJOMBE	59,958
	MBEYA	60,783
	RUVUMA	73,732
TOTAL		**299,305**

Source: *Auditor's Analysis on the Regions (2023)*

Appendix 5: Selection of Regions based on Productivity of cereal crops

RANKING	CROPS REGIONS	MAIZE TONS	MILLET TONS	RICE TONS	WHEAT TONS	TOTAL TONS
Low (0-350,000)	Dar es Salaam	388		430		818
	Mtwara	60,036	15,115	18,588		93,739
	Pwani	103,571	4,653	43,328		151,552
	Lindi	108,798	32,186	15,999		156,983
	Kagera	131,271	10,480	21,056		162,807
	Mara	150,756	85,553	16,715		253,024
	Kilimanjaro	224,124	449	36,420	4,211	265,204
	Katavi	100,147	1,114	166,888		268,149
	Njombe	255,156	1,549	1,808	20,525	279,038
	Singida	197,398	88,607	13,408		299,413
Medium (350,001-700,000)	Iringa	260,016	5,133	49,214	4,081	318,444
	Dodoma	125,858	185,414	14,075		325,347
	Shinyanga	128,470	41,530	174,981		344,981
	Arusha	196,758	19,339	126,833	11,259	354,189
	Tanga	319,025	13,780	23,860		356,665
	Geita	169,223	7,514	180,585		357,322
	Simiyu	243,172	81,340	71,090		395,602
	Mwanza	186,776	19,138	217,822		423,736
	Manyara	460,180	22,396	14,472	9,679	506,727
	Kigoma	453,083	13,320	54,468		520,871
	Tabora	300,920	31,884	240,706		573,510
	Songwe	445,723	39,033	95,693	380	580,829
High (700,001-1,050,000)	Rukwa	641,258	11,040	86,692	8,185	747,175
	Morogoro	160,907	13,394	596,420		770,721
	Mbeya	555,744	11,012	289,093	8,640	864,489
	Ruvuma	929,560	859	58,874	3,328	992,621
	TOTAL	6,908,318	755,832	2,629,519	70,288	10,639,990

Appendix 6: Selection of Regions based on Productivity of cereal crops

REGIONS	CROPS					RANKING
	MAIZE TONS	MILLET	RICE TONS	WHEAT TONS	TOTAL TONS	
Dar es Salaam	388		430		818	Low (0-350,000)
Mtwara	60,036	15,115	18,588		93,739	
Pwani	103,571	4,653	43,328		151,552	
Lindi	108,798	32,186	15,999		156,983	
Kagera	131,271	10,480	21,056		162,807	
Mara	150,756	85,553	16,715		253,024	
Kilimanjaro	224,124	449	36,420	4,211	265,204	
Katavi	100,147	1,114	166,888		268,149	
Njombe	255,156	1,549	1,808	20,525	279,038	
Singida	197,398	88,607	13,408		299,413	
Iringa	260,016	5,133	49,214	4,081	318,444	Medium (350,001-700,000)
Dodoma	125,858	185,414	14,075		325,347	
Shinyanga	128,470	41,530	174,981		344,981	
Arusha	196,758	19,339	126,833	11,259	354,189	
Tanga	319,025	13,780	23,860		356,665	
Geita	169,223	7,514	180,585		357,322	
Simiyu	243,172	81,340	71,090		395,602	
Mwanza	186,776	19,138	217,822		423,736	
Manyara	460,180	22,396	14,472	9,679	506,727	
Kigoma	453,083	13,320	54,468		520,871	
Tabora	300,920	31,884	240,706		573,510	
Songwe	445,723	39,033	95,693	380	580,829	
Rukwa	641,258	11,040	86,692	8,185	747,175	High (700,001-1,050,000)
Morogoro	160,907	13,394	596,420		770,721	
Mbeya	555,744	11,012	289,093	8,640	864,489	
Ruvuma	929,560	859	58,874	3,328	992,621	
TOTAL	6,908,318	755,832	2,629,519	70,288	10,639,990	

Appendix 7: Summary of the Selected Regions from Each Zone and the Factors Used for Selection

TFRA's Agricultural Zone	Regions	Fertilizer Utilization rate (High, Medium, Low)	Productivity of cereal crops (High, Medium, Low)	Availability of TFRA's Zonal Office (Yes, No)	Justification
Eastern Zone	Morogoro	Low	High	No	Selected because it has Low utilization but high production, no TFRA office
Northern Zone	Arusha	Low	Medium	Yes	Selected because it has low utilization and medium production and TFRA office
Central Zone	Tabora	Low	Medium	Yes	Selected because it has low utilization and medium production with TFRA office
Lake Zone	Mwanza	Low	Medium	Yes	Selected because it has low utilization and medium production with TFRA office
Southern Highland	Mbeya	High	High	Yes	Selected because it has both high utilization and production to represent the one with the highest performance

Source: *Auditors' Analysis (2023)*

Appendix 8: Documents Reviewed and reasons for reviewing them

Organisation	Name of Document	Reason(s)
MoA	Soil Mapping Report	• To assess whether the fertilizers and fertilizer supplements distributed to villages, wards and LGA levels considered the recommended fertilizers based on soil nature/type
	Demand establishment Reports	• To assess the involvement of all actors during demand establishment
	Subsidy Fertilizer Files	• To establish if fertilizers were available and accessible on time to farmers
	Monitoring and Evaluation Reports	• To establish the extent of analyzing the Subsidy program implementation • To identify the root causes of problem identified.
	Budget Implementation Reports	• To establish the performance of the set targets on subsidy • To establish the effectiveness of the budgetary controls on subsidy
TFRA	Laboratory Results of All Registered FFS (2021-2023)	• To establish whether registered Fertilizers Complied with quality requirements prior to availability to the market
	Import Permits and Productivity Statistics	• To establish the extent of manufacturing and importation of fertilizers
	Inspection Report on the Registered Fertilizers Dealers	• To investigate if fertilizers were inspected prior to their Registration. • To assess the effectiveness of measures taken during the Inspection • To assess the level of compliance with indicative Prices by Agro dealers • To assess the level of compliance with storage requirements by Agro dealers
	Bulk Procurement Files	• To establish timing and participation of Importers during BPS

Organisation	Name of Document	Reason(s)
		• To establish whether qualified Suppliers/Importers were selected during BPS
	Approval from the Board of TFRA to Importers/Suppliers to conduct procurement outside of BPS	• To assess the extent of compliance with BPS
	Risk Analysis Report	• To assess if the Inspection conducted involves risk fertilizer dealers
	Farmers Database	• To establish the level of farmers who were registered and farmers who applied fertilizers. • Functioning of the system used to register farmers in the country
	Demand Establishment Report	• To assess the involvement of all actors during demand establishment
	Operational Status of the Registered Agro-Dealers	• To establish the extent of accessibility of fertilizers to farmers
	Training Reports	• To assess the trend on provisional awareness campaign to fertilizers dealers, inspectors and farmers.
Fertilizer Dealers	Registration Certificates	• To assess the registration status of the fertilizer dealers
	Training Certificate	• To assess if he is trained and can be able to provide awareness to farmers on the application of fertilizers
LGAs	Inspection Reports	• To assess if the authorized inspectors from the LGAs submit Inspection Reports to TFRA • To identify the root causes of the identified problem.

Source: *Auditors' Analysis (2023)*

Appendix 9: Officials Interviewed and Reasons for interviewing them

Entity	Department/Division/Section	Officer to be Interviewed	Reason for Interview
Ministry of Agriculture	Agricultural Input Section	Assistant Director Agricultural Input Section	• To assess the effectiveness of the methodology used by the Ministry of Agriculture to conduct fertilizer demand forecast. • To assess the capacity of the Ministry to consolidate data from different sources to establish the fertilizer demand forecast. • To assess the baseline study conducted to establish demand forecast to village, ward and national level
	Department of Policy and Planning	Policy Formulation and Planning Officers	• To analyse how the Ministry is prepared to reach its goals in relation to ensuring the accessibility of fertilizer • To assess whether the Ministry is adequately coordinating the various actors in making sure fertilizer availability and accessibility are assured
PO-RALG	Sector Coordination	Director of Sector Coordination	• To analyze the adequacy of exchange of information related on demand establishment, indicative prices and provision of training to RS and LGAs agricultural officers
Regulatory Authority	Tanzania Fertilizer Regulatory Authority (TFRA)	• Director of Domestic Manufacturing &Bulk Procurement • Director of Regulatory Services	• To assess the capacity of the authority to conduct demand forecast of fertilizer and consolidation of data from different sources. • To assess the Soil mapping details conducted at the village, ward and LGA level. • To assess the adherence to the inspection plan against the number

Entity	Department/Division/Section	Officer to be Interviewed	Reason for Interview
		• Manager of Administration and Human Resource Management • Manager of Planning Monitoring and Evaluation • Manager of Inspectorate • Manager of Finance and Accounts. • Chairman of the Subsidy Committee	of inspections conducted by the TFRA. • To assess the required number of inspections per inspectors required. • To assess the effectiveness of monitoring and evaluation. • To assess the capacity of TFRA to enforce agro-dealers to comply with indicative prices. • To assess the effectiveness of inspection to ensure TFRA enforce agro-dealers to comply with the registration requirements.
Regional Secretariat	Economic and Production Section	• Agricultural Officers	• To assess the adequacy of the established demand of FFS and sharing of indicative prices to LGAs level.
LGAs	Department of Agriculture, livestock and fisheries	Head of department and official from the agriculture, livestock, and fisheries section.	• To assess the extent of involvement of LGAs during the fertilizer demand establishment process • To verify if they have access to indicative prices and if they are involved in supervision • To assess the participation of authorized inspectors in the

Entity	Department/Division/Section	Officer to be Interviewed	Reason for Interview
			inspection of Agro dealers in their respective LGAs

Appendix 10: Not Compliant Fertilizer Dealers

S/n	Street/Village	Ward	District	Region	Audit Observations
1	Manyema	Gongoni	Tabora MC	Tabora	i. The license expired on 07/10/2019. ii. Sells expired foliar fertilizer (ETG Fast Gro organic fertilizer, expired in 2020) iii. No fertilizer records. iv. The store is not ventilated. v. Fertilizer bags touch the walls. vi. No protective gear.
2	Kachoma	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. No fertilizer records. iii. The store is not ventilated. iv. Indicative price not displayed.
3	Kachoma	Chem chem	Tabora MC	Tabora	i. The license expired on 06/10/2020. ii. No fertilizer records.
4	Manyema	Gongoni	Tabora MC	Tabora	i. No fertilizer records. ii. The store is not ventilated. iii. Fertilizer bags touch the walls. iv. No protective gear. v. Indicative price not displayed.
5	Soko Kuu	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. The store is not ventilated. iii. Fertilizer bags are put on the floor.
6	Soko Kuu	Chem chem	Tabora MC	Tabora	i. The license expired on 01/03/2019. ii. No fertilizer records. iii. The store is not ventilated.

S/n	Street/Village	Ward	District	Region	Audit Observations
7	Tumbi	Tumbi	Tabora MC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. No fertilizer records. iv. No protective gear.
8	Kachoma	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. Sells expired foliar fertilizer (Rapid Gro, Liquid plant food, expired in 2018)
9	Salimini	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. No fertilizer records.
10	Madaraka	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. No protective gear. iii. Indicative prices are not displayed.
11	Madaraka	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. No protective gear.
12	Kalamata	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. No protective gear.
13	Madaraka	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. No protective gear. iii. The store is not ventilated. iv. Fertilizer bags touch the walls.
14	Madaraka	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. No fertilizer records. iii. No protective gear. iv. Indicative prices are not displayed.
15	Madaraka	Chem chem	Tabora MC	Tabora	i. The license expired on 07/10/2020. ii. No fertilizer records. iii. The store is not

S/n	Street/Village	Ward	District	Region	Audit Observations
					ventilated. iv. Indicative prices are not displayed.
16	Madaraka	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. Indicative prices are not displayed. iv. Sells above indicative prices.
17	Ujiji	Mbugani	Tabora MC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. No fertilizer records. iv. Indicative prices are not displayed.
18	Ujiji	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. v. No fertilizer records. vi. No protective gear. vii. Indicative prices are not displayed.
19	Mnalani	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. No fertilizer records. iv. Fertilizer bags touch the walls. v. Sells fertilizers above indicative prices.
20	Mnalani	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. No fertilizer records. vi. Fertilizer bags touch the walls.

S/n	Street/Village	Ward	District	Region	Audit Observations
					vii. Sells fertilizers above indicative prices. viii. Indicative prices are not displayed.
21	Soko Kuu	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. No fertilizer records.
22	Usagara	Chem chem	Tabora MC	Tabora	i. The license expired on 09/04/2020. ii. No fertilizer records. iii. Indicative prices are not displayed.
23	Kachoma	Chem chem	Tabora MC	Tabora	i. No TFRA license. ii. No protective gear.
24	Makungu	Chem chem	Tabora MC	Tabora	i. The license expired on 08/09/2018. ii. No fertilizer records. iii. Indicative prices are not displayed.
25	Ugunda	Ipole	Sikonge DC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. Fertilizer bags are put on the floor. iv. No protective gear. v. Fertilizer stores with fertilizers are used to cook food.
26	Ugunda	Ipole	Sikonge DC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. No protective gear. iv. Fertilizer bags are put on the floor. v. Indicative prices are not displayed.
27	Ipole	Ipole	Sikonge DC	Tabora	i. The license expired on 25/07/2019. ii. Opens fertilizer bags and sells them in small

S/n	Street/Village	Ward	District	Region	Audit Observations
					quantities. iii. No fertilizer records. iv. Indicative prices are not displayed.
28	Madukani	Sikonge	Sikonge DC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. No protective gear. iv. Fertilizer bags touch the walls. v. Indicative prices are not displayed.
29	Madukani	Sikonge	Sikonge DC	Tabora	i. The license expired on 25/07/2019. ii. No fertilizer records. iii. No protective gear. iv. Fertilizer bags touch the walls.
30	Madukani	Sikonge	Sikonge DC	Tabora	i. No TFRA license. ii. No fertilizer records. iii. No protective gear.
31	Madukani	Sikonge	Sikonge DC	Tabora	i. The license expired on 20/05/2019. ii. Opens fertilizer bags and sells them in small quantities. iii. The store is not ventilated. iv. Sells Super Gro as fertilizer. v. Indicative prices are not displayed.
32	Madukani	Sikonge	Sikonge DC	Tabora	i. The license expired on 25/07/2019. ii. The store is not ventilated. iii. Indicative prices are not displayed.
33	Tutuo	Tutuo	Sikonge	Tabora	i. The license expired on 25/07/2019.

S/n	Street/Village	Ward	District	Region	Audit Observations
			DC		
34	Tutuo	Tutuo	Sikonge DC	Tabora	i. No TFRA license. ii. No protective gear.
35	Pangale	Pangale	Sikonge DC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. No protective gear. iv. Fertilizer bags are put on the floor.
36	Pangale	Pangale	Sikonge DC	Tabora	i. The license expired on 25/07/2019. ii. No fertilizer records
37	Pangale	Pangale	Sikonge DC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. Fertilizer bags are put on the floor. iv. Fertilizer bags touch the walls. v. No protective gear. vi. The store is dirt and not ventilated. vii. Indicative prices are not displayed.
38	Usoke	Usoke	Urambo DC	Tabora	i. The license expired on 04/11/2019. ii. Opens fertilizer bags and sells them in small quantities. iii. No protective gear. iv. Fertilizer bags are put on the floor. v. Indicative prices are not displayed.

S/n	Street/Village	Ward	District	Region	Audit Observations
39	Usoke	Usoke	Urambo DC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. Sells expired foliar fertilizer (ETG Fast Gro, expired in 2020) iv. The store is dirt and not ventilated. v. Indicative prices are not displayed.
40	CCM	Urambo	Urambo DC	Tabora	i. The license expired on 28/01/2019. ii. Sells Super Gro as fertilizer. iii. The store is not ventilated.
41	CCM	Urambo	Urambo Dc	Tabora	i. No TFRA license. ii. No fertilizer records. iii. The store is not ventilated.
42	CCM	Urambo	Urambo DC	Tabora	i. No TFRA license. ii. No fertilizer records.
43	CCM	Urambo	Urambo DC	Tabora	i. No TFRA license. ii. The store is dirt and not ventilated. iii. No fertilizer records.
44	RC Square	Urambo	Urambo DC	Tabora	i. No TFRA license. ii. Sells Super Gro as fertilizer.
45	Sokoni	Kaliua Magharibi	Kaliua DC	Tabora	i. No TFRA license. ii. Sells expired fertilizer (Farm Booster, Foliar Spray). iii. No fertilizer records. iv. No protective gear.
46	Sokoni	Kaliua Magharibi	Kaliua DC	Tabora	i. The license expired on 19/06/2020. ii. Sells expired

S/n	Street/Village	Ward	District	Region	Audit Observations
					foliar fertilizer (Farm Booster, Foliar Spray). iii. No fertilizer records.
47	Kigoma Road	Kaliua East	Kaliua DC	Tabora	i. No TFRA license. ii. Indicative prices are not displayed.
48	New Stand	Kaliua Mashariki	Kaliua DC	Tabora	i. No TFRA license. ii. No fertilizer records. iii. No protective gear. iv. Indicative prices are not displayed.
49	Igagala No. 6	Igagala	Kaliua DC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. The store is dirt and not ventilated. iv. No protective gear. v. No fertilizer records. vi. Fertilizer bags are put on the floor.
50	Igagala No. 6	Igagala	Kaliua DC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities. iii. No fertilizer records. iv. No protective gear. v. Indicative prices are not displayed.
51	Isawima	Igagala	Kaliua DC	Tabora	i. No TFRA license. ii. Opens fertilizer bags and sells them in small quantities

Appendix 11: Description of Price Components of Price Structure for Imported Fertilizer

	Cost Component	Initial	Description
1	Cost Free on Board (FOB)		Cost of Fertilizer from source
2	Freight and Insurance		Transport Cost
	Cost, Insurance and Freight (CIF)		Sum of Free on-board, Freight, Insurance (CIF)
3	Other charges		Any fees charged during transit
	Delivery at place (DAP)	C_i	**The sum of cost of Free on-board, Freight, Insurance and other charges, if any**
4	Letter of credit commission		Financial charges obtained as a Percentage of delivery on place DAP
5	Port wharfage		Percentage as of sum of free on-board, Freight and Insurance
6	Corridor levy		Fixed fee
7	Customs processing fee		Fixed fee
8	Port Handling		Fixed fee
9	Demurrages		Fees due to failure to discharge ship on agreed time
10	TFRA regulatory fees		Percentage of sum of Free on-board, Freight, Insurance
11	TASAC regulatory fees		Fixed fee
12	Empty bag		Agreed amount
13	Bagging		Agreed amount
14	Transport to Distributor's warehouse		The agreed amount is TZS 110 per Tonne
15	Storage at Distributor Warehouse		Agreed amount
	Sum of charges	**Cp**	The sum of All Charges above payable to Government Authorities and service/goods Providers
17	Profit margins allocated	M_m	Percentage of the total sum of Delivery at the place and sum of all charges payable. For importer, 7% profit margin of the total sum is allocated.
	Price of fertilizer at the Distributor level		**The total sum of charges, delivery at the place and Profit margins ($C_1 + C_p + M_{m)}$**

Appendix 12: Description of Cost Components of Price Structure for Fertilizer Manufactured in the Country

	Cost Component	Initial	Description
1	Operating budget		Cost of payments to staff, procurement excluding raw materials, research, innovation, accounting, finance, business and marketing
2	Raw materials		Manure powder, DAP, UREA, Dolomite
3	Depreciation of vehicles and machine		Depreciation of vehicles for a period of 10 Years and Depreciation of machines for a period of 25 Years
	Cost of production of fertilizer	**C_i**	**The sum of cost of the operating budget, raw materials and depreciation of machines and vehicles**
4	Taxes		Royalty and Service
5	Empty bag		Agreed amount
6	Bagging		Agreed amount
6	Transport to Manufacture's warehouse		The agreed amount is TZS 110 per Tonne
7	Storage at Manufacture's Warehouse		Agreed amount
	Sum of charges	Cp	The sum of Charges payable to Government Authorities and service/goods Providers
	Profit margins allocated	M_m	Percentage of total sum of cost of production and sum of charges. For the case of Manufacture, 7% profit margins of the total sum is allocated.

	Price of fertilizer at the manufacturing level		**The total sum of the cost of production, the sum of charges payable and Profit margins ($C_i + C_p + M_m$)**

Source: *Auditors' Analysis from the Price Structure and Report of Calculation of Fertilizer Indicative*

Appendix 13: Fertilizer Dealers Deviations from Indicative Price

S/No	Ward	District	Region	Name of Fertilizer	Selling Price (In TZS)	IndicativePrice (In TZS)	Deviated Amount (In TZS)
1	Nyankumbu	Geita Tc	Geita	DAP (50 KG)	62,000	58,530	3,470
2	Nyankumbu	Geita Tc	Geita	UREA (50 KG)	54,000	50,743	3,257
3	Kakubilo	Geita Dc	Geita	DAP (50 KG)	68,000	57,793	10,207
4	Kakubilo	Geita Dc	Geita	DAP (25 KG)	36,000	29,896	6,104
5	Kakubilo	Geita Dc	Geita	UREA (50 KG)	57,000	50,006	6,994
6	Kakubilo	Geita Dc	Geita	UREA (25 KG)	32,000	26,003	5,997
7	Nyawilimilwa	Geita Dc	Geita	DAP (50 KG)	60,000	57,793	2,207
8	Nyawilimilwa	Geita Dc	Geita	UREA (25 KG)	31,000	26,003	4,997
9	Msilale	Chato Dc	Geita	DAP (5 KG)	9,000	6,660	2,340
1				UREA			

S/No	Ward	District	Region	Name of Fertilizer	Selling Price (In TZS)	IndicativePrice (In TZS)	Deviated Amount (In TZS)
0	Msilale	Chato Dc	Geita	(50 KG)	68,000	50,815	17,185
11	Msilale	Chato Dc	Geita	UREA(25 KG)	32,000	26,408	5,592
12	Msilale	Chato Dc	Geita	UREA (5 KG)	8,000	5,882	2,118
13	Biharamulo Mjini	Biharamulo Dc	Kagera	UREA (50 KG)	60,000	51,635	8,365
14	Biharamulo Mjini	Biharamulo Dc	Kagera	DAP (50 KG)	100,000	58,734	41,266
15	Biharamulo Mjini	Biharamulo Dc	Kagera	DAP (25 KG)	38,000	30,367	7,633
16	Biharamulo Mjini	Biharamulo Dc	Kagera	UREA (50 KG)	70,000	51,635	18,365
17	Biharamulo Mjini	Biharamulo Dc	Kagera	UREA (25 KG)	30,000	26,817	3,183
18	Kabindi	Biharamul	Kagera	UREA (50 KG)	60,000	51,635	8,365

S/No	Ward	District	Region	Name of Fertilizer	Selling Price (In TZS)	IndicativePrice (In TZS)	Deviated Amount (In TZS)
		o Dc					
19	Nshamba	Muleba Dc	Kagera	DAP (50 KG)	65,000	59,406	5,594
20	Nshamba	Muleba Dc	Kagera	DAP (50 KG)	70,000	59,406	10,594
21	Nshamba	Muleba Dc	Kagera	DAP (25 KG)	35,000	30,703	4,297
22	Nshamba	Muleba Dc	Kagera	DAP (50 KG)	70,000	59,406	10,594
23	Nshamba	Muleba Dc	Kagera	UREA (50 KG)	55,000	52,367	2,633
24	Muleba	Muleba Dc	Kagera	UREA (50 KG)	63,000	52,367	10,633
25	Bilele	Bukoba Mc	Kagera	UREA (50 KG)	55,000	52,753	2,247
26	Bilele	Bukoba Mc	Kagera	DAP (50 KG)	68,000	59,759	8,241
27	Bilele	Bukoba Mc	Kagera	UREA (50 KG)	65,000	52,753	12,247
28							

S/No	Ward	District	Region	Name of Fertilizer	Selling Price (In TZS)	IndicativePrice (In TZS)	Deviated Amount (In TZS)
	Kassambya	Misenyi Dc	Kagera	DAP (5 KG)	10,000	6,810	3,190
29	Kassambya	Misenyi Dc	Kagera	UREA (5 KG)	9,000	6,112	2,888
30	Kassambya	Misenyi Dc	Kagera	DAP (25 KG)	45,000	31,048	13,952
31	Kassambya	Misenyi Dc	Kagera	UREA (50 KG)	65,000	53,119	11,881

National Audit Office,
Audit House, 4 Ukaguzi Road,
P.O. Box 950, 41104 Tambukareli, Dodoma.
255(026)2161200,
ocag@nao.go.tz,
www.nao.go.tz