



THE UNITED REPUBLIC OF TANZANIA



## NATIONAL AUDIT OFFICE

### PERFORMANCE AUDIT REPORT ON THE CONTROLS OF HYGIENIC PRACTISES IN FOOD MARKETS IN THE COUNTRY



REPORT OF THE CONTROLLER  
AND AUDITOR GENERAL OF THE  
UNITED REPUBLIC OF TANZANIA

MARCH, 2021





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## LIST OF ABBREVIATIONS AND ACRONYMS

CSOs	:	Civil Society Organizations
EHPRB	:	Environmental Health Practitioners Registration Board
FAO	:	Food and Agriculture Organization
HACCP	:	Hazard Analysis and Critical Control Point
INTOSAI	:	International Organization of Supreme Audit Institutions
ISSAIs	:	International Standards of Supreme Audit Institutions
LGAs	:	Local Government Authorities
M&E	:	Monitoring and Evaluation
MoH	:	Ministry of Health
NSC	:	National Sanitation Campaign
PO-RALG	:	President's Office - Regional Administration and Local Government
SDG	:	Sustainable Development Goals
WASH	:	Water, Sanitation and Hygiene
W/C	:	Water Closet
WHO	:	World Health Organization

## COMMON TERMS

Water Supply	refers to the provision of water by urban or rural utilities usually via a system of pumps and pipes
Sanitation	refers to the provision of facilities and services for the safe management of human excreta (urine and faeces)
Sanitation Facility	include facilities likely to ensure hygienic separation of human excreta from human contact. These may be flush/pour flush (to piped sewer system, septic tank and pit latrine); ventilated improved pit latrine (VIP); pit latrine with slab and composting toilet
Sanitation system	include storm and surface or wastewater drainage and sewerage systems
Hygiene	conditions and practices that help to maintain health and prevent the spread of diseases
Hygienic practices	acts or behaviours facilitating washing hands with plain or antimicrobial soap and water from a facility or station characterized as running water and soap and mainly used for hand washing
Solid wastes	include all forms of unwanted matter generated at markets but excludes human excreta
Skip buckets	large container for temporary storage of solid waste at public places pending transportation for final disposal. Sometimes referred to as skip containers, skip masters, transfer stations

## PREFACE



Section 28 of the Public Audit Act No. 11, 2008, authorizes the Controller and Auditor General to carry-out Performance Audit (Value-for-Money Audit) for the purposes of establishing the economy, efficiency and effectiveness of any expenditure or use of resources in the Ministry, Department and Agency (MDA), 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. Samia Suluhu Hassan and through her to Parliament the Performance Audit Report on the Hygiene Control in Food Markets.

The report contains findings of the audit, conclusions and recommendations that have focused mainly on the assessment of the Hygiene Control in Food Markets as performed by the President's Office - Regional Administration and Local Government (PO-RALG).

The President's Office - Regional Administration and Local Government was given the opportunity to scrutinize the factual contents of the report and come up with comments on it. I wish to acknowledge the audited entity for the very useful and constructive discussions we had about the audit.

My office intends to carry-out a follow-up audit at an appropriate time regarding actions taken by the audited entity in relation to the recommendations of this report.

In completion of the assignment, the office subjected the report to the critical reviews of Dr. Hussein L. Mohamed *from Muhimbili University of Health and Allied Sciences, School of Public Health and Social Sciences* and Mr. Stephen Kiberiti *a Retired Principal Environmental Health*

*Officer* who came up with useful inputs on improving the output of this report.

This report has been prepared by Ms. Yuster D. Salala - Team Leader and Mr. Fundikira L. Ntabo - Team Member under the supervision and guidance of Ms. Esnath H. Nicodem - Chief External Auditor, Mr. George C. Haule - Assistant Auditor General and Mr. Jasper Mero - Deputy Auditor General.

I would like to thank my staff for their assistance in the preparation of this report. My thanks should also be extended to PO-RALG for their fruitful interaction with my office.



**Charles E. Kichere**  
**Controller and Auditor General**  
**Dodoma, United Republic of Tanzania**  
**March, 2021**

## EXECUTIVE SUMMARY

### Background

Food markets have become an important source of affordable food for millions of Tanzanians. All the food markets are obligated to provide the community with safe and nutritious food. However, such markets have been facing frequent outbreaks of diseases.

The Audit has been conducted with the main audit objective of assessing whether the President's Office - Regional Administration and Local Government through Local Government Authorities has adequately managed hygienic practices in food markets with a view to ensure there is security and safe delivery of food products to the public objectively so as to prevent communicable disease epidemics.

The Audit mainly focused on the functioning and adequacy of controls in place to support hygiene practices in Food Markets and focused on the functioning of market infrastructures and sanitation systems on place to support hygiene requirements; enforcement of hygiene controls and standards governing Food Markets; and if Monitoring and Evaluation of LGAs' performance were being periodically conducted to contribute to improvements of hygiene practices in Food Markets.

Three main methods used for data collection were Interviews, Document Reviews and Physical Observations. The Audit scope was from July 2016/17 to June 2019/20. This period was selected since there were reported cases of increased dumping of solid wastes and other poor hygienic conditions in the markets.

The following are major Audit findings, conclusion and recommendations developed from this performance audit:

## **Main Audit Findings**

### **Inadequate Controls in Supporting Hygiene**

LGAs had uncomprehensive by-laws which do not cover pertinent issues related to hygiene control in markets. These issues included management of solid and liquid waste, presence of penalties and fines, food safety which covered zoning and arrangement of food on the floor, health checkups to food handlers only and presence of market committees. This was attributed to minimal emphasis and priority placed on hygiene issues by LGAs and PO-RALG and non-involvement of Health Officers in the establishment of by-laws.

The auditors noted that eight (8) out of twenty (20) visited Markets had inadequate management of vendors whereby markets had no registers for vendors in their areas. These Markets were Sabasaba in Dodoma CC, Kibaigwa Mbogamboga and Kongwa in Kongwa DC, Rujewa Market in Mbarali DC, Mikaratusini in Kibondo DC, Jioni Market in Sengerema DC, Jioni Market in Kigoma Ujiji MC and Gongo la Mboto in Ilala MC. In addition, two (2) out of five (5) visited specialized markets had no registers for their vendors. These markets were Kibaigwa in Kongwa DC and Igurusi in Mbarali DC.

Similarly, selling stalls were not allocated according to standards and capacity of the market due to addition of selling stalls on pathways and inadequate control of number of vendors in the market.

Furthermore, seven (7) markets were established on the areas not designated for business by Town Planners, indicating LGAs lacked controls over markets establishment. Only three (3) out of seven (7) markets were established by LGAs, which included Sido in Mbeya CC, Mikaratusini in Kibondo DC and Mecco in Ilemela MC. The remaining 4 markets which included Sabasaba in Dodoma CC, Gongolamboto in Ilala MC, Jioni in Kigoma Ujiji MC and Sengerema DC were established by traders. Inadequate control was also evidenced through extension of markets out of the proposed areas such as Ilala in Ilala MC, Sabasaba and Majengo in Dodoma CC, TAZARA in Temeke MC and Kibondo in Kibondo DC.

The Auditors noted that eighteen (18) out of twenty five (25) visited markets which were established more than five years ago did not observe best practices requirements for hygiene. These requirements

were zoning, food not to be arranged on the floor based on the Public Health Act, 2009, management of solid and liquid waste, improved water, sanitation and hygiene (WASH) services such as inadequate provision of water, number of toilets, hand washing stations and adequate drainage structures.

The reasons for the established markets not meeting the hygiene requirements were attributed to non-involvement of Health Officers at the design stage of the markets, and difficulties in controlling markets already established without adequate infrastructures in place.

The Auditors noted further that six (6) out of twenty (20) visited formal markets had no markets committees and 12 markets did not have market constitution. These markets were Jioni in Kigoma Ujiji MC and Sengerema DC, Kibondo and Mikaratusini in Kibondo DC, Ilala and Gongolamboto in Ilala MC. Furthermore, its only eight (8) markets whereby their committees were found functional, while twelve (12) markets their committee were non-functional. This was attributed to the absence of market guidelines caused by insufficient control and monitoring by LGAs. Absence of market committees lead to inadequate link between the market managers and traders in enhancing hygiene standards and other matters in the market.

#### ***Unsatisfactory Market Infrastructures and Sanitation System***

Infrastructures and sanitation systems for fifteen (15) out of twenty five (25) markets were not functioning well to support hygiene requirements. This was due to insufficient funding for development and maintenance. Although LGAs receive adequate revenue from the markets, only two (2) out of ten (10) LGAs allocated funds for infrastructure maintenance and development. In Ilala MC, the allocated funds were less than 15% of the collected revenue whereas in Ilemela MC, Kirumba market allocated 9.5%, while Mwaloni market was given 52.7%.

Poorly designed established markets were found in all 25 visited markets with varying deficiencies. Sixteen (16) out of twenty five (25) markets had drainage deficiency while 13 markets had roof covers deficiency. In addition, Sixteen (16) and fifteen (15) markets had deficiency in floor pavement, and selling stalls respectively. Furthermore there were 14 markets with deficiency of solid waste, while markets with deficiency at offloading areas and toilets were 17 and 13 respectively.

Twelve (12) out of twenty five (25) visited Markets were found to have not been supplied with water. The worst-case scenario was evidenced at Kibondo Town and Mikaratusini markets in Kibondo DC where there was no water in the toilets. As a result, traders abandoned the use of public toilets, which contributed to loss of revenue that could have been obtained from the provision of toilet service.

Additionally, the Auditors noted that 16 out of 25 visited markets had inadequate management of solid wastes. Fifteen of these markets were managed by LGAs and 10 markets had their services outsourced. This solid waste mismanagement was caused by untimely removal of waste from the markets, presence of collapsed waste storage bay, inadequate design of the waste storage bay and inadequate management of contracts.

The Audit Team found out that, eleven (11) out of twenty five (25) markets had no drainage structures to prevent storm water stagnation in the markets and runoff. Also six (6), out of fourteen (14) markets had deteriorated drainage system since they were not being periodically maintained.

Furthermore, insufficient sanitation facilities were located in urban areas markets compared to the rural areas. It was observed that, in urban areas there was high ratio of latrines to the number of vendors; 716 vendors to one toilet compared to 169 vendors to one toilet in rural areas. This was caused by improper control of infrastructures in both established markets and on expansion.

#### ***Inadequate Enforcement of Hygienic Controls and Standards***

The Audit found out that there was little enforcement of standards and controls as observed in 16 out of 25 visited markets. Traders were still displaying their food products on the floor contrary to the Public Health Act and its associated Regulations. Zoning was not adhered to in 17 markets which were observed to have no proper arrangement of traders with respect to their food products.

There was no evidence to show that traders in 21 out of 25 visited markets had health checkups. Regular checkups were done to traders who sell cooked food but not to traders who sell vegetables and other high-risk food products. The Public Health Act did not explicitly mention other traders such as vegetables vendors who should also have

frequent health checkups. This was attributed to ineffective operations of Health Officers caused by lack of inspections, lack of inspection checklist and absence of stationed Health Officer in markets.

The Audit Team found that four (4) out of ten (10) visited LGAs had plans for inspection but they did not cover the markets. However, through review of quarterly reports, four (4) LGAs reported inspection on the markets. The four LGAs were Ilala MC, Temeke MC, Kongwa DC and Mbarali DC. Inadequate inspection in markets was attributed to inspection being unsystematically conducted and lack of specific inspection checklist for Food Markets hygiene other than supermarkets.

Non- administration of sanctions and penalties was evidenced through review of quarterly reports where only three (3) out of ten (10) LGAs, that is Dodoma CC, Ilala MC and Ilemela MC, were able to show the evidence of penalties imposed on traders for their misconduct.

Through review of quarterly reports, the Audit Team noted that four (4) out of ten (10) visited LGAs conduct periodical awareness campaign to vendors to ensure general understanding of hygiene practices in markets. Those LGAs were Mbeya CC, Dodoma CC, Ilala MC and Ilemela MC. This was caused by lack of planning and non-prioritization of market hygiene matters.

#### **Inadequate Efforts by PO-RALG to Enhance Hygiene in Food Markets**

PO-RALG stationed only 15 Health Officers in different areas of Dar es Salaam Region, this effort is inadequate given the magnitude of hygiene conditions of the markets. Supportive supervision was based on schools open spaces and households only, and there had been no such supervision in the markets.

#### **Inadequate Monitoring and Evaluation in Managing Hygiene Practices in Food Markets**

The audit noted that there is inadequate monitoring on market activities by LGA, RS and PO-RALG despite its importance on public health. In the visited 25 markets there was no evidence of monitoring have been conducted by LGAs and RS. Furthermore, PO-RALG did not have performance indicators on assessing market hygiene.

Inadequate monitoring by RS and PO-RALG was due to ineffective mechanisms for monitoring and evaluation of hygiene in food markets,

lack of relevant performance indicators in place to evaluate hygiene issues in food markets and lack of proper reporting mechanism in place to facilitate communication and smooth flow of information between LGA and PO-RALG and vice versa.

### **Overall Audit Conclusion**

Based on the findings and as assessed by overall objective of the audit; it is concluded that the President's Office - Regional Administration and Local Government did not adequately address the management of hygienic practices in food markets to ensure security and safe delivery of food and food products to the public. This was evidenced through the visited markets which were found to have unsatisfactory hygienic conditions. Necessary infrastructure in food markets with satisfactory hygienic conditions such as drainage system and liquid waste system were not in place. Markets storage bays and skip buckets had overflowing waste and the area around the skip buckets turned out to be a dumping place since large quantities of wastes remained unremoved.

### **Recommendations**

The audit issued the following recommendations to be implemented by PO-RALG in order to improve performance in the management of controls of hygiene in food markets:

***The President's Office - Regional Administration and Local Government should:***

- 1) Enhance efforts to improve hygiene practices in Food Markets;
- 2) In collaboration with the Ministry of Health, Community development, Gender, Elderly and Children develop guidelines and checklists for inspection of hygiene requirements in the Food Markets;
- 3) Conduct adequate needs analysis on hygiene requirements during establishment and expansion of Food Markets;
- 4) Ensure presence of comprehensive by-laws and application of sanctions and penalties to defaulters; and

- 5) Ensure availability of a structured monitoring plan with adequate performance indicators on hygiene practices in Food Markets at LGA, RS and PO-RALG.

***The President's Office - Regional Administration and Local Government should ensure that Regional Secretariats have:***

- 1) Adequate monitoring mechanism on hygiene in Food Markets;  
and
- 2) Enhance control over establishment of Food Markets.

***The President's Office - Regional Administration and Local Government should ensure that Local Government Authorities have:***

- 1) Adequate plans and budgets for infrastructural development of Food Markets;
- 2) Adequate control over establishment and expansion of Food Markets; and
- 3) Proper coordination between important market stakeholders such as Councilors, Executives, Market Administration and Market Committee

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of the Audit

Majority of world's populations live in urban areas. This is resulted by rapid growth of cities and peri-urban areas over the past few decades, particularly in developing countries.<sup>1</sup> This has overwhelmed the capacity of many urban and peri-urban Local Government Authorities (LGAs) to provide basic health and environmental services through improved infrastructures such as better food markets, which are minimum prerequisites for a healthier population.

Food markets have become an important source of affordable food for millions of people in many communities. This is because communities depend on food markets for acquiring nutritious and healthy foods. Food markets vary greatly from country to country and even from society to society, depending on the local culture, socio-economic conditions, food varieties and dietary preferences. However, all food markets should have one major thing in common - they should provide the community with safe and nutritious food<sup>2</sup>.

That being the case, proper hygiene controls of food markets are vital to ensure that community members get services from these markets that ensure safety to their health. While food markets are reliable sources of healthy food and survival of the people, they can as well be the source of disease outbreaks unless hygiene controls are adequately established and strengthened.

A World Health Organization Guide on Promoting Food Handling (2012)<sup>2</sup> described that each year, 1 in 10 people get ill by eating unsafe food.<sup>3</sup> Foodborne diseases such as diarrhoea are one of the most common illnesses worldwide. In developing countries, 1.8 million children under the age of five die each year because of diarrhoeal related diseases. Up to 70% of those cases may be attributed to foodborne pathogens<sup>4</sup>

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<sup>1</sup> WHO: A guide to Healthy Food Markets 2012

<sup>2</sup> Ibid

<sup>3</sup> WHO guide on Promoting safe food handling

<sup>4</sup> WHO: A guide to Healthy Food Markets 2012

In Tanzania, the situation is not different since hygiene control in food markets seems to be weak as reported in the Citizen Newspapers on 21<sup>st</sup> May 2018 that, Kariakoo, Tandale, Buguruni and Tandika Food Markets in Dar Es Salaam region are so filthy that they pose a health hazard for both traders and shoppers.

The Government, however, has made efforts to ensure proper hygiene controls in food markets by establishing various guidelines to control food products at different stages of supply chain including at point of sales having good infrastructures, appropriate system for liquid and solid waste management, cost sharing for maintaining cleanness, etc. Like in many other public places, potential WASH services<sup>5</sup> provision and controls in Food markets through are not prioritized compared to levy collection and management structures of these markets. Water supply, sanitation and hygiene is rarely planned for or adequately budgeted for.

## **1.2 Motivation for the Audit**

The audit was motivated by the following factors:

### ***(i) Importance of Food Market to People's Health***

Food markets should provide the community with safe and nutritious food. Working towards the “Vision of Health Food Market” ultimately means better health and nutritional status to everyone in the community. Many health problems that affect people in many cities are aggravated by rapid urban growth of unplanned and under financed areas. These unplanned urban growth overwhelm local government authorities’ capacity in providing basic health and environmental services and infrastructures including better markets<sup>6</sup>.

A growing number of people in cities are stressed and exposed to health problems such as communicable diseases resulting from inadequate hygiene of the Food Markets. Access to safe food is essential for life and is indeed the foundation for health.

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<sup>5</sup> Water supply, Sanitation and Hygiene

<sup>6</sup> WHO, Guide to Health Food Market, 2012

Lack of water supply for general cleaning and WASH services to facilitate hygiene in markets is one of the major factors in eruption of communicable diseases.

***(ii) Promotes the Sustainable Development Goals***

Health markets ensure the attainment of Sustainable Development Goal (SDG) of health lives and well-being through target 3.3 which aims to combat communicable diseases. According to World Health Organisation reports, 60% of Outpatient Department treatment (OPD) cases are associated with poor hygiene of Food Markets. Improving hygiene condition of the Food Markets will contribute to healthy lives.

Health markets which ensure sanitation and proper waste management would promote SDG numbers 6 and 11 which insists on improved WASH and that cities and human settlement be inclusive, safe resilient and sustainable, respectively.

***(iii) Unsatisfactory Hygiene in Food Markets***

A report uploaded on PO-RALG's website dated 25<sup>th</sup> January 2020 reported complains about unsatisfactory cleanliness at Sabasaba Market in Dodoma City. It was reported that large quantities of debris remained uncollected in the market and was considered to endanger the health of business people and the general public. The Minister of State, PO-RALG instructed the City Executive Director to ensure the market's infrastructures are renovated and upgraded. The Minister insisted that the Dodoma City Council should ensure that the Market is repaired, and sanitation system is satisfactory to protect the health and safety of business people and the public.

Another report by the Nipashe Newspaper of July 2017 described that many markets in the country have unsatisfactory hygiene conditions due to contamination caused by wastes. This in turn endanger health of consumers and businesses situated within the market vicinity. Many foods in the markets are said to be contaminated especially during the rainy season because of poor infrastructure that does not allow water to flow or run efficiently.

***(iv) Increased Existence of Uncollected Garbage***

Most food markets in Tanzania have piles of solid wastes as reported in the Citizen Newspapers on 21<sup>st</sup> May 2018 that, "it is particularly worrisome that garbage is ever present to the extent of becoming synonymous with food markets, which attracts thousands of people

daily”. This situation poses health hazards to both traders and customers.

Many food markets have been dumps for the uncollected solid waste. Since waste were not collected for an extended period, the markets have become dynasties of cockroaches, flies, beetles, mouse faeces and sometimes carcasses.

For example, most of the residents of Ilala District rely on the Buguruni food market for various food products and daily necessities. This market is estimated to have 3000 taxpayers with a tax rate ranging between 300 and 400 shillings a day, thus amounting to 27 million shillings per month. Despite the high revenue collection, the market infrastructures had remained unimproved for several years.

### **1.3 Design of the Audit**

#### **1.3.1 Audit Objective**

The main audit objective was to assess whether PO-RALG, through Local Government Authorities have adequately managed hygienic practices in food markets to ensure safe delivery of food products to the public.

Specific objectives were to assess whether:

- a) There are adequate controls in place to support hygiene practices in food markets and if they function as expected.
- b) Food market infrastructures and WASH<sup>7</sup>systems are functioning well to support hygiene requirements.
- c) Enforcement of hygiene controls and standards governing food markets are adequately done; and
- d) There is adequate Monitoring and Evaluation of LGAs’ performance in managing hygiene practices in food markets.

The detailed audit questions and sub-questions are presented in **Appendix 2.**

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<sup>7</sup> Water, Sanitation and Hygiene

### 1.3.2 Assessment Criteria

To assess the adequacy of measures for controlling hygiene practices in food markets, assessment criteria were drawn from different sources such as Policies, Legislations (Acts, Regulations and By-Laws), Guidelines, Standards, Good Practices and Strategic Plans of PO-RALG.

The following are the assessment criteria for each of the specific audit objective:

#### ***Status of Hygiene in Food Markets***

According to the Local Government (District Authorities) Act No. 7 of 1982, the main function of LGAs is to safeguard and promote public health including the prevention of and responding to any outbreak or the prevalence of any disease in their area of jurisdiction.

In order to improve health and social welfare of the community, PO-RALG is required to put in place effective Monitoring and Evaluation system at all levels where the critical issues regarding hygiene will be prioritized. Similarly, PO-RALG is required to ensure that programmes for health and environmental hygiene in Regional Secretariats (RSs) and LGAs are well-coordinated. This is according to the PO-RALG's Strategic Plan (2016/17 - 2021/22).

Food and Agriculture Organization (FAO) of the United Nations Guidance on hygiene and safety in the Food Retail Sector produced on 2014 to 2016 insist that all Food Markets should have the following features;

- a) The stalls and work surfaces and equipment should be kept in an adequate state of repair so as not to contaminate the food because of chipping surfaces, loose nails or breakages. All food contact surfaces should be cleaned at regular intervals and disinfected at least once a day.
- b) Floors and surrounding areas should be thoroughly cleaned at least daily.
- c) Water supply Authorities and quality vendors should ensure that enough supply of potable water is always available. Every vendor should at all times take appropriate measures to keep his/her stall free from animals (e.g. cats and dogs) and pests (e.g. rodents or insects) to prevent contamination of the food.

- d) Waste material should be handled in such a manner as to avoid contamination of food and/or potable water. Wastes should not be accumulated and should be removed from the working area of the stall as often as necessary and at least daily.
- e) Solid waste should be properly disposed of in suitable containers that are secured with tight fitting lids or placed in waste bins or central waste/ garbage bins. Waste liquids should only be discharged in drains/ sewers and not on the roadside. Immediately after disposal of the waste, receptacles used for storage and any equipment that has encountered the waste should be cleaned thoroughly.
- f) The waste storage area should also be emptied and cleaned daily. Only appropriate and suitable sanitizing agents should be used. In areas without a garbage collection service, solid waste is to be disposed of in a sanitary manner, as recommended or approved by the competent authority.

### ***Controls to Support Hygiene Practices in Food Markets***

The Local Government Authority is required to establish and erect markets, market buildings and market infrastructures on land allocated to the Council for the purpose of ensuring safe provision of food to the community and to maintain and control such markets. The market infrastructures include market building with installed selling portions, proportional sanitary conveniences such as toilets, urinals, hand washing facilities and bathrooms.

This is according to the Local Government (District Authorities) Act, 1982. Furthermore, the same Act mandates LGAs to manage, control, and regulate all markets in their areas of jurisdiction. Additionally, LGA is therefore supposed to ensure that each market has a committee and assign it an Officer to be in-charge of monitoring and coordinating all administrative as well as hygienic standards in that market.

The same Act also conferred the responsibility of making by-laws on food markets that are applicable throughout its area of jurisdiction, and to consider and approve by-laws made by lower levels such as village councils.

WHO, Guide to Healthy Food Markets (2006) requires that on operational environment the food markets should have a functioning administrative system including food inspection and analytical services.

The same guide provides for markets operation to be zoned in order to be more effective in protecting selected commodities from contamination. Live animals and raw foods of animals' origin should be separated from ready-to-eat food to avoid cross-contamination.

***Presence of Standard Infrastructures and Sanitation System to Ensure Hygiene in Markets***

The Public Health Act, 2009 requires that LGA should issue a permit or license for markets establishment once the market meets conditions for issuance of a permit. Therefore, the building plans of the market must be approved only when the necessary health requirements have been complied with, including compliance with health regulations pertaining to the type of trade to be conducted.

The Public Health Act, 2009 requires the Ministry of Health (A Sector Ministry) to formulate regulations that guide the mandatory installation of WASH services at food markets as integral parts/free services, a pre-requisite market operational requirement, and NOT as cost sharing services<sup>8</sup>.

The Water Supply and Sanitation Act of 2009 together with the Public Health Act, 2009 requires the Government Authorities responsible for hygiene and sanitation including LGAs to establish strategies to promote and improve hygiene practices in public places, food markets being among them. One of the main functions of LGAs in public places is to establish, install, build, maintain and control drains, latrines, public lavatories, baths and wash places. Others include to establish, maintain, operate and control drainage and sewerage works. This is as prescribed by the Local Government Act, 1982.

According to the directives issued by the PO-RALG, each LGA is required to set aside 15% of total revenues generated from market sources and use them to finance market activities including infrastructure development, maintenance and sanitation.

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<sup>8</sup> Commonly known as Vyoo vya kulipia

According to WHO a guide to Health Food Markets (2012), the development of food markets is often fastened by the Government at times assisted by infrastructure investments.

FAO Public Health requirement requires that main features for the design and construction of a well- designed market which promote public health at the market includes; markets selling stalls with minimum of 3.5m aisle between stalls that ensures food safety and movement between traders, floor pavement may be of paving blocks or concrete floor that ensures easily cleanliness, drainage located around the traders premises and connected by small outlets drains to collect liquid wastes towards the collection points.

According to best practice from London Local Authority Act of schedule 1 to the Building Regulations 2010 approved document H, requires solid waste collection point to be placed at maximum 30m from the traders' premises, provide raised impervious platform for skip buckets, storage area not interfere with pedestrian and vehicles should have access to buildings. Furthermore, for masonry constructed solid waste collection chamber it should have a minimum height of 2m to accommodate enough volume of waste.

According to FAO public health requirements, specification for better design of toilets services entails type of pits present which are W/C, type of floor, water supply, hand washing, adequate ventilation, adequate septic tanks, and distance from traders' area should be 50m preferably and number of users to pit ratio. The requirement for maximum number of users per one toilet pit is 25 users.. Offloading area should have a proper pavement floor and ramps to support offloading activities.

### ***Enforcement of Hygiene Controls and Standards Governing Markets***

According to the Local Government Act, 1982; LGAs, subject to the consent of the responsible Minister, can make and enforce by-laws designed to foster and maintain the health, safety and well-being of the inhabitants of its area of jurisdiction.

Furthermore, through the same Act, LGAs are required to establish, regulate, and control markets, regulate and control trade therein, construct market buildings, and let stands or plots in such markets;

prohibit, regulate, or control trade conducted in the established markets.

Section 149 of the Public Health Act of 2009 requires LGAs to make by-laws requiring provision of water for improved hygiene and prescribing for goods which may be sold and other specific conditions, conditions under which goods may be brought into the markets, shops and supermarkets, layout of stalls for sale of different articles, proper management of markets, and setting of times and days of operations.

The same Act requires that, contractor or any person who undertakes the removal, transportation, and disposal of waste from a public place to provide a skip bucket, sanitary land filling, transfer station or approved covered containers for holding and transportation of waste prior to disposal.

According to WHO, Guide to Healthy Food Markets (2006) Consumers should be educated on Safer Food, education and training based on avoid contamination, keep clean, destroy hazards when possible, minimize growth of microorganisms in food, use of safe water and raw materials.

### ***Mechanisms for Monitoring and Evaluation of Hygiene Controls in Food Markets***

The Monitoring and Evaluation Framework of the Government requires that whenever M&E is planned to be conducted, then Key Performance Indicators should be put in place. This component includes outcome, output, process and input indicators.

Also, in the strategic planning process, MDAs and LGAs are required to develop a results framework that will include outcome, output, process, and input indicators that will form the basis of day-to-day M&E work of the MDAs and LGAs.

The PO-RALG's Strategic Plan (2016/17 - 2021/22) requires that in order to improve the health and social welfare of the community, effective Monitoring and Evaluation system should be put in place at all levels where critical issues regarding hygiene will be part of it. Moreover, institutions that had undergone M&E and key stakeholders should be issued with M&E report including recommendations for improvement

with an intention to ensuring that they address them for further improvements.

The Public Health Act, 2009 require authorities responsible for market management to strengthen the management and monitor: (a) institutional arrangement (b) sanitation, hygiene, and food safety services.

According to WHO, Guide to Healthy Food Markets (2006) one of the most important lessons learned from various healthy settings initiatives has been the need to monitor and evaluate progress of food markets. Each food market in the community must set its own short-, medium- and long-term objectives and indicators of success at the outset. Indicators should not only be set for the continuous self-monitoring of the food market.

### **1.3.3 Scope of the Audit**

The main audited entity was the President's Office - Regional Administration and Local Government (PO-RALG) as it is responsible for supervising all matters related to overall public health and food hygiene in market places in the country. The audit also covered Local Government Authorities that own food markets and responsible for building and maintaining food markets in their areas of jurisdictions.

The Audit focused on efforts undertaken by the government to ensure hygiene practices are instituted and adhered to in food markets. This included looking at the adequacy of controls in place to support hygiene practices in food markets, infrastructures, and sanitation system to support hygiene requirements, enforcement of hygiene controls and standards governing food markets and adequacy of monitoring and evaluation conducted to evaluate performance of LGAs in this area.

With regard to controls to support hygiene practices in food markets, the audit covered control procedures for food handling, presence of by-laws and regulations, procedures for registration of vendors, zoning, and operations of market committees and inspections conducted in food markets.

The Audit covered formal and informal food markets. Formal markets are those established with the consent of LGAs with appropriate

infrastructure while informal markets are those that emerged in different areas without formal consent and initial plan of the respective LGAs. Within formal food markets, the Audit covered specialized markets (markets selling specified products) and mixed markets (markets selling diverse types of food products and other non-food products).

The Audit covered four (4) financial years from July 2016/17 to June 2019/20. This period was earmarked since it provided performance trend of hygiene control as performed by PO-RALG through LGAs, and during that period, there were reports on increased poor hygiene practices in food markets.

### **Sampling Method for Data Collection and Analysis**

Various methods for sampling, data collection and analysis used by the audit team are presented below:

#### **i) Sampling Methods**

Non-probability sampling method was used to select Regions, LGAs and Markets that were visited. First, regions were ranked based on the seven geographical zones which are Eastern, Western, Northern, Southern, Southern Highlands, Lake and Central zones. Considering the fact that the major factor for establishment of a market is the population size in the respective area, then regions within a specified zones were ranked based on their population. In those areas, food markets serve a large population and thus many people are at high risk of communicable diseases due to inadequate hygiene measures in the food markets.

The population size was therefore, considered to be one among the good determinants of the sampled Regions, LGAs and the markets. Markets like other social services are established based on the population in the catchment area and the need for that service. Hence, the higher the population the higher the need for a market. Moreover, hygiene conditions of the market serving a larger population is of public interest in order to maintain public health.

According to WHO Guide to Health Markets (2016), markets have been associated with major outbreaks of diseases including Cholera, SARS and

Avian Influenza<sup>9</sup>. Additionally, the National Health Policy stated that, about 60% of the Outpatient Diseases Departments (OPD) in the country have been reported to have diseases connected to hygiene issues, most of which emanated from hygiene conditions that can be associated with inadequate hygiene in food markets.

Zones were therefore grouped into three major categories namely; zones with High, Medium and Low population. Consequently, out of 7 administrative zones, 5 were selected based on the size of the population. The selected zones were Lake, Eastern, Western, Southern Highlands and Central Zone.

Five Regions were selected upon meeting a combination of criteria that includes:

- a) High number of populations; and
- b) Presence of specialised food markets.

Therefore, three highly populated regions were selected from each of the three highly populated zones while one medium populated region was selected from the medium populated zone and the least populated region was selected from the lower populated zone.

Based on the above criteria, 5 regions which selected were Dar es Salaam, Mwanza, Mbeya, Kigoma and Dodoma.

10 LGAs were selected from the five regions with the consideration of the following two main factors, namely:

- a) LGAs with specialized market; and
- b) LGAs with a high number of food markets.

In this regard, the 10 selected LGAs were Mbarali DC, Mbeya CC, Sengerema DC, Ilemela MC, Dodoma CC, Kongwa DC, Kigoma Ujiji MC, Kibondo DC, Ilala MC and Temeke MC.

Regarding the food markets, two cases (markets) were selected and covered from each visited LGA. The markets were comprehensively studied to get a clear picture on hygiene control in food markets. This selection was made in such a way to ensure that all kinds of food markets i.e. formal and informal were covered. Similarly, with formal

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<sup>9</sup> WHO: A Guide to Health Food Markets, 2016

and informal markets, specialized and mixed products food markets were covered. One formal and informal market which serve many people were also selected in consultation with Trade and Health Officers from a particular LGA. In total, 20 food markets were covered i.e. 10 formal markets and 10 informal markets. In addition, 5 specialized markets were covered as well.

## **ii) Methods used for Data Collection**

The Audit Team used three methods to collect information from the audited entity and other stakeholders. These methods include *interviews, document reviews, and observations* as detailed below:

### **(a) Documents Review**

The Audit Team reviewed documents from PO-RALG, 5 Regional Secretariats, 10 selected LGAs and 25 selected food markets to get comprehensive, relevant, and reliable information about performance of LGAs on hygiene control in food markets.

Reviewed documents from the audited entity were within the period under audit i.e. from July, 2016 to June, 2020. These documents included planning documents, performance and progress reports, registers of vendors, monitoring and evaluation reports. The list of documents that were reviewed is appended as **Appendix 3**.

### **(b) Interviews**

Interviews were held with officials from PO-RALG, RSs LGAs and managers from selected food markets to gain insights and clarification on the information regarding practices and challenges on hygiene control in food markets. Furthermore, interviews were held to validate information from the reviewed documents. The list of officials interviewed is appended as **Appendix 4**.

### **(c) Observation**

The Audit team visited 25 markets in the five regions of Mbeya, Dodoma, Mwanza, Kigoma and Dar es Salaam. Notes were taken on the observed hygiene conditions based on the established checklist and pictures were taken on the observed infrastructure and market facilities.

The Audit team also observed status of the market infrastructure in relation to hygiene controls; cleanliness during the operations; sanitation system and facilities; the status of key infrastructures such as number of toilets, hand washing facilities, selling plots, liquid and solid waste management structures.

### **iii) Methods of Data Analysis**

The Audit team used both quantitative and qualitative data analysis. *Quantitative data* collected through interviews and document reviews were summarized and compiled using different statistical methods for data computations and analyzed using excel spreadsheet.

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

Depending on the number of interviews and documents reviewed, information was transformed into quantitative data by going through interviews/documents to see how many of them included a positive or negative statement about a certain issue, or how many have made similar statements. Calculations were made, expressing the percentage of reviewed documents or interviews that included a particular type of a statement.

## **1.4 Data Validation Process**

The President's Office-Regional Administration and Local Government were given the opportunity to go through the draft audit report and comment on the figures and information presented. They confirmed on the accuracy of the figures and information being presented in this audit report.

Furthermore, the information was cross-checked and discussed with experts on the field of public health to ensure validation of the information obtained and presented.

## **1.5 Standards Used for the Audit**

The Audit was conducted in accordance with the International Standards of Supreme Audit Institutions (ISSAIs) issued by the International Organization of Supreme Audit Institutions (INTOSAI). The standards require that the audit be planned and performed in order to obtain sufficient and appropriate evidence to provide a reasonable basis for findings and conclusions based on audit objectives.

## **1.6 Structure of the Audit Report**

The subsequent sections of this report cover the following chapters:

**Chapter Two** presents the system, policy, legal frameworks, roles, and responsibilities of key players involved in managing hygiene practices in food markets.

**Chapter Three** presents the audit findings based on the specific objectives of this audit.

**Chapter Four** provides audit conclusions.

**Chapter Five** outlines recommendations to be implemented towards improving hygiene conditions in food markets.

## **CHAPTER TWO**

### **SYSTEMS FOR CONTROLLING HYGIENE PRACTICES IN FOOD MARKETS**

#### **2.1 Introduction**

This chapter presents systems for controlling hygiene practices in food markets in the country. It covers policy and legal frameworks governing hygiene controls in food markets, roles and responsibilities of key players involved in implementing and monitoring hygiene practices in food markets.

#### **2.2 Policy and Legal Framework**

There are Policies, Laws, Regulations and Guidelines, which govern the management of hygiene practices in food markets in the country as explained below:

##### **2.2.1 The National Health Policy, 2007**

The draft National Health Policy provides the framework for proper operations and control on sustainable sanitation hygiene and food safety as among the inter-sectoral health issues. One of the specific objectives of the Policy is to attain inter-sectoral collaboration and sustainable sanitation, hygiene, and food safety.

In attaining sustainable sanitation, hygiene and food safety, the government planned to:

- a) Enhance public private partnership on promotion of food safety, sanitation and hygiene services;
- b) Strengthen coordination, institutional arrangements and framework for sanitation, hygiene and food safety services;
- c) Enforce laws and regulations related to food, sanitation and hygiene; and
- d) Improve systems for sustainable implementation of sanitation and hygiene.

The Policy also acknowledges that despite government efforts in strengthening sanitation, food safety and hygiene services, weaknesses still exist in several areas. Observed weaknesses included; (a) absence

of improved latrines which satisfy health requirements, (b) inadequate management of waste, (c) insufficient capacity and resources to provide and sustain sanitation and hygiene services at public places including markets and (d) scarce enforcement of laws and by-laws.

### **2.2.2 Laws and Regulations Governing Hygiene Control in Markets**

Control of hygiene in markets is mainly governed by three main statutes namely, the Public Health Act, 2009; the Environmental Management Act, 2004; and Local Government (District Authorities) Act, 1982.

#### **(a) The Public Health Act, 2009**

The Act provides the basics for managing all health issues in the country. It stipulates the roles and powers of different actors regarding hygiene control in markets. Public Health Act addresses health issues such as food hygiene, sanitation, sewage, and liquid waste management including stipulated roles and responsibilities of the Ministry of Health, PO-RALG and LGAs.

The following roles are stipulated in the Act regarding control of food hygiene:

- (a) Approve the plan for establishment of markets based on the needs established in respective area;
- (b) Oversee the establishment of by-laws governing respective markets;
- (c) Ensure the raised market infrastructure are in conformity with standards of required infrastructure that supports hygiene practice; and
- (d) Monitor adherence of hygiene guidelines in the overall operation of markets.

In addition, sections 72 (i) and 149 of the Act gives powers to the Minister to make regulations for sanitary control of marketplaces and market buildings.

#### **b) Environmental Management Act, 2004**

The Act provides the basis for managing solid and liquid waste whereby each Local Government Authority is required to undertake periodic studies to determine the type of wastes generated from markets, business areas, and appropriate method(s) for sorting, storage, or disposal of the determined waste.

The following roles regarding control of waste in marketplaces are stipulated in the Act.

- (a) Design proper infrastructure for liquid waste.
- (b) Establish proper system for collecting and disposing solid waste.
- (c) Undertake periodic studies to determine the type of solid wastes generated from markets.
- (d) Determine appropriate methods for waste sorting, storage, or disposal.

#### **c) Local Government (District Authorities) Act, 1982**

According to the Local Government (District Authority) Act of 1982, the Local Government Authority is responsible for establishing and erecting markets and their buildings on land allocated to the LGA for provision of market services to the people and to maintain and control such markets and buildings.

#### **2.2.3 Specific By-laws on Health and Environment**

Local Government Authorities have enacted by-laws to guide activities in their areas of jurisdictions. By-laws which guide LGAs on health and environmental related matters are used to manage hygiene related issues in food markets.

Through the analysis of LGA's by-laws on health and environment it was noted that the LGAs were tasked with the responsibility for the control of food hygiene in market, and were required to clarify on;

- a) How hygiene practices should be implemented and enforced.
- b) Penalties and punishment for defaulting the by-laws; and
- c) Roles and responsibilities of different departments in dealing with collection and disposal of waste in the implementation of hygiene practices in their respective LGAs.

## **2.3 Roles and Responsibilities of Key Players**

### **2.3.1 President's Office - Regional Administration and Local Government (PO-RALG)**

PO-RALG is the ministry that oversees the implementation of all activities discharged by RSs and LGAs. It is a link between sector ministries, RS and LGAs. In discharging its responsibilities regarding management of Food Markets in the country, PO-RALG is mainly using its 2 Departments namely; (a) Local Government Department, and (b) Health Department. The Department of Local Government is responsible for overseeing the establishment of markets in Local Government Authorities including enforcement of laws and regulations regarding markets while the Health Department is responsible for monitoring hygiene in the markets.

In general, PO-RALG has the following roles as far as the control of hygiene in food markets is concerned.

- (a) Overseeing the implementation of environmental and health policies, regulations and guidelines.
- (b) Provide supportive supervision to LGAs in planning and budgeting for hygiene related activities.
- (c) Monitor overall implementation of all environmental and Health Departments in LGAs to ensure adherence to the set standards; and
- (d) Support LGAs in setting by-laws for governing hygiene practices in their areas.

### **2.3.2 Regional Secretariats (RSs)**

Regional Secretariat is a Regional Authority that provides for strengthening and promoting the local government system.

The main roles of Regional Secretariat in hygiene control are to:

- (a) Oversee all activities in LGAs including coordinating and receiving various guidelines and directives from PO-RALG and communicate them to LGAs;
- (b) Provide supportive supervision on all matters regarding hygiene control in food markets; and
- (c) Ensure LGAs budgets for the administration and development of market infrastructures in accordance with the stipulated regulations as well as health and hygienic standards.

### **2.3.3 Local Government Authorities**

LGAs are the owners of most food markets in the country. The Department of Health (through Environmental Health Section) and the Department of Environmental Cleansing in LGAs are responsible for ensuring hygiene in food markets and solid waste management, respectively. Section 11(8)(6) of the Local Government (District Authorities) Act, 1982 stipulates that LGAs have been given the responsibility to establish, regulate and control markets, trade therein, and construct market buildings.

Generally, these 2 Departments are responsible for:

- (a) Establishing plans for supervision and control of hygiene in food markets.
- (b) Conducting inspections in markets to ensure compliance to all standards and guidelines on hygiene controls.
- (c) Coordinating collection and dumping of solid waste generated in market places.
- (d) Reporting on the hygienic trends to the LGA Directors for decision making and taking corrective measures where deviations are noted; and
- (e) Ensuring proper use of sanitary facilities like toilets and existence of drainages for waste water in food markets.

### **2.3.4 Market Committees**

One of the key administrative pillars for food markets is the Market Committees. The Market Committees is composed of one representative from each product group in the market such as fruits sellers' representative, live birds' representative, grains sellers' representative etc. Other members of the committee include committee chairperson, secretary, and treasury. However, the setup of the market committee may vary from one place to the other.

The main roles of the Market Committee include:

- (a) To operate as a main link between vendors, market management administration and LGA.
- (b) To identify incoming vendors who show interest in trading within the market and conduct due diligence to ascertain their qualities.

- (c) To support the market administration by providing awareness on hygiene practices; and
- (d) To resolve disputes among traders.

### **2.3.5 Private Sector**

The draft National Health Policy of 2017 provides for enhancing Public Private Partnership on the promotion of food safety, sanitation, and hygiene services. This is due to the importance of private actors around information dissemination and public education awareness on food safety, sanitation, and hygiene services.

In Food Markets the private sector therefore has the role of providing:

- (a) Services for collection and dumping of solid waste (this is normally an outsourced service);
- (b) Sanitation services such as construction or managing private toilets in markets places;
- (c) Awareness on proper hygienic practices such as hand washing, etc.; and
- (d) Services in the transportation of food products from farmers to the markets. They ensure that food products are transported to the markets in a manner that comply with hygiene standards.

## **2.4 Resources for Hygiene Control in Food Markets**

### **2.4.1 Funding for the Activities to Control Hygiene in Food Markets**

LGAs collect revenues from the traders. The revenues are generated from daily rental fees paid by the traders for the space they occupy in food markets. The daily rental fees paid by traders range between TZS 500 to 5000. These revenues are collected from the markets by the contracted revenue collecting companies who in return remits collected revenue to the government through LGA. The following table shows revenue and expenditure in food markets in the visited LGAs.

Table 2.1 presents the amount of revenues collected for the period from 2016/17 to 2019/20 in 20 mixed markets and 5 specialized markets that were visited by the audit team. It also shows the amount expended to facilitate hygiene control in food markets. The expenditures involved were those incurred on enhancing water, sanitation, and hygiene in the food markets.

**Table 2.1: Revenue Collection and Expenditure specifically on Hygiene Control in Food Markets (Amount in Million TZS)**

Markets	2016/2017		2017/18		2018/19		2019/20	
	Revenue	Expenditure	Revenue	Expenditure	Revenue	Expenditure	Revenue	Expenditure
Dodoma CC	157	0	249	0	518	0	459	0
Kongwa DC	209	0	379	0	646	0	623	0
Mbarali DC	70	0	44	0	146	0	163	0
Mbeya CC	87	0	101	0	1,128	0	1,232	0
Kigoma Ujiji MC	65	0	15	0	204	0	143	0
Kibondo DC	57	0	47	0	67	0	98	57
Ilemela MC	149	64	154	58	154	24	166	24
Sengerema DC	749	0	748	0	749	0	749	0
Ilala MC	0	0	2626	141	3147	257	3090	72
Temeke MC	572	0	826	0	1281	0	1410	0

*Source: Revenue Collection Reports (2017/18-2017/18)*

Table 2.1 shows that food markets generate revenue from rental charges. However, little is returned for the development of infrastructure as table 2.1 above indicate zero expenditures. The only exception is in Ilemela MC and Kibondo DC whereby part of the revenues was used to finance the development of infrastructures of the markets by building a bridge and payment of electricity and water bills. Likewise, some renovations were done in Mwaloni and in Ilala MC markets.

#### **2.4.2 Staffing Level for Hygiene Control in Food Market**

In managing hygiene in markets, LGAs utilize Health Officers and Environmental Officers. These are available in the LGA's Headquarters and some are located in specific food markets. Table 2.2 provides the number of Health Officers available in the 2 visited LGAs and PO-RALG.

**Table 2. 2: Health Officers Staffing Level for the Whole Chain of Hygiene Control**

Markets	Health Officers		
	Required	Available	Deficit
PO-RALG	3	1	2
Kongwa DC	12	5	7
Sengerema DC	26	17	9
Mbarali DC	25	10	15
Kibondo DC	23	5	17
Mbeya CC	44	20	24
Ilemela MC	52	27	25
Dodoma CC	38	7	31
Ilala MC	140	93	47
Kigoma Ujiji MC	92	10	82
Temeke MC	142	40	102

*Source: PO-RALG's and selected LGAs' Health Officers Staffing Level, 2018/2019*

Table 2.2 shows the existing gap between the needed and available Health Officers in the visited LGAs. Huge gap has been evidenced in Temeke MC followed by Kigoma Ujiji MC whose allocation of health officers was minimal compared to the actual requirement.

#### **2.4.3 Categories of Food Markets**

Markets in the country can be categorized into two major categories based on: (1) *how food markets are established*, and (2) *the nature of food market's operations*.

The following are two main categories of food markets based on the way food markets are established:

- (a) **Formal Markets:** These are markets which are formally established, designed, and constructed based on the established needs such as population of the respective areas and demand for specific product markets. Examples of formal markets are the Mwanjelwa markets in Mbeya and Ndugai markets in Dodoma. They are established by respective LGAs.
- (b) **Informal Markets:** These are food markets which emerge in a locality gradually due to demand for the markets in a particular community and it slowly grows and gets recognized by the Local Government Authority. Example of informal market include Mecco food market in Mwanza.

The following are two main categories of food markets based on the nature of their operations:

(a) **Mixed product food markets:** These are food markets that sell all kinds of food products and other non-food products. Examples of these markets include Kariakoo and Buguruni markets in Dar Es Salaam

(b) **Specialized food markets:** These are food markets which deal with a specific food product together with a few associated products or items such as packing materials. Examples of such markets include Kivukoni Fish Market in Dar Es Salaam and Kibaigwa Cereal Market in Dodoma

## **2.5 System and Process Description for Hygiene Control in Food Markets**

Hygiene Control in food markets involves availability of standardized market infrastructures with adequate management of sanitation, management of both solid and liquid waste, hygienic handling of food products, and defined hygienic practices.

Hygiene issues in the food markets means having adequate sanitary facilities and their management, location, and general layout of the market. Also, it includes having tools, equipment and safety gears for staff involved in maintaining cleanliness of the market, food handling and transportation, maintenance of premises and general cleanness of the surroundings.

### **2.5.1 Basic Layout Structure of Market**

Formal markets are established and managed by the LGAs with consideration of population of a particular area and accessibility of the market to the people. Markets, however, must be established in areas specifically designed and allocated for such purposes.

Basic layout features for formal market in the country include having selling stalls, high roof head wall, and walk-ways enough for at least two people passing, concrete floor, hand washing areas, toilets, solid and liquid waste management infrastructures. Prior to the construction of the food market, the building plan should be approved by the Health Officer to check if the design complies with laid down hygiene standards.

## **Zoning**

Proper hygiene control in food markets include zoning of food products to separate diverse foods such as raw foods, live chickens, and other birds and ready to eat foodstuff such as fruits, etc. Zoning is done primarily with physical barriers to separate and limit access to areas where certain activities within the market are conducted such as slaughtering areas for chickens and other live birds.

In doing zoning therefore, selling stalls are distributed to traders based on the nature of products sold. For example, cereals and grains products are arranged together while vegetables and fruits are also arranged together. This is done to avoid cross contamination of foods and food products. Food zones can be categorized into.

- (a) Fresh fruits and vegetable area;
- (b) Meat, fish, poultry and eggs area;
- (c) Grains and spices area; and
- (d) Sales of cooked food area.

Other non-food sales such as clothing and household goods are grouped in a separate zone.

### **2.5.2 Key Hygienic Issues**

Main issues covered when managing hygiene issues in food markets include.

#### **(a) Overall Market Administration**

Market administration involves presence of administrative personnel in the market to observe health standards and directives that would ensure proper hygiene in food markets. Market administration involves activities such as regular inspections on observance to health guidelines, timely registration of traders in the market, zoning of specific food products and allocating traders to specific zones. Other administrative functions include revenue collection, maintenance, reporting the performance of food markets and general administration.

After the construction or the establishment of a food market, traders elect members from among themselves who, together with Health Officer and Trade Officers form a Market Committee.

The Market Committee is therefore responsible for registration of traders and updating the register of traders that among other purposes serves as key inputs for planning various activities and making decisions considering available number and types of traders in the market. The Market Committee allocates the selling stalls to traders depending on the number of available stalls, versus number of traders with consideration of the type of products that one sells.

#### **(b) Market Infrastructures**

Market infrastructures and related facilities are essential elements for food supply and distribution system. They must be properly planned, maintained, managed and developed to accommodate the rapidly increasing food quantities entering the markets coupled with increasing number of customers.

Market infrastructures to support hygienic conditions in the market include selling stalls, facility for solid and liquid wastes, sanitation infrastructure such as toilets and hand-washing facilities as well as storage facility.

#### **(c) Sanitation**

Sufficient and appropriately placed toilets for both men and women with functional hand-washing facilities are important for both food safety and for maintaining market hygiene. Sanitation system for food markets include:

- a) Adequate water supply (enough quantity and quality) to satisfy the water demand in the food market.
- b) Drainage system appropriately designed to meet the various needs across the food market.
- c) System for sorting and removing solid and liquid waste on a regular basis from vending units.
- d) Amenities like rest areas, changing rooms and designated eating areas which can also serve a dual purpose of promoting food safety and market hygiene.

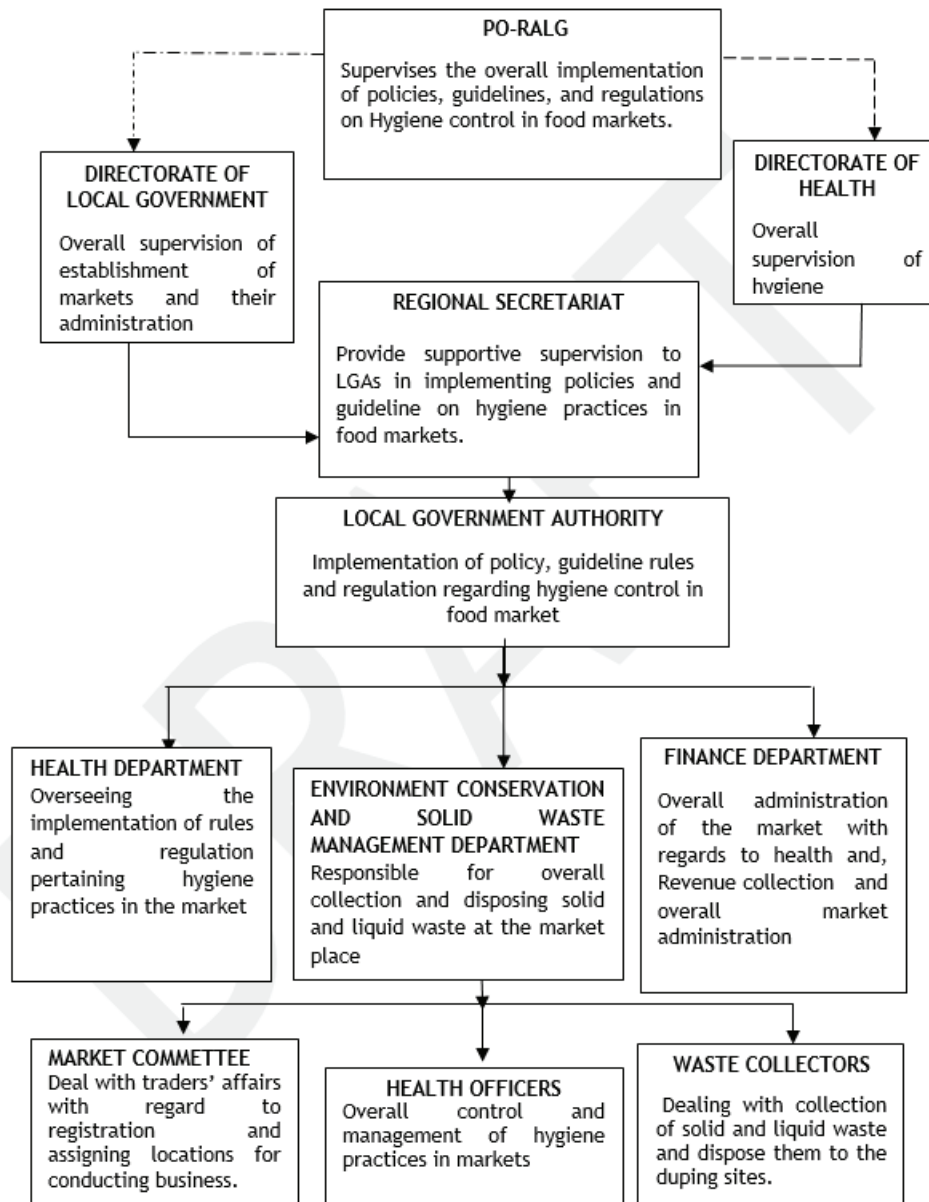
### 2.5.3 Procedures Followed in Controlling Hygiene in Markets

In managing hygiene conditions in food markets there are key procedures to be followed to maintain and ensure continual control of hygiene. These key procedures are:

- (a) Setting up requirements, standards, and processes to be followed in ensuring hygienic conditions. These requirements and processes may include activities such as off-loading of products from vehicles.
- (b) Awareness and communication of key procedures to vendors for them to understand the do's and don'ts of the markets to avoid malpractices against hygiene requirements.
- (c) Inspection of incoming foods as well as conditions of the available foods in the markets.
- (d) Maintaining periodical health checks for fresh food vendors to ensure that they are in good health conditions to avoid the possibility of cross contaminations.
- (e) Coordinate and supervise waste collection at the marketplace and transportation of such to the dumping site; and
- (f) Supervise the social communities engaged or private companies contracted to collect waste from the market to ensure that they perform the agreed duties according to their contracts using proper containers and at the agreed time schedules of collection.

Markets are managed by different stakeholders who play different roles in controlling hygiene practices in their areas of jurisdiction. The relationship among PO-RALG, RSs, LGAs and their respective departments are shown in Figure 2.1 below:

**Figure 2. 1: Diagrammatical Presentation of the Relationship among Key Stakeholders in a Typical Market**



## CHAPTER THREE

### AUDIT FINDINGS

#### 3.1 Introduction

This chapter presents audit findings on the performance of PO-RALG in the control of hygienic practices in food markets in the country. The findings focused on assessing the management of controls of hygiene practices based on audit questions presented in chapter one.

#### 3.2 Unsatisfactory Hygiene Condition in Food Markets

According to the Local Government (District Authorities) Act No. 7 of 1982, the main function of LGAs is to safeguard and promote public health including the prevention of and dealing with any outbreak or the prevalence of any disease in their area of jurisdiction.

The Audit found out that all 25 visited Food Markets had unsatisfactory hygienic condition. From the 25 visited Food Markets, the Audit noted 8 different indicators of unsatisfactory hygienic condition. Table 3.1 presents the analysis of the number of Food Markets per each indicator of unsatisfactory hygienic condition.

**Table 3.1: Indicators of Unsatisfactory Hygienic Condition in Food Markets**

Indicators for unhygienic conditions	Number of Food markets with Unsatisfactory Hygienic Condition
Absence of Drainage Structures	14
Deteriorated drainage structures	8
Deteriorated waste storage bay	6
Presence of uncollected large quantities of waste	14
Inadequate liquid waste structures	6
Absence of zoning	15
Inadequate sanitation facilities	14
Poor arrangement of food on the floor	16

*Source: Auditors' Analysis of the Status of Food Markets (2020)*

### a) Absence of Adequate Drainage Structures

The Audit found that 14 out of 25 visited markets lacked drainage structures as evidenced in photo 1 a and b below. The cause for the absence of drainage structures in 7 out of 14 markets was that they were developed on areas which were not allocated for that purpose, therefore hindering development of market infrastructures. These markets were Sabasaba in Dodoma CC, Jioni in Kigoma Ujiji MC, Jioni in Sengerema DC, Mikaratusini in Kibondo DC, Mecco in Ilemela MC, Tazara in Temeke MC and Gongolamboto in Ilala MC.

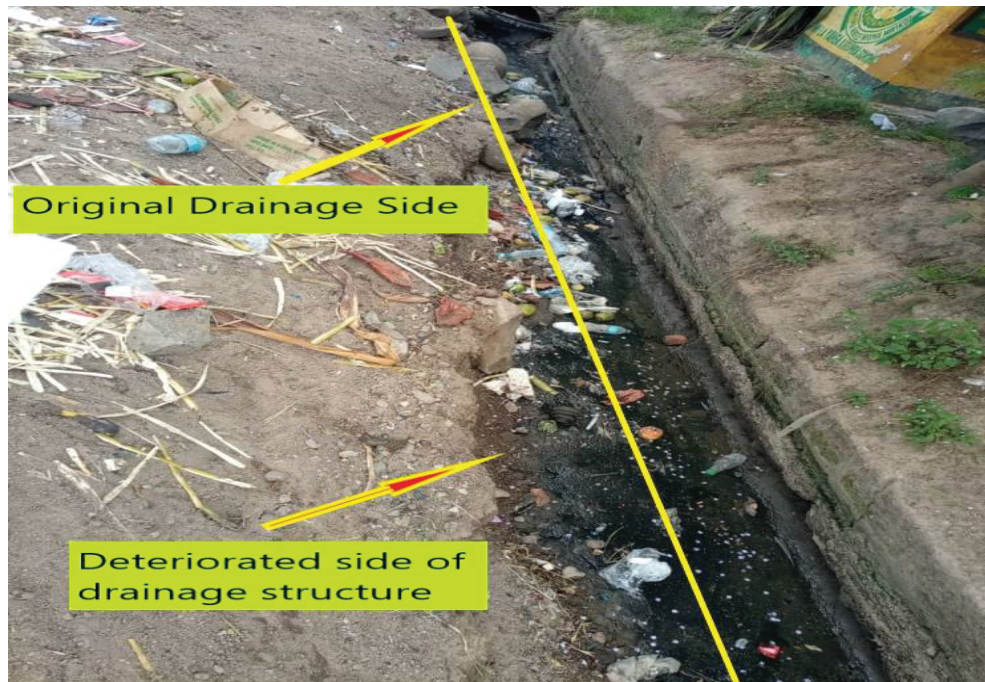
The absence of drainage structures in the remaining 7 markets were caused by non-prioritization of drainage structures development by their Local Government Authority. These markets were Kibaigwa, Kibaigwa Mbogamboga and Kongwa in Kongwa DC, Rujewa in Mbarali DC, Sido in Mbeya CC, Mwanga in Kigoma Ujiji MC and Soko kuu in Sengerema DC.



### b) Deteriorated Drainage Structures

The Audit found out that 8 out of 25 visited markets had deteriorated drainage structures. The drainage structures in these markets were not well maintained (photos 2 a, b). Examples of such markets were Kibirizi

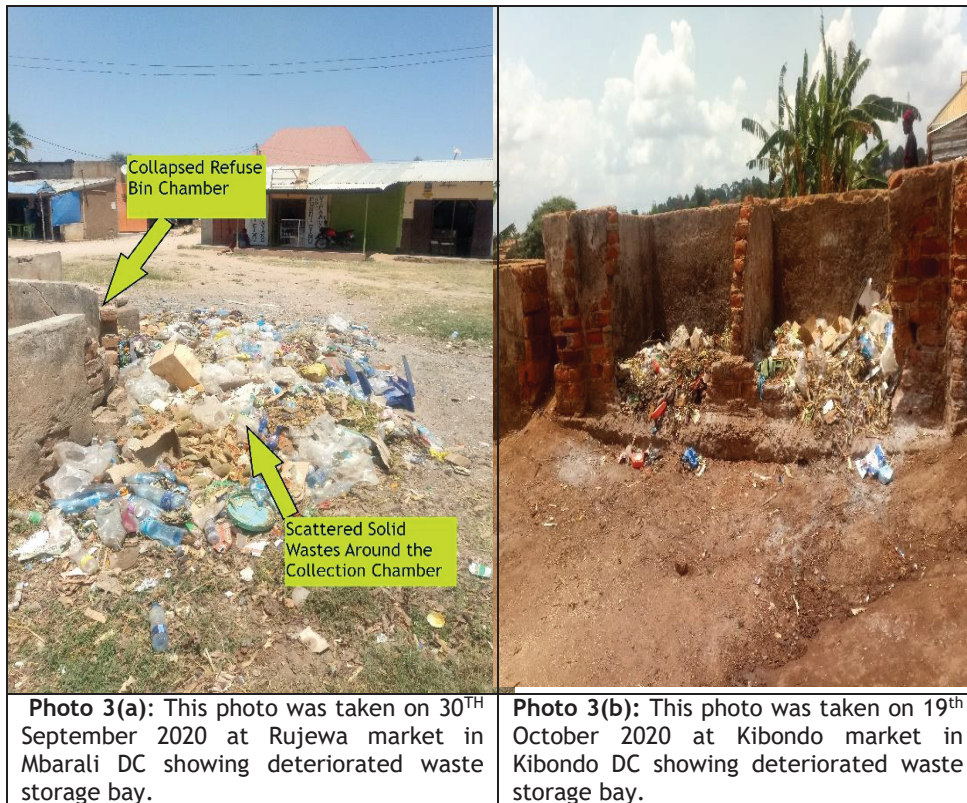
in Kigoma Ujiji and Kibondo in Kibondo DC. The deterioration of drainage structures in 6 out of 8 markets were due to over utilization caused by increase of traders without corresponding upgrading of the drainage structures. These markets were Ilala in Ilala MC, Majengo in Dodoma CC, Soweto in Mbeya CC, Kirumba and Mwaloni in Ilemela MC, and Temeke Sterio in Temeke MC.



**Photo 2:** This photo was taken on 05<sup>th</sup> November 2020 at Kirumba market in Mwanza CC showing deteriorated drainage structures.

### **c) Deteriorated Waste Storage Bays**

The Audit found out that in 25 visited markets, 5 markets used waste storage bay for solid waste collection and 18 markets used skip buckets. Two markets namely Mikaratusini in Kibondo DC and Igurusi in Mbarali DC used landfills. Three out of five markets which uses waste storage bays were found with deteriorated waste storage bays. The markets are; Kibaigwa in Kongwa CC, Rujewa in Mbarali DC and Kibondo in Kibondo DC. Their waste storage bays had collapsed to the extent that solid waste was spreading out as shown in (photos 3a, b). The audit also found that 2 out of 5 markets had waste storage bays with poor design and no maintenance. These markets were Ilala in Ilala MC and Temeke Stereo in Temeke MC.



#### d) Presence of Uncollected Large Quantities of Waste

The Audit found out that 14 out of 25 markets had piles of large quantities of waste (photos 4a, b) caused by inadequate management of collection and transportation to the dumpsites. The management of solid waste was carried out by the LGA themselves in 12 out of 14 markets while in the remaining 2 markets it was outsourced to contractors.



#### **e) Insufficient Liquid Waste Management Structures**

The Audit has revealed that 6 out of 25 markets had inadequate liquid waste management structures. The worst-case scenario was found at Mwaloni market where toilets were overflowing due to blocked sewer. It was reported that no efforts were done to solve the problem although the matter was reported to the responsible authority.

#### **f) Absence of Zoning**

The Audit found out that arrangement of commodities was not based on their nature in 16 out of 25 markets where food stuffs were mixed with other commodities on the same place (photo 5a, b). These markets were Sabasaba in Dodoma CC, Kongwa in Kongwa DC, Rujewa in Mbarali DC, Mwanjelwa and Sido in Mbeya CC, Mwanga and Jioni in Kigoma Ujiji MC, Jioni and Soko Kuu in Sengerema DC, Kibondo and Mikaratusini in Kibondo DC, Kirumba, Mecco and Mwaloni in Ilemela MC, Ilala and Gongolamboto in Ilala MC.

Absence of zoning may lead to cross-contamination of food stuff and thus increase the risk of communicable diseases to consumers. Poor arrangement of food was contributed by poor monitoring and supervision by Health Officers and markets authorities.



#### **g) Inadequate Water, Sanitation and Hygiene (WASH)**

The Audit found out that 11 out of 25 markets were not provided with sanitation facilities; that is provision of clean water, availability of toilet facilities and hand washing areas to guarantee hygienic condition in the markets. Furthermore, 3 out of 11 markets which were located along the road had no provision of water sanitation and hygiene due to absence of infrastructures since they were not on the approved areas. In 8 out of 11 markets, Local Government Authority did not ensure provision of adequate water, sanitation and hygiene facilities. The absence of sanitation facilities was observed for about half of all the markets visited.

#### **h) Arrangement of Food on the Floor**

The Audit found that 16 out of 25 markets had foods arranged on the floor and alongside the drainage structures (photos 6a, b) posing the risk of contamination of foods from harmful germs. These markets were Majengo and Sabasaba in Dodoma CC, Kibaigwa in Kongwa DC, Soweto in Mbeya CC, Kibirizi and Jioni in Kigoma Ujiji MC, Mikaratusini in Kibondo DC, Kirumba, Mecco and Mwaloni in Ilemela MC, Soko kuu and Jioni in Sengerema DC, Ilala and Gongolamboto in Ilala MC, Tazara and Temeke

Sterio in Temeke MC. Despite this situation, it was found that 6 out of 16 markets had deployed Health Officers and 10 out of 16 were served by Ward Health Officers. This means that the health officers are neither providing adequate health education promotion to sellers nor enforcing the laws and by-laws adequately. Other contributing factors includes uncontrolled large number of sellers in the market which exceeds the designed capacity of the market.



### ***3.2.1 Inadequate Efforts by PO-RALG to Enhance Hygiene in Food Markets***

According to the PO-RALG's Strategic plan(2016/17 - 2021/22):- improving health and social welfare of the community and putting in place effective Monitoring and Evaluation system at all levels of PO-RALG were among the critical issues to be considered.

From the review of annual plans of Health Department, the audit noted few efforts by PO-RALG in enhancing hygiene in Food Markets. The only effort done was deployment of health officers in the market to enhance hygienic practices in the markets. Previously markets were served by ward health officers. This led to divided efforts in various areas of their

field within the wards such as hospitals, industries, and markets. In the Audit period PO-RALG allocated some health officers as shown in Table 3.2 to ensure that the allocated health officers have more time to focus on sanitation and hygiene issues in the food markets.

**Table 3. 2: Deployed Health Officers in Food Markets**

Financial Year	2016/17	2017/18	2018/19	2019/20
Deployed Health Officers	2	11	1	1
Markets	2	13	14	15

*Source: PO-RALG Progressive Report*

Table 3.2 shows that in a period of four years PO-RALG deployed 15 health officers in food markets in Dar es Salaam only leaving out other regions. The 15 health officers were deployed in the following markets Kisutu, Ferry in Ilala, Kiwalani bombom, Kiwalani Kigilagila, Kigogo Fresh, Urafiki Ndizi, Shekilango, Mabibo, Manzese, Mawasiliano, Mbezi, Sinza, Tabata Magengeni, Mburahati and Ferry in Kigamboni. Health officers are important human resource in the markets so they can conduct technical inspections, provide health education and promotion, and enforce laws and by-laws on sanitation and hygiene. Furthermore, through review of PO-RALG budget of 2018/19 the following was evidenced:

#### **Supportive Supervision Not done in Markets**

The Audit noted that quarterly supportive supervision was done to the councils in areas where Water, Sanitation and Hygiene activities were implemented. These include schools, public places, and open spaces only. Supportive supervision was not done in markets despite being an important place where foods are sold. Non-prioritization of market supervision contributes to deterioration of the hygiene status of the markets. The efforts which could have been done include:

##### **a) Deploying Health officers in all Markets which Serve a Large Population**

PO-RALG could station enough health officers in markets with high public health risk. This would help improve hygiene conditions in markets through frequent inspection and monitoring of the sellers to check adherence of hygienic practices and to create more awareness on hygiene matters.

Consider the situation at Ferry fish market where they had only one health officer, but the market management saw the need of adding another health officer to enhance hygiene practices and ensure public health is protected. Addition of an extra health officer improved the hygiene of the market and adherence to hygiene practices by the sellers.

#### **b) Provision of Adequate By-laws to Govern the Markets**

PO-RALG would ensure that the LGAs enact by laws which will address hygiene issues in the food markets. The visited LGA have by-laws which are not comprehensive enough to address important aspects of market hygiene such as food safety and zoning as evidenced in 20 out of 25 visited markets.

#### **c) Strengthening capacity of LGA in Solid Waste Management**

PO-RALG would ensure that the LGA strengthens its capacity of solid waste collection and management which would improve the hygiene of the markets.

The Audit found out that none of the visited LGAs had a full capacity of removing generated wastes. Lots of uncollected waste were found in the visited markets.

#### **d) Strengthening Monitoring and Evaluation by PO-RALG**

PO-RALG would ensure monitoring and evaluation is adequately done in the markets to enhance controls of hygiene and identify areas of weakness for further improvements and for decision making.

The Audit through review of PO-RALG's strategic plan 2016/17-2020/21 noted absence of key performance indicators in evaluating market hygiene. Such indicators would facilitate monitoring and evaluation of environmental hygiene and are important in addressing the weaknesses and ensuring environmental hygiene and decision making.

### **3.3 Lack of Controls in Supporting Hygiene in Markets**

The Audit noted absence of controls in supporting hygiene practices in food markets as evidenced through the following:

### 3.3.1 Absence of Comprehensive By-laws

The Local Government Act 1982 provides the functions and duties of District Councils is to make by-laws applicable throughout its area of jurisdiction, and to consider and approve by-laws made by village councils within its area of jurisdiction.

The Audit found out that, 5 out of the 10 visited LGAs had uncomprehensive by-laws which do not cover issues related to hygiene controls in the markets. The details are in Table 3.3 below.

**Table 3.3: Issues Not Covered in the By-Laws in LGAs**

Issues	No. of LGA with issues not covered	Specialized markets with issues not covered
Management of liquid waste	8	5
Management of solid waste	2	4
Presence of penalties and fines	2	2
Food safety	9	1
Health Check ups	2	4
Presence of market committee	7	4

*Source: Auditors' Analysis of the Status of Food Markets (2020)*

The implication of each one of the elements not fully covered in by-laws is elaborated below and further assessment is found in **Appendix 5:**

#### **a) Management of Liquid Waste**

The Audit found that 8 out of 10 visited LGAs and all the visited 5 specialized markets did not have issues of management of liquid waste in their by-laws. These LGAs were Mbeya CC, Kongwa DC, Ilemela DC, Temeke MC, Kigoma Ujiji MC, Kibondo DC, Sengerema DC and Mbarali DC. The special markets were Kibirizi, Ferry, Igurusi, Mwaloni and Kibaigwa.

The Audit noted that the by-laws did not cover hygiene issues related to management of storm and liquid waste to avoid stagnant water in the markets. Neither are vendors' restrictions to pour water recklessly in the market covered by the by-laws. The established by-laws are more focused on revenues and penalties rather than on hygienic practices and procedures.

#### **b) Management of Solid Waste**

The Audit found that 2 out of 10 visited LGAs and 4 out of 5 special markets did not have issues related to management of solid waste in their by-laws that governs haphazard disposal of solid waste around the market.

These LGA were Mbarali DC and Temeke MC. The special markets were Kibirizi in Kigoma Ujiji MC, Igurusi in Mbarali DC, Kibaigwa in Kongwa Dodoma and Ferry in Ilala MC.

#### **c) Presence of Penalties and Fines**

The Audit found out that 2 out of 10 visited LGAs and 2 out of 5 visited special markets did not include issues which would have helped to draw attention of vendors in the market in adhering to the set rules and regulations. These LGAs were Mbeya CC and Sengerema DC. The special markets were Kibirizi in Kigoma Ujiji and Ferry in Ilala MC.

#### **d) Food Safety**

The Audit found out that 9 out of 10 visited LGA and 1 out of 5 visited special markets did not have food safety issues well covered in their by-laws. These LGAs were Dodoma CC, Kongwa DC, Mbarali DC, Mbeya CC, Kibondo DC, Ilemela MC, Sengerema DC, Ilala MC and Temeke MC while the special market is Kibirizi.

Zoning in the market is one of the important food safety aspects. Some visited markets had improperly placed food stuff. This was seen for example in Sabasaba market where food was placed on the floor along shops selling clothes. In Kibirizi market dry fish was placed closely to flour selling points. This lowers the quality of the fish thus accelerating the risk of cross contamination.

#### **e) Health Check-ups**

The Audit found out that 2 out of 10 LGAs and 4 out of 5 special markets had by-laws that did not cover health checkups and the type of vendors required to undergo health checkups. These LGAs were Mbeya CC and

Temeke MC. The special markets were Kibaigwa, Igurusi, Kibirizi and Mwaloni.

In the remaining LGAs only food vendors (*Mama and Baba ntilie*) were considered important in doing health checkups. Other traders such as those who sell perishable foods like vegetables and fruits were not included though they can be the source of disease-causing microorganisms.

The Audit also noted that there are no national guidelines on how to implement health checks (medical examination) and relies only on what the LGA by laws directs. However, the Public Health Act 2009 Sec 150 (6) and the Public Health Act (Regulations) of 2012 Sec. 36 calls for medical examination of food handlers and related business.

**f) Presence of Market Committee**

The Audit found that 7 out of 10 LGAs namely Dodoma CC, DC, Mbarali DC, Mbeya CC, Kibondo DC, Ilmela MC, Sengerema DC and Ilala MC had no issues related to presence of market committee in their by-laws. These would have helped in the management of hygiene control in the market.

Furthermore 4 out of 5 visited special markets namely Kibaigwa, Igurusi, Kibirizi and Mwaloni had by-laws which did not cover roles and presence of market committees to ensure proper management of sellers and adherence to by-laws.

Absence of comprehensive by-laws and inadequate enforcement of the established by laws were associated with the following: -

**a) Less Emphasis and Priority Placed on Hygiene Issues by LGAs and PO-RALG**

The Audit noted that less emphasis was placed on hygiene by-laws as compared to revenue collection in Local Government Authorities. Furthermore, although the approving authority is the same. There are some bylaws which are not comprehensive enough in some LGAs.

### **b) Inadequate Involvement of Health Officers in the Development of By-laws**

The Audit noted that Health Officers were not involved enough in developing by-laws. Their involvement could have helped to incorporate all aspects of hygiene controls such as management of solid and liquid wastes, provision of water supply, sanitation and hygiene facilities and other matters related to public health in the market.

It was noted that Officials from these LGAs place much emphasis on revenue collection while efforts to promote hygiene practice were lagging. This provides loopholes for violation of hygiene standards in the food market.

### **3.3.2 Inadequate Management of Vendors**

The Local Government Act 1982 provides mandates to local government to manage control and regulate all markets in their areas of jurisdiction.

The audit noted that 8 out of 20 Markets visited had no registers for vendors in their areas. These Markets were Sabasaba in Dodoma CC, Kibaigwa Mbogamboga and Kongwa in Kongwa DC, Rujewa Market in Mbarali DC, Mikaratusini in Kibondo DC, Jioni Market in Sengerema DC, and Jioni Market in Kigoma Ujiji MC and Gongo la Mboto in Ilala MC.

Furthermore, the Audit noted that 2 out of 5 visited special markets had no registers for their vendors. These markets were Kibaigwa in Kongwa DC and Igurusi in Mbarali DC.

These markets relies heavily on the charges of the weight of the cereals. The vendor's registration would help in the allocation of spaces in the markets. The only business people with permanent spaces are those with Godowns which are permanent structures. The rest of vendors do not have permanent spaces. Consequently, it is not only hard to estimate the capacity of the market but also planning becomes difficult. This may also lead to loss of revenue in the markets since number of vendors would facilitate evaluation of the revenue collection goals.

### Selling Stalls were Not Allocated According to Standards and Capacity of the Market

Audit noted that number of available vendors in the markets highly outnumbers the capacity of available market infrastructures and facilities. Considering that every vendor requires own space for selling products that has not been the same in these markets whereas only few vendors have permanent selling stalls for selling while others don't. Table 3.4 shows the status of the selling stalls and the number of vendors in the visited markets.

**Table 3. 4: Number of Vendors Compared to the Market Capacity in Markets**

LGA	Name of the market	Capacity of the markets	Number of vendors in the market	Ratio of vendors to market capacity
Dodoma CC	Majengo	1000	2700	3
	Sabasaba	1700	5010	3
Kongwa DC	Mbogamboga	260	300	1
	Kongwa	153	188	1
Mbarali DC	Rujewa	285	204	1
Mbeya CC	Mwanjelwa	808	808	1
	Sido	906	1255	1
	Soweto	996	1182	1
Kigoma Ujiji MC	Mwanga	879	1182	1
Kibondo DC	Mikaratusini	117	400	3
	Kibondo	386	456	1
Ilemela MC	Kirumba	354	800	2
	Mecco	160	95	1
Sengerema DC	Soko kuu	300	845	3
	Jioni	120	200	2
Ilala MC	Ilala	2300	5039	2
Temeke MC	Tazara	482	556	1
	Temeke Sterio	362	1627	4

*Source: Statistics extracted from Operational Reports of the visited Markets (2020)*

As shown in Table 3.4, the actual number of vendors exceeds the capacity of the market. The worst-case scenario was evidenced at Temeke Sterio in Temeke MC due to non-restriction of the additional number of new vendors entering the pool, while the best-case scenario was evidenced at Mwanjelwa in Mbeya CC due to addition of infrastructures to accommodate large number of traders. In Sabasaba Market the market capacity could not be established since the market is

located on the open space just like at Jioni Market in Kigoma Ujiji MC which is located on the road.

The Audit also found out that capacity could not be established for informal markets which were located on the road reserves such as Jioni Market in Kigoma Ujiji MC and Gongolamboto in Ilala MC. Since they are located along the main road reserves and not on areas designated for the market, their respective LGAs have not registered their vendors.

For the specialised markets, two markets which are Igurusi and Kibaigwa had no recorded number of vendors as there were no registers. Table 3.5 shows the vendors that have started their own machinery around the market and the marketplace is rarely used for business.

**Table 3. 5: Number of Vendors to the Market Capacity in Special Markets**

LGA	Name of the market	Capacity of the markets	Number of vendors in the market	Ratio
Ilala MC	Ferry	1000	2255	2
Mbarali DC	Igurusi	Unspecified	Unspecified	-
Kigoma Ujiji MC	Kibirizi	100	356	3
Mwanza	Kirumba	1000	2000	2
Dodoma	Kibaigwa	100	unspecified	-

*Source: Statistics extracted from Operational Reports of the visited Markets (2020)*

From Table 3.5, worst case scenario is observed at Kibirizi Market which was designed for fish products, but other businesses were invited in the market that destroyed zoning in the market. Same scenario was observed at Kirumba Market where fish were arranged close to the toilet pathway due to inadequate space in the market.

The reason for the number of vendors to surpass the capacity of the markets was due to the following:

#### **a) Additional of Selling Stalls on Pathways**

The Audit also noted improvisations that were made to construct more selling stalls in open spaced areas which were initially constructed for other market activities such as walkways and car parking. This ultimately led to the overflow of business in the markets. This situation was observed at Soweto Market in Mbeya CC where wastes were stored very close to the selling stalls due to absence of space. Also, in Ilala

Market Sellers were forced to bring in their products at night because there was no pathways during the day due to the congestion caused by additional selling stalls on the pathways (Photo 7).

The addition of selling stalls have not only increased the number of stalls but it has compromised the hygiene condition in such a way that it becomes even difficult to clean the area, remove waste and maintain sanitation due to congestion of selling stalls. Furthermore, it has led to congestion in the markets and on the provision of critical utilities such as toilets which endanger the hygiene condition of the market.



**Photo 7:** This photo was taken in Soweto Market in Mbeya CC showing addition of selling stalls to the extent that there are no walkways and they are in close proximity to the place where waste is thrown.

#### **b) Poor Control of Number of Vendors in the Market**

The Audit noted that market managers had no means to control the vendors who enter and conduct business in the market. This was due to absence of proper rules and regulations on restriction of overcrowding of sellers in the market.

### **3.3.3 LGAs' Control over Establishment of Markets**

Local government Act of 1982 requires the Local Government Authority to establish and erect markets, market buildings and market infrastructures on land allocated to the council for the purpose and to maintain and control such markets.

The Audit noted that 15 out of 20 visited markets were established by LGA. Three markets namely Sido in Mbeya CC, Mikaratusini in Kibondo DC and Mecco in Ilemela MC were not located on the market areas as per master plan of LGAs. This shows that there is no compliance to the master plan by the LGA itself to the extent that they cannot make further development of infrastructures and sanitation on the designated market area.

The Audit also noted that LGAs have formalized most of the markets. This has helped to reduce the number of markets which are not located in the master plan in their respective localities. The Audit noted further that 4 out of 20 markets were established by sellers and were developed on areas not planned for market activities. These markets were Sabasaba in Dodoma CC, Gongolamboto in Ilala MC, Jioni in Kigoma Ujiji MC and Jioni in Sengerema DC.

Establishment of the markets on areas that were not allocated for the market purpose was due to inadequate enforcement of land and urban planning laws and regulation put in place by the LGAs. This accelerates the establishment of markets on un-allocated areas thus hindering development of other infrastructures.

#### **a) Extension of Markets Outside the Proposed Areas**

The Audit noted that 5 out of 25 visited markets were operating out of the proposed areas where LGA had no control. These markets include Ilala in Ilala MC, Sabasaba and Majengo in Dodoma CC, Tazara in Temeke MC and Kibondo in Kibondo DC. Inadequate management of the markets by the LGAs contributed to the practice of the sellers conducting business out of the proposed areas. This condition was worse in Ilala market. Markets like Sabasaba and Kibondo extended their businesses right up to the Bus stops. It is evident that LGAs did not control number of sellers in the market, a situation that contributed to the growth and extension of business outside of the officially proposed area.

### 3.3.4 Established Food Markets Do Not Meet Hygiene Standards

Local Government Act of 1982 requires the Local Government Authority to establish and erect markets, market buildings and market infrastructures on land allocated to the council for the purpose and to maintain and control such markets.

The Audit noted that in the visited established markets, requirements of hygiene were not observed based on the best practices dictated by WHO and FAO. These requirements were zoning, food not to be arranged on the floor based on the public health act, management of solid and liquid waste, proper sanitation, which is provision of water, hand washing facilities with provision of adequate number of toilets and corresponding drainage structures.

Markets were grouped based on the years of establishment as presented in Table 3.6 and explained more in **Appendix 6**.

**Table 3.6: Status of Hygiene Standards in Food Markets based on year of Establishment**

Common Hygienic Conditions	Number of Food markets not complying		
	Established in one year	Established in less than 5 years	Established in more than 5 years
Zoning	0	2	12
Management of liquid waste	0	0	9
Management of solid waste	1	2	14
Drainage structures	0	1	16
Sanitation	0	0	15
Arrangement of food on the floor	0	1	11

*Source: Auditors' Analysis of the Status of Food Markets (2020)*

From Table 3.6 above implication of each of the element is elaborated below.

#### **Markets Established in Less than a Year**

The Audit found out that, the visited markets which were established less than a year ago namely Ndugai market in Dodoma CC adhered to hygiene requirements such as zoning, sanitation, management of liquid waste, adequate drainage structures and food was not arranged on the

floor. The only exception was on adherence to management of solid waste.

In this case, the solid waste system did not define where the skip buckets should be placed. As a result, they were placed close to the entrance of the market and since waste was not collected at the required intervals, there was presence of piles of waste.

### **Markets Established in Less than Five Years**

The Audit found out that two markets were established in less than five years ago. These were Mwanjelwa in Mbeya CC and Kibirizi in Kigoma Ujiji MC. Their analysis were as follows:

#### **a) Zoning**

The two markets did not adhere to zoning. For example, butchery was located with shops which sell electronics and other goods. Dry fish were sold close to the flour business. This situation can lead to cross contamination of ready to eat food stuffs.

#### **b) Arrangement of Food on the Floor**

The Audit found out that 1 out of 2 markets had food items arranged on the floor, thus compromising food safety. This practice was evidence at Kibirizi market in Kigoma Ujiji MC.

#### **c) Water, Sanitation and Hygiene (WASH)**

WASH was adhered in the two visited markets, which had enough supply of water, adequate number of toilets where the ratio of vendors to number of toilets was not more than 25 per toilet and functional hand washing facilities.

#### **d) Drainage Structures**

The Audit found that 1 out of 2 markets had defective drainage structures which were full of silt. This market was Kibirizi at Kigoma Ujiji MC.

#### **e) Management of Liquid Waste**

Liquid waste management was adhered properly since there was no stagnant water found in the two visited markets.

#### **f) Management of Solid Waste**

Solid waste management practice was incompetently done in the 2 visited markets. This was due to piles of solid waste found around the market places especially around the waste collection points.

#### **Markets Established in More than Five Years Ago**

The 18 markets which had been established more than five years ago based on the period of operation had different challenges regarding hygiene standards as detailed hereunder.

##### **a) Zoning**

The audit noted that 12 out of 18 visited old markets did not adhere to zoning practices. Food was not arranged properly based on types and groups and was sold alongside non-foodstuff. These markets were Sabasaba in Dodoma CC, Kongwa in Kongwa DC, Rujewa in Mbarali DC, Sido in Mbeya CC, Kibondo and Mikaratusini in Kibondo DC, Kirumba, Mecco and Mwaloni in Ilemela MC, Sengerema in Sengerema DC, Mwanga in Kigoma Ujiji MC and Ilala in Ilala MC.

##### **b) Arrangement/Placing of Food on the Floor**

11 out of 18 visited markets had food stuff placed on the floor. Sellers placed their commodities on floor due to lack of tables and stalls. These markets were Sabasaba in Dodoma CC, Kibaigwa in Kongwa DC, Soweto in Mbeya CC, Mikaratusini in Kibondo DC, Kirumba, Mecco and Mwaloni in Ilemela MC, Sengerema in Sengerema DC, Tazara and Temeke in Temeke MC and Ilala in Ilala MC.

##### **c) WASH**

15 out of the 18 visited markets did not have sanitation facilities in the market. The Audit noted that 11 visited markets did not have supply of water. The respective markets were Sabasaba in Dodoma CC, Kongwa and Kibaigwa in Kongwa DC, Rujewa in Mbarali DC, Sido and Soweto in

Mbeya CC, Kibondo and Mikaratusini in Kibondo DC, Mecco in Ilemela MC, Mwanga in Kigoma Ujiji MC and Ilala in Ilala MC. Similarly, 4 visited markets did not have hand washing facilities to promote and guarantee health among sellers and customers. These markets were Igurusi in Mbarali DC, Kirumba in Ilemela MC, Ferry in Ilala MC and Sengerema in Sengerema DC.

#### **d) Drainage structures**

The Audit found out that 16 out of 18 visited markets did not have reliable drainage structures and were categorized into two groups; namely markets without drainage structures and markets without adequate drainage structures. While visiting markets, 10 markets did not have robust drainage structures solid enough to drain away water from the markets and these markets were at Sabasaba in Dodoma CC, Kongwa and Mbogamboga in Kongwa DC, Rujewa in Mbarali DC, Sido in Mbeya CC, Mikaratusini in Kibondo DC, Mecco in Ilemela MC, Sengerema in Sengerema DC, Mwanga in Kigoma Ujiji MC and Tazara in Temeke MC.

Also, it was found out that 6 visited markets did not have adequate drainage structures. The existing ones were full of silt and were not sufficient enough to accommodate the waste and storm water in the market. These markets were Temeke in Temeke MC, Ilala in Ilala MC, Kirumba and Mwaloni in Ilemela MC, Kibondo in Kibondo MC and Soweto in Mbeya CC.

#### **e) Management of Liquid Waste**

The Audit found out that 9 out of 18 visited markets did not have management on-site of liquid wastes system in place both for collection of and for disposal. These markets were Sabasaba in Dodoma CC, Kongwa in Kongwa DC, Rujewa in Mbarali DC, Sido and Soweto in Mbeya CC, Kibondo and Mikaratusini in Kibondo DC, Mecco and Mwaloni in Ilemela MC.

#### **f) Management of Solid Waste**

The Audit found out that 14 out of 18 visited markets did not practice solid waste management and they did not adhere to solid waste collection, transportation, and disposal at the dumping sites area. The markets had piles of solid waste which puts the environmental health at

risk. These markets were at Sabasaba in Dodoma CC, Mbogamboga and Kibaigwa in Kongwa DC, Rujewa in Mbarali DC, Sido and Soweto in Mbeya CC, Mwanga in Kigoma Ujiji MC, Kibondo and Mikaratusini in Kibondo MC, Kirumba and Mwaloni in Ilemela MC, Ilala in Ilala MC, Tazara and Temeke sterio in Temeke MC.

Furthermore, solid waste management practices was observed to be inadequately applied in the visited markets since all the skip buckets were overflowing with waste turning the areas around the skip bucket into a dumping site. This was attributed by the following: -

**a) Delays in Removal of Skip Buckets from the Markets**

The Audit through observation noted that there was delay in removal of the skip buckets by responsible authority when they were full.

**b) Non Prioritization of the High-risk Areas**

The Audit noted that priority to the high-risk areas were not adequately given by the LGA. The first priority should have been ensuring timely removal of waste in the market. Furthermore, the Audit noted that markets such as the ones at Kibirizi in Kigoma Ujiji MC and Mwanjelwa in Mbeya CC did not meet the required hygiene standards due to non-involvement of Health officers during planning of the markets and commissioning of sellers of food stuff and other commodities. Health officers could help arranging the sellers to ensure that zoning was adhered to, and sanitation standards were complied with.

The identified reasons for the established markets not meeting the hygiene standard were as follows.

The Audit found out that in the visited markets the aspect of the poor hygiene standards was attributed to many factors such as: -

- i) Deficiencies in planning for the requirement of drainage structures to facilitate management of liquid waste,
- ii) Deficiency in planning adequate number of toilets based on the number of users,
- iii) Deficiency on proposed layout of the market to arrange sellers in accordance with types of goods and commodities they sell,

- iv) Deficiency in the allocation of the off-loading areas and the demarcation of solid waste collection points set further away from the food stuff selling areas.

All these were caused by the two main factors: Non-involvement of health officers and by Failure on the control of establishment of markets.

#### **a) Inadequate Involvement of Health Officers**

The Audit found out that in the visited markets inadequacy of the hygiene standards were contributed by inadequate involvement of the local Health Officers during approvals of the markets designs. The involvement of health officers could help in ensuring hygiene requirements were set during markets designs and during operational phases.

#### **b) Failure on the Control of Establishment of Markets**

The Audit found out that many markets were established without providing adequate infrastructures as required in ensuring food safety. This is contrary to the Local Government Authority Act which requires LGAs to establish market buildings and infrastructures and maintain such markets.

### ***3.3.5 Ineffective Market Committees***

According to the LGAs by laws requires that there shall be a market committee that will be established by sellers. Members of the committee will be selected among themselves and the number of members will be elaborated by the market Officer and the market manager.

The Audit noted that market committees were ineffective across most of the markets visited by the audit team. This can be elaborated in table 3.7 and further details are found in **Appendix 7**.

**Table 3.7: Market Administration Parameters**

Required Parameters	Effective Administration	No. of Markets Without Critical Parameters
Presence of market committee		6
Presence of market constitution		12
Evidence for market committee operations		12

*Source: Auditors Analysis of the status in food markets (2020)*

Table 3.7 below gives further details with respect to the required effective administration parameters:

**a) Market Committees**

The Audit noted that 14 out of 20 visited markets had markets committee and 6 markets did not have market committee. These markets were at Jioni in Kigoma Ujiji MC and Sengerema DC, Kibondo and Mikaratusini in Kibondo DC, Ilala and Gongolamboto in Ilala MC.

Absence of market committees leads to poor and ineffective links between the market managers and traders in enhancing and controlling hygiene and other matters in the market.

**b) Market Constitution**

The Audit found out that only 8 out of 20 had constitution which guides them in their daily functions in enhancing management of the sellers in the market. In the visited LGAs 14 markets did not have constitution at all. These markets were at Mbogamboga and Kongwa in Kongwa DC, Rujewa in Mbarali DC, Mwanjelwa, Sido and Soweto in Mbeya CC, Jioni in Kigoma Ujiji MC and Sengerema DC, Kibondo and Mikaratusini in Kibondo DC, Ilala and Gongolamboto in Ilala MC.

**c) Daily Operations of Market Committees**

Through interview with officials in the Local Government Authority, the Audit found out that 12 markets committees were non-operational as there was no evidence of operational documents such as plans, Standard Operating Procedures, Job descriptions of each committee member and other guidelines to guide them in their daily works. These markets were Mbogamboga and Kongwa in Kongwa DC, Rujewa in Mbarali DC, Mwanjelwa, Sido and Soweto in Mbeya CC, Jioni in Kigoma Ujiji MC and Sengerema DC, Kibondo and Mikaratusini in Kibondo DC, Ilala and Gongola mboto in Ilala MC.

The situation was similar at Kibirizi market where the audit team could not find any supportive evidence to confirm operations of the committee in matters related to hygiene control. Ineffective market committee lead to poor management and coordination of hygiene matters in the markets.

Furthermore, ineffective market committees were due to;

**a) Ineffective Management of Markets by Market Administrations in LGAs**

Market administration did not put in place effective processes and procedures necessary for market management. Market administration entails market managers, market health officers in the special markets and trade officer and health officers in the mixed markets. The Audit observed that market administration in the 6 visited mixed markets did not ensure presence of market committee to facilitate implementation of critical activities such as overseeing proper hygiene in their markets.

**b) Absence of Guidelines for the Operations of the Markets**

Ineffective market committee and administration was due to absence of guidelines for markets operations. This was attributed to inadequate control and monitoring of food markets by LGA who were supposed to ensure that Market Committees operate and have all necessary requirements and operational documents.

Consequently, markets are dominated by the chairpersons of business people in the market who appear to be overall in charge of the market. This have resulted to the LGA having surrendered full control of the market to them. As a result, the LGAs have less information on critical data such as number of sellers, and the level of their selling capacity which would have determined the amount of collectable revenues.

**3.4 Unsatisfactory Market Infrastructures and Sanitation System**

The Audit noted that infrastructures and sanitation systems from 15 out of 25 markets were not functioning well to support hygiene requirements and that was due to the following factors:

### 3.4.1 Inadequate Funding for Development and Maintenances of Markets

According to the Directive issued by the President's Office - Regional Administration and Local Government (PO-RALG), each LGA is required to set aside 15% of total revenues generated from market sources and use them to finance market activities including infrastructure development, maintenance, and sanitation.

In the visited 8 LGAs the Audit found out that despite that LGAs collect revenue from the markets few of the LGAs allocate funds for maintenance and development of infrastructure and sadly none for sanitation at all. (Table 3.8).

**Table 3. 8: Revenue Collected against Funds Allocated for Maintenance**

LGA	Food Market	Revenue Collected (TZS)	Maintenance (TZS)	(%) Set Aside
Dodoma CC	Sabasaba	177,501,208	-	-
	Majengo	1,205,967,913	-	-
Kongwa DC	Kongwa	944,000	-	-
	Kibaigwa	1,839,914,052	-	-
	Mboga mboga	15,200,400	-	-
Mbarali DC	Rujewa	23,360,000	-	-
	Igurusi	398,412,111	-	-
Mbeya CC	Mwanjelwa	1,798,481,764	-	-
	Sido	396,715,000	-	-
	Soweto	352,095,000	-	-
Kigoma Ujiji MC	Kibirizi	-	-	-
	Mwanga	427,152,805	-	-
	Jioni	1,850,200	-	-
Kibondo DC	Kibondo mjini	245,700,000	-	-
	mikaratusini	22,500,000	-	-
Ilemela MC	Kirumba	368,055,585	34,600,000	9.5
	Mwaloni	255,022,554	134,400,000	52.7
	Mecco	-	-	-
Sengerema DC	Soko kuu	2,996,200,000	-	-
	Jioni	-	-	-
Ilala MC	Ferry	3,633,643,803	398,334,974	11
	Ilala	5,230,407,211	72,800,000	1.4
	Gongolamboto	-	-	-
Temeke MC	Temeke Sterio	3,827,627,000	-	-
	Tazara	263,996,400.00	-	-

Source: LGAs' Financial Reports (2016/17-2019/20)

Table 3.8 above shows that only Ilala MC and Ilemela MC were able to set aside some funds for infrastructural maintenance and development. It will be noted that the set amounts were below 15% of the revenue collected except in Mwaloni market.

Areas highly affected in the visited markets were sanitation including drainage structures, toilets, sewage system structures and water supply. This was attributed by giving low priority to the infrastructure maintenance despite collecting substantial revenues from the same markets.

See **Appendix 8** for details of revenue and expenditures on infrastructures in specific food markets.

The Audit further noted that despite markets like Majengo in Dodoma, Sido and Soweto in Mbeya CC contributing substantial revenues in their LGAs, their drainage structures were not well maintained. There was stagnant water especially during rainfall seasons which contributed to unhygienic situation of the markets. Kibondo market in Kibondo DC was found to have buildings with leaking roof because of absence of regular maintenance despite collecting sizeable revenue amounts from the markets.

Furthermore, it was noted in Ilala markets their roof top was leaking badly and other structures such as butchery buildings located on ground floor, windows, and meat cutting areas had deteriorated to the extent that even when they cleaned them, you could not observe the change.

Consequence for not setting aside adequate funds for regular maintenance of the structures was that structures were not renovated on time when they demanded major renovation. This lead to increases in cost of repair and at the same time they did not serve the initial purpose of the design which was maintaining proper hygiene standards of the markets.

### 3.4.2 Inadequate Designs for Established Markets

The Public Health Act, 2009 requires that LGA should issue a permit or license for markets establishment once the market meets conditions for issuance of a permit. Therefore, the building plans of the market must be approved only when the necessary health requirements have been complied with, including compliance with health regulations pertaining to the type of business to be conducted.

FAO requires that main features for the design and construction of a well-designed market which promote public health at the market includes markets selling stalls with minimum of 3.5m aisle between stalls that ensures food safety and movement between traders; floor pavement may be of paving blocks or concrete floor that ensures easily cleanliness; drainage located around the trader's premises and connected by small outlet drains to collect liquid wastes towards the collection points.

According to best practices from London Local Authority Act approved document H, requires solid waste collection points to be placed at a maximum 30m from the business premises; provide raised impervious platform for skip buckets; storage area not interfere with pedestrian and vehicle access to buildings; and 2m minimum height for solid waste storage.

According to FAO public health requirements specification for better design of toilets services entails type of pits present which are W/C, type of floor, water supply, hand washing, adequate ventilation, adequate septic tanks, distance from traders' area should be 50m preferably and number of users to pit ratio. The maximum number of users per one toilet pit is 25 users about public health. Offloading area with proper pavement floor and ramps to support offloading activities.

In the visited 25 markets the Audit found inadequate designs based on the analysis done on following deficiency as highlighted in Table 3.9 below and further details can be found in **Appendix 9**.

**Table 3. 9: Deficiency of Design in the Food Markets**

S/No.	Design Deficiency	Number of Food Markets
1	Drainage structures	16
2	Roof cover	13
3	Floor pavements	16
4	Selling stalls	15
5	Offloading area	17
6	Toilets	13
7	Solid waste	14

*Source: Auditors Analysis of the Status in Food Markets (2020)*

From Table 3.9 above the deficiency in design are elaborated below:

**a) Drainage Structures**

The Audit found out that 10 out of 22 visited food markets had no designs of drainage structure to accommodate washout of the liquid wastes. These markets were Sabasaba in Dodoma CC, Kibaigwa Mbogamboga and Kongwa in Kongwa DC, Rujewa in Mbarali DC, Sido and Soweto in Mbeya CC, Mwanga in Kigoma Ujiji MC, Mecco in Ilemela MC, Sengerema in Sengerema DC and Tazara Veterinary in Temeke MC. Also 6 out 22 visited markets had fewer and improper allocation of the drainage structures. These markets were Majengo in Dodoma CC, Kibondo and Mikaratusini in Kibondo DC, Kirumba in Ilemela MC, Temeke Sterio in Temeke MC and Ilala in Ilala MC.

**b) Roof Cover**

Roof covers to shade food products were designed and constructed by vendors and not LGA in 9 out of 21 visited markets. These markets were Sabasaba in Dodoma CC, Kongwa in Kongwa DC, Rujewa in Mbarali DC, Sido and Soweto Mbeya CC, Mwanga in Kigoma Ujiji MC, Mecco in Ilemela MC, Sengerema in Sengerema DC and Tazara Veterinary in Temeke MC. Additionally 4 out of 21 visited markets had their roof cover designed but not for all sellers. This led some traders to improvise shades by themselves resulting on poor designs such as short head room, use of poor-quality materials to support roof cover and durability to prove watertight during rainfall. These markets were Kibondo Town and Mikaratusini in Kibondo DC, Kirumba in Ilemela MC and Ilala in Ilala MC.

**c) Floor Pavements**

The Audit found out that 12 out of 21 visited markets did not put consideration on design floor pavement in the markets. This deficiency posed a risk for food markets due to water stagnation in the market. These markets were Sabasaba in Dodoma CC, Kongwa in Kongwa DC, Rujewa in Mbarali DC, Sido and Soweto in Mbeya CC, Mwanga in Kigoma Ujiji MC, and Kibondo Town in Kibondo DC, Kirumba and Mecco in Ilemela MC, Sengerema in Sengerema DC, Tazara Veterinary in Temeke MC and Ilala in Ilala MC.

Furthermore, 4 out of 21 visited markets had floor only at the selling stalls point while their pathways were not provided with pavement

floors that would have ensured good hygiene in the food markets. These markets were Majengo in Dodoma CC, Kibaigwa Mbogamboga in Kongwa DC, Mikaratusini in Kibondo DC and Temeke sterio in Temeke MC.

#### **d) Selling Stalls**

The Audit found out that 9 out of the 21 visited markets did not get service by their responsible LGAs to design and construct selling stalls for the vendors to ensure good health and safety of the food staffs. These markets were Sabasaba in Dodoma CC, Kongwa in Kongwa DC, Rujewa in Mbarali DC, Soweto in Mbeya CC, Mwanga in Kigoma Ujiji MC, Kirumba and Mecco in Ilemela MC, Tazara Veterinary in Temeke MC and Ilala in Ilala MC.

Furthermore, the Audit also found out that 6 out of 21 visited markets had their design and construction of selling stalls which did not meet requirements due to absence of proper national standard. The deficiencies include inadequate aisle size of minimum 3.5m and fewer selling stalls that do not meet the capacity of the number of traders. These markets were Majengo in Dodoma CC, Kibondo Town and Mikaratusini in Kibondo DC, Sengerema in Sengerema DC, Kibirizi in Kigoma Ujiji MC and Temeke Sterio in Temeke MC.

#### **e) Off-Loading Areas**

The Audit found out that 17 out of 21 visited markets were not provided with design and construction of the offloading area for goods. They offload their food stuff on empty land not designed to ensure hygiene assurance. These markets were Majengo and Sabasaba Dodoma CC, Mbogamboga and Kongwa in Kongwa DC, Rujewa in Mbarali DC, Sido and Soweto in Mbeya CC, Mwanga and Kibirizi in Kigoma Ujiji MC, Kibondo and Mikaratusini in Kibondo DC, Kirumba and Mecco in Ilemela MC, Sengerema in Sengerema DC, Tazara Veterinary and Temeke Sterio in Temeke MC, Ilala in Ilala MC. Only Ndugai market in Dodoma CC was designed and constructed with offloading sites and were positioned at the positions that were accessible by every vendor.

#### **f) Sanitation Facilities (Toilets)**

The Audit found out that 5 out of 25 visited markets did not have toilets to accommodate all people in the market. Three markets which were

Gongo la Mboto in Ilala MC, Jioni in Kigoma Ujiji MC and Sengerema were informal markets and located along the road and they did not provide space for infrastructure development and two markets which were Kongwa in Kongwa DC and Mecco in Ilemela MC did not have toilets, proving lack of consideration in the design stage of these important elements of food markets.

Toilets for nine (9) out of 20 visited markets were built within 50m distance from traders' premises. This was poor design because of its difficulty to control hygiene having been built few meters from traders. These markets were Majengo and Sabasaba in Dodoma CC, Rujewa in Mbarali DC, Sido and Soweto in Mbeya cc, Mwanga in Kigoma Ujiji MC, Kibondo and Mikaratusini in Kibondo MC and Kirumba in Ilemela MC.

Furthermore, 5 out of 20 visited markets had toilets with no water supply and hand wash points, instead, they use fetched water. This is because the design did not incorporate these provisions. These markets were Mikaratusini in Kibondo MC, Mwanga in Kigoma Ujiji MC, Rujewa in Mbarali DC and Sabasaba in Dodoma CC. In the visited markets only 2 adhered to the standard ratio of one pit latrines to 25 people. These markets were Kibaigwa and Temeke Sterio. All the remaining 18 markets had toilets which did not adhere to the recommended standards.

#### **g) Solid Waste Collection Point**

The Audit found out that 14 out of 25 visited markets had solid waste collection points that was poorly designed. This was evidenced by the fact that 5 out of 14 markets had solid waste collection points near selling points. These markets were Sabasaba and Majengo in Dodoma CC, Mwanga in Kigoma Ujiji MC, and Ilala in Ilala MC and Soweto in Mbeya CC. Two (2) out of 14 markets had solid waste collection points placed at the entrance of the market. These markets were Mwanjelwa in Mbeya CC and Kibirizi in Kigoma Ujiji MC. One (1) out of 14 markets which is Igurusi had landfill which is too old to continue being used to accommodate solid waste disposals.

Also 2 out of 14 markets with poor solid waste designs had collection points located at a distance of more than 50m leading to waste scattering during collection and disposal times.

These markets were Mecco and Mwaloni in Ilemela MC. The remaining 4 markets had solid waste containers whose height was short compared to the standard requirement of 2m high. These markets were Rujewa in

Mbarali DC, Soko kuu in Sengerema DC, Kibondo in Kibondo DC and Kibaigwa in Kongwa DC.

Furthermore, 3 out of 25 markets had poor designs of solid waste collection points and was not considered by LGAs as an important item of the market quality. These markets were Mikaratusini in Kibondo DC Temeke Sterio and Tazara Veterinary in Temeke MC.

Reasons for poor designs of the established food markets were as follows:

**a) Exponential Increase of Number of Vendors Exceeding Actual Design Capacity**

Poor design of the food markets was attributed to un-forecasted increase of the number of vendors in food markets. Ideally at this point the LGAs should have considered all the aspects of a proper market designs. Toilets designs in comparison to actual number of traders is irrational and exceeds the standard 1:25 as per health official requirements.

Selling stalls built in comparison to the actual number of traders was unrealistic. The actual increase in number of traders exceeds the number of users and the intended capacity of the designed drainage structures. The mentioned key designs consideration have been overwhelmed by number of traders and proposed service delivery was totally incapacitated. This resulted in the complete breakdown of hygiene maintenance in the designed markets.

**b) Non-Involvement of Health Officers in Providing Environmental Health Recommendations**

Non-involvement of health officers in providing environmental health requirements and recommendation on key aspects of food market design contributes to poor construction of market facilities that did not adhere to standard hygiene requirements. Health officers should give technical opinion about the required standards as per public health Act. Due to this shortcoming during project implementation by the LGA, the health officers encounter the same challenges associated with poor designs.

### c) Food Markets were Built without Building Permits

The Audit found out that food markets were built without obtaining official building permits which could have questioned the appropriateness of market location, size, toilets facilities, total volume of the proposed drainage structures, allocation of the adequate roof cover and adequate number of selling stalls. Absence of building permits provided a loophole in ensuring food safety and allocation of space aisles required to allow smooth flow of people.

#### 3.4.3 Inadequate Supply of Water

The Water Supply and Sanitation Act of 2009 together with the Public Health Act, 2009 require Government Authorities responsible for hygiene and sanitation including LGAs to establish strategies, promote and improve hygiene practices in public places, Food Markets being among them.

According to water demand and supply study in Dar es Salaam conducted in Stockholm, Sweden in 2019, the average water demand for non-domestic use is 70 litre/cap/day.

The Audit found out that 12 out of 25 visited Markets were without provision of water in the Market. The worst-case scenario was found in Kibondo Town and Mikaratusini markets in Kibondo DC where water was not available even in the toilets, leading to users opting to use public toilets located in other places. This contributes to loss of revenue which could have been obtained from provision of toilet services within the market. In addition, 12 out of 25 visited markets had no water reserving tanks for continued flow of water services.

According to water demand and supply in Dar es Salaam conducted in Stockholm, Sweden 2019, the average water demand for non-domestic use is 70 lt/cap/day. Therefore, the forecasted daily maximum water demand in the market population was computed using the following formula.

$$Q = 1.6 \times M \times P \times 0.001 \text{ m}^3$$

where, ADD = Average water daily demand,  
M= liters per capita per day, P= population

**Table 3. 10: Amount of Water Supplied Against Amount of Water Required**

Food Markets	Number of Traders	Amount of Water Required $Q(M^3) = 1.6 \times 70 \times 0.001 M^3 \times P$ (month)	Amount of Water Supplied ( $M^3$ ) (month)	Percentage (%)	Variation Percentage (100-P) %
Tazara Veterinary	556	1868.1	1868.1	100	0
Temeke Stereo	1627	5460	5460	100	0
Ferry	2255	7,576.8	5000	66	34
Kirumba	800	2688	180	6.7	93.3
Mwaloni	2000	6,720	420	6.3	93.7
Kibaigwa	1050	3,528	183	5.1	94.9
Mwanjelwa	808	2700	64.6	2.4	97.6
Mbogamboga	325	1,092	24.1	2.2	97.8
Sengerema	845	2838	32.5	1.2	98.8
Igurusi	1000	3,360	13	0.4	99.6
Sabasaba	5010	561.12	0	0	100
Kongwa	188	631.68	0	0	100
Rujewa	204	685.5	0	0	100
Sido	1255	4216.8	0	0	100
Soweto	1182	3971.7	0	0	100
Mwanga	1182	3971.7	0	0	100
Kibondo Town	456	1532.4	0	0	100
Mecco	95	319.2	0	0	100
Ilala	5039	16,920	16,920	100	100
Kibirizi	1500	5,040	0	0	100
Majengo	2700	9,072	0	0	100

*Source: Auditors' Analysis 2020*

From Table 3.10, markets with inadequate water supply were Majengo and Sabasaba in Dodoma CC, Kongwa in Kongwa DC, Rujewa in Mbarali DC, Sido and Soweto in Mbeya CC, Mwanga and Kibirizi in Kigoma Ujiji MC, Kibondo and Mikaratusini in Kibondo DC, Mecco in Ilemela MC and Ilala in Ilala MC.

To enhance sanitation in the markets, LGAs were supposed to ensure availability of adequate supply of clean water in the market. There is no standard for water to be supplied in the market. As such in markets where there is no water supply, water is supplied by individuals with private water wells. Inadequate provision of water in the market was due to:

### **Inadequate Need Analysis of Minimum Requirement for the Food Market**

Most markets were established without conducting adequate need analysis of important aspects needed in the market such as provision of water, sanitation, and hygiene facilities. Absence of water results into poor sanitation which lowers hygiene standards in markets. Also, there was an exponential increase of vendors contrary to the intended design capacity of Markets.

The need analysis was not conducted due to absence of active Market Committees in respective Markets.

#### ***3.4.4 Inadequate Management of Solid Waste System***

The Water Supply and Sanitation Act of 2009 together with the Public Health Act, 2009 require Government Authorities responsible for hygiene and sanitation including LGAs to establish strategies, promote and improve hygiene practices in public places, Food Markets being among them.

Out of 25 visited markets, 16 had poor solid waste management systems. In the 25 visited markets, 15 markets had their solid waste being managed by LGA and 10 markets had outsourced this service.

The following is a comparison of market performances between outsourced and own operated solid waste management services.

#### **Performance of Non-Outsourced Solid Waste Management Services**

LGA had total control of management of solid waste for 8 out of 13 visited markets where they employ their own laborers to clean markets, collect and transport the waste to the dump. However, these markets had poor management of solid waste and were not complying with standard hygiene conditions. These markets were Sabasaba in Dodoma CC, Mwanjelwa in Mbeya CC, Kibaigwa Mbogamboga in Kongwa DC, Rujewa in Mbarali DC, Kibirizi and Mwanga in Kigoma Ujiji MC and Kibondo Town and Mikaratusini in Kibondo DC.

#### **Performance of Outsourced Solid Waste Management Services**

The Audit found out that 8 out of 12 visited markets where provision of solid waste services was outsourced had unsatisfactory management of

solid waste. This was evidenced with presence of waste in the collection points in the market (Photo 8). These markets were Kirumba and Mwaloni in Illemela MC, Sido and Soweto in Mbeya CC, Ilala in Ilala MC, Kibaigwa in Kongwa DC, Temeke Stereo and Tazara in Temeke MC.



**Photo 8:** This Photo was taken on 10<sup>th</sup> December 2020 Shows presence of refuse bin container managed by the contractors at Ilala Market in Dar es Salaam which is full of waste.

Common reasons for inadequate management of solid waste were highlighted in Table 3.11.

**Table 3. 11: Causes for Inadequate Solid Waste Management**

Reasons for inadequate solid waste management	Number of food markets experiencing the same problem out of 25 markets	
	Non-outsourced	Outsourced
Inadequate allocation of resources	7	3
Untimely removal of waste from the markets	7	7
Presence of collapsed waste storage bays	2	0
Inadequate design of the waste storage bays	0	2
Inadequate management of contracts	0	3

*Source: Auditors' Analysis, 2020*

From Table 3.11 further details on inadequate management of solid waste are elaborated below

#### a) Insufficient Allocation of Resources

##### Non-outsourced Services

The Audit Team noted that there was a lot of uncollected waste in the market that could have been due to allocation of insufficient resources. Table 3.12 shows analysis of resources in urban authorities.

**Table 3. 12: Assessment of Resources in Department of Environmental Cleansing**

Locality	Number of available skip loader	Number of working skip loaders	Number of available skip buckets	Average Distance to Damp in KM	Frequency of picking solid waste in a week
Dodoma CC	4	2	61	15	1
Mbeya CC	5	5	112	15	1
Kigoma MC	3	1	30	15	1
Ilemela CC	1	1	14	30	3
Ilala MC	2	2	10	35	4
Temeke MC	2	2	0	29	4

*Source: Auditors' Analysis on the visited LGA Annual Reports*

From table 3.12 Dodoma CC has 2 working skip loaders and the frequency of picking is once in a week as per their plans. However, observation showed that they pick twice a week. This means that the administration has given more attention to solid waste management activities. Furthermore interview with traders in Mbeya CC have shown that, despite their resources allowing them to pick their skip buckets twice a week, they pick them once a month at Sido and once in two weeks in Mwanjelwa and Soweto market. The Audit further noted that Kigoma MC has one working skip loader only and the picking frequency was once a week as per their plans.

However, observation indicates that skip buckets were overflowing and waste was not removed for almost a month. At Kiberiti they pick skip buckets waste once a month while Mwanga picks every two weeks. This was attributed to scanty and poor maintenance of skip loaders as two are not working and lack of prioritization of high-risk areas such as markets that had limited resources.

Audit of solid waste management was also conducted for selected rural LGAs. Table 3.13 indicates an analysis of resources in the Department of Environmental Cleansing in rural authorities:

**Table 3.13: Assessment of Resources in the Department of Environmental Cleansing**

Locality	Number working of vehicles	Availability of refuse bin containers	Average Distance to Dumpsite	Frequency of picking in a week
Kongwa DC	4	2	15	1
Mbarali DC	5	5	15	2
Kibondo DC	3	1	15	1
Sengerema DC	2	1	15	1

*Source: Auditors' Analysis on the visited LGA Annual Reports*

Table 3.13 shows that all LGAs visited had resources for solid waste management, which include vehicles and waste containers. Despite these resources, some LGAs were found to have piles of uncollected solid waste. For example, in Mikaratusini market in Kibondo DC, piles of uncollected waste were found despite having 3 vehicles for transportation of waste.

#### **b) Untimely Removal of Waste from the Market**

The Audit noted that 7 out of 15 markets which had outsourced solid waste and 5 out of 10 markets which did not outsource solid waste services were found to have piles of uncollected waste. This was caused by untimely collection and transportation of solid waste to dumpsites indicating less attention (priority) given to solid waste management in the market despite its importance to public health. This situation was observed in the following outsourced markets: Mwanjelwa, Sido and Soweto in Mbeya CC, Ilala in Ilala MC, Temeke and Tazara in Temeke MC, Mwaloni in Ilemela MC. The markets which did not outsource were Sabasaba in Dodoma CC, Mbogamboga in Kongwa DC, Mikaratusini in Kibondo DC, Mwanga and Kibirizi in Kigoma Ujiji MC.

#### **c) Presence of Collapsed Waste Storage Bays**

During the visit to observe how solid waste were managed in the Market the Audit found that, 3 out of 16 visited markets had poor solid waste management. The LGAs had collapsed waste storage bays designed for waste storage. As a result, waste was scattered around the market due to strong wind as there are no barrier (photo 9a, b). This situation was seen in the following markets: Kibaigwa in Kongwa DC, Rujewa in

Mbarali DC and Kibondo Town in Kibondo DC as shown in picture 9a and b.



#### d) Inadequate Design of the Waste Storage Bay

The Audit noted that 3 out of 6 visited markets with waste storage bays had storage bays which were poorly designed. These markets were Ilala in Ilala MC and Sengerema market whose waste storage height was too short to prevent the scattering of waste. Temeke market had its waste storage bay wide opened to the extent that it allowed waste to spread.

Furthermore 2 out of 25 visited markets had no waste storage bays for waste storage. Consequently, Mikaratusini market store their waste illegally by dumping it in unfinished buildings located near the markets and Igurusi Market dispose their waste haphazardly an open space. These practices are contrary to the hygiene regulations and standards.

The Audit team went further to explore the causes of underperformance of outsourced solid waste services. These are described as follows:

**(i) Ineffective Management of Contracts between Solid Waste Collectors and LGAs**

Eight markets which contracted out the provision of solid waste management services to individuals and groups had received unsatisfactory services from the contractors. This means there was ineffective supervision from LGAs and market leaders on the performance of contractor.

**(ii) Scope of Cleaning in the Markets Does Not Match with the Agreements in the Contract**

The Audit noted that in three markets of Soweto, Mwanjelwa and Sido the scope of the contract was not adhered to the extent that LGAs provided waste collection services and transportation from the markets to the dumpsite. This function was supposed to be done by a contracted company. In Soweto market the contracted group does not clean all the areas specified in the contract even though sellers pay their daily fees. It was not that sellers do not know exactly the scope of the contract, so at some point they themselves clean some of the areas not covered by the contract.

Likewise there were piles of waste behind the Sido market even though SASA Environment Group was contracted to do cleansing of the market. It was reported that vendors used to do cleanliness including waste management by themselves. In addition, LGA had to provide as if the service is not outsourced.

The Audit team identified reasons for this non-compliance which include:

**a) Non-Involvement of Health Officers**

The audit noted that Health Officers were not aware of the contract terms even though they are responsible for supervision. Through the interview the Audit found out that there was inadequate coordination and communication between the procurement, health, and solid waste management departments. This led to little awareness of the terms of the contracts among health officers.

**b) Inadequate Evaluation of the Contractors**

In the visited 25 markets the Audit found out that there were no reports of evaluations conducted to the contractors. Evaluation reports could

have indicated their performance and could be used as a basis for termination or continuation of the contract. This is a major reason that makes vendors at the market reluctant to pay for solid waste management services.

### 3.4.5 Malfunction of Liquid Waste System

Public Health Act 1 of 2009 requires the authority to prescribe guidelines(i) on standard gradient for storm water drains in order to prevent water stagnation; (ii) on periodic cleaning of storm water drains to remove deposits. Also, LGA to establish, maintain, operate and control drainage and sewerage works in public places. This is as prescribed by the Local Government Act, 1982.

Liquid waste system in 22 out of 25 visited markets were malfunctional and could not ensure constant flow of liquid waste. The remaining three markets were those located along the road (informal markets); Gongo la mboto in Ilala MC, Jioni in Kigoma Ujiji MC and Sengerema DC.

The Audit team identified reasons for liquid waste system not functioning well. These include:

#### a) Absence of Functional Drainage Structures in Formal Markets

Formal food markets were categorized in four various deficiencies of drainage structures as explained in Table 3.14.

**Table 3. 14: Common Drainage Structures Missing in Markets**

Drainage structures	Missing Structures	
	Number of formal food markets	Number of informal food markets
Surface drainage	7	4
Sub-surface drainage	11	6
Slope drainage	9	5
Downspout/gutter	16	6

*Source: Auditors' Analysis, 2020*

From Table 3.14 common drainage structures were absent in the visited food markets are highlighted below:

### **Surface Drainage**

The Audit found out that 7 out of 16 visited formal markets had poor surface drainage structures for collection of runoff water and liquid wastes. These markets were Mbogamboga in Kongwa DC, Rujewa in Mbarali DC, Soweto in Mbeya CC, Mwanga and Kibirizi in Kigoma Ujiji MC, Kibondo in Kibondo DC and Kirumba in Ilemela MC.

Similarly, the Audit found out that 4 out of 6 visited informal markets had poor surface drainage structures. These markets were Sabasaba in Dodoma CC, Kongwa in Kongwa DC, Sido in Mbeya CC and Mecco in Ilemela MC.

### **Sub-Surface Drainage**

The Audit found out that 11 out of 16 visited formal markets had no sub-drainage structures that collect water towards the main sewer. These markets were Mbogamboga in Kongwa DC, Rujewa in Mbarali DC, Soweto in Mbeya CC, Mwanga and Kibirizi in Kigoma Ujiji MC, Kibondo in Kibondo MC, Kirumba in Ilemela MC and Soko Kuu in Sengerema DC, Temeke Sterio in Temeke MC, Kibaigwa in Kongwa DC and Igurusi in Mbarali DC.

Also, all the 6 visited informal markets had deficiency in sub-drainage structures. These markets were Sabasaba in Dodoma CC, Kongwa in Kongwa DC, Sido in Mbeya CC, Mikaratusini in Kibondo MC, Tazara in Temeke MC and Mecco in Ilemela MC. This contributed to easy contamination of food stuff from wastewater from the clogged open drainage structures.

### **Slope Drainage**

The audit found out that 9 out of 16 visited formal markets did not have slope drainage structure for collection of wastewater to the main drain (Photos 10a and b). This deficiency was observed in Mbogamboga in Kongwa DC, Rujewa in Mbarali DC, Soweto in Mbeya CC, Mwanga in Kigoma Ujiji MC, Kibondo in Kibondo DC, Kirumba in Ilemela MC, Soko kuu in Sengerema DC, Ilala and Ferry in Ilala MC.

Also, 5 out of 6 visited informal markets had deficiency in slope drainage structures. These markets were Sabasaba in Dodoma CC, Kongwa in Kongwa DC, Sido in Mbeya CC, Mikaratusini in Kibondo MC and Mecco in Ilemela MC.

### Downspout/Gutter

All 15 visited formal markets and 6 visited informal markets were not provided with downspout and gutter drainage structures to direct storm water toward the main sewer or collection point. This led to scattering of runoff water in the market near the selling stalls.



These formal markets were Mbogamboga in Kongwa DC, Rujewa in Mbarali DC, Soweto and Mwanjelwa in Mbeya CC, Mwanga and Kibirizi in Kigoma Ujiji MC, Kibondo in Kibondo MC, Kirumba and Mwaloni in Ilemela MC and Soko Kuu in Sengerema DC, Temeke Sterio in Temeke MC, Kibaigwa in Kongwa DC, Ilala and Ferry in Ilala MC and Igurusi in Mbarali DC.

The informal markets with gutter deficiency were Sabasaba in Dodoma CC, Kongwa in Kongwa DC, Sido in Mbeya CC, Mikaratusini in Kibondo MC, Tazara in Temeke MC and Mecco in Ilemela MC.

The Audit team had also identified reasons for deficiency of drainage structures as follows:

**(i) Insufficient Funds Allocation by LGA to Develop New Drainage Structures**

The reasons for non-development of drainage systems in food markets was due to allocation of insufficient funds caused by LGA giving low priority to develop sanitation and hygiene systems in food markets. Records indicates that no funds were disbursed in 21 visited markets during the previous four years. Only four markets which were Kirumba and Mwaloni in Ilemela MC, Ferry and Ilala in Ilala MC had allocated funds. Nevertheless, these funds were not for development of drainage structures. They were for other infrastructures repair.

**(ii) Poor Layout Design of the Market**

The food markets layout designs did not consider further development of drainage structures. Sellers and other facilities fully occupied the whole market area and there was no space for construction of new drainage structures. This resulted in poor hygiene conditions in the markets.

**b) Drainage System were Not Well Maintained**

It was also noted that 6 out of 16 visited markets had deteriorated drainage systems since they were not well maintained. This was observed in Majengo market in Dodoma CC, Kibirizi market in Kigoma Ujiji MC, Kibondo town market in Kibondo DC, Igurusi market in Mbarali DC, Kirumba in Ilemela MC and Soweto market in Mbeya CC (Photo 11a, b).



### **Reasons for not Maintaining Drainage Structures**

#### **(i) Low Priority on the Drainage Infrastructures**

In 16 visited formal markets only 2 markets reported deficiency on the drainage structures and those were Ilala and Kibirizi markets. Due to the low priority given to the drainage structures, markets would report all other infrastructural deficiency but not of drainage structure. Furthermore, out of 4 markets which had set aside funds for infrastructural development none had actually repaired the drainage systems.

#### **(ii) Inadequate Allocation of Funds by LGAs**

There was allocation and disbursement of funds for infrastructural development for only to 2 LGAs out of 10. This anomaly hindered repairs and maintenance of the needed infrastructures such as drainage in the markets. These LGAs were Ilala MC and Ilemela MC.

#### **(iii) Frequency of Deterioration Against Available Funds for Maintenance**

Drainage structures in food markets were found to be exposed to factors such as high rate of siltation where they deteriorated easily leading to

filling up quickly. It was reported also that there were no funds allocated for maintenance of infrastructures.

**c) Old Technology in Managing Liquid Waste**

The Audit noted that only 3 out of 25 visited markets were connected to the central sewer systems for management of liquid waste. The remaining 22 markets used the old technology of pit toilets that make the toilets to overflow frequently and increasing the managing cost. Lack of priority by the management of the markets have led to increased running costs and spread of diseases due to poor hygiene controls in the markets.

**d) Lack of Proper Need Analysis of Actual Available Liquid Waste Generated Against Available Capacity of Liquid Waste Systems**

The actual quantity of liquid wastes generated, both waste water and storm water, exceeded the available installed capacity of the liquid waste systems. This is caused by of lack of conducting proper needs analysis to acknowledge the required capacity of liquid waste system. This poor consideration led to runoff and overflow of the liquid wastes and that could affect food safety due to contamination.

**e) Inadequate Inspection on All Liquid Wastes Systems**

The Audit found out that the LGA did not report on inspection of the liquid waste systems in their progressive reports. This means that monitoring is not done on the performance of liquid waste systems. It also indicates that LGAs do not give higher priority to liquid wastes management in the market in order to improve hygiene status and avoid contamination of food stuff.

**f) Technology Used does not Encounter Exponential Increase in Liquid Waste Production**

The Audit found out that the used designs and construction did not consider exponential increase of liquid wastes and production of liquid wastes from the traders' activities. The increase of the liquid waste exceeds the original capacity of the designed liquid waste structures. The only used technology was observed by the Audit in 23 visited markets while 2 visited markets, Majengo in Dodoma CC and Ilala in Ilala

MC liquid wastes were connected to the city main sewer system through sub surface drainage structures.

### 3.4.6 Inadequate Sanitary Facilities

One of the main functions of LGAs is to establish, install, build, maintain and control drains, latrines, public lavatories, baths and wash places. Also, to establish, maintain, operate and control drainage and sewerage works in public places. This is as prescribed by the Local Government Act, 1982.

### Markets Located in Urban Areas

Markets located in urban areas had high ratio of latrines to the number of users compared with the ones located in rural areas. 3 out of 25 visited markets had adequate facilities for hand washing. This reveals that number of sanitary facilities such as toilets and hand washing facilities were insufficient compared with the number of users in market places. Tables 3.15 and 3.16 describes the situation.

**Table 3. 15: Ratio of Toilets to a Number of Users in Markets Located in Urban Areas**

Market	Based on the designed capacity	Based on number of users	Utilization (%)
Mecco	160	95	59
Mwanjelwa	38	38	100
Tazara	96	111	116
Soweto	111	131	118
Mwanga	80	107	134
Sido	129	179	139
Ilala	164	360	220
Kirumba	59	133	225
Majengo	30	82	273
Sabasaba	243	716	295
Temeke Sterio	23	102	443

*Source: Auditors' Analysis, 2020*

From Table 3.15, the worst-case scenario was recorded in Temeke Stereo market where the percentage of utilization of sanitary facilities was as high as 443%. The least case scenario was recorded at Mecco in Illemela MC where one pit latrines serve 59%.

### Situation of Markets Located in Rural Areas

Four out of 5 visited food markets in rural areas had toilets and hand washing facilities exceeding the utilization capacity of users. The highest utilization was found in Soko kuu in Sengerema DC with 282% representing the worst-case scenario. Whereas the least was observed in Rujewa (72%) in Mbarali DC as indicated in Table 3.16. However, 2 out of 5 visited markets in rural areas had adequate facilities for hand washing. These were Sengerema in Sengerema DC and Mbogamboga in Kongwa DC.

**Table 3. 16: Ratio of Latrines to Number of Users in Markets Located in Rural Areas**

Market	Based on the designed capacity (No of users per pit latrine)	Based on number of vendors (Number of vendors per pit latrine)	Utilization (%)
Rujewa	71	51	72
Mbogamboga	52	60	115
Kibondo Town	43	51	119
Mikaratusini	29	68	234
Soko kuu Sengerema	60	169	282

*Source: Auditors' Analysis of the Pit Latrines Observation, 2020*

Furthermore, the Audit revealed that Kongwa market located in Kongwa DC did not have pit latrines at all. However, vendors constructed a pit latrine on the area outside the market. Jioni market in Sengerema DC did not have a toilet since it is an informal market located along the road.

### Situation in Specialized Markets

The Audit found out that 3 out of 4 visited special markets had utilization of sanitary facilities exceeding the proposed capacity. The worst-case scenario was observed at Ferry at Ilala MC with 227% of overutilization while the least case scenario was observed at Kibirizi in Kigoma Ujiji MC with 100% utilization as indicated in Table 3.17.

**Table 3. 17: Ratio of Latrines to Several Users in Specialized Markets**

Market	Based on the designed capacity (No of users per pit latrine)	Based on number of vendors (Number of vendors per pit latrine)	Utilization (%)
Kibirizi	71	71	100
Kibaigwa	25	50	200
Mwaloni	35	71	203
Ferry	33	75	227

*Source: Auditors' analysis of the pit latrines observation, 2020*

From Table 3.17 the best-case scenario was observed at Kibirizi and the worst case scenario was observed at Ferry. This was attributed by non-compliance to the ratio of pit latrines to numbers of people.

#### **Reasons for Inadequate WASH Facilities**

The Audit team identified some reasons for inadequate WASH facilities in most of the visited markets. These include:

##### **a) Improper Control in Establishment of Markets**

The Audit noted that some markets are being established without adequate need analysis of sanitary infrastructures as per standard requirement which directs that one drop hole should accommodate 25 users (1:25).

##### **b) Continual Expansion of Markets Infrastructures**

Continuous expansion of markets by adding selling stalls without providing corresponding additional sanitary facilities has also contributed to over utilization of market sanitary facilities as was found in Temeke Sterio in Temeke MC and Ilala in Ilala MC.

##### **c) Markets are Gradually Established by Local Vendors in Unplanned Areas**

Currently, markets established by local vendors in unplanned areas remained without sanitary infrastructures in place.

Markets like Jioni in Kigoma Ujiji MC which is located along the road do not have sanitary infrastructures. The LGAs tried to construct a toilet which could not be used due to infrastructural challenges in connecting water. It was reported that people (sellers and customers) use alternative sanitary facilities in nearby houses.

#### ***3.4.7 Unsatisfactory Condition of Sanitary Facilities***

The Water Supply and Sanitation Act of 2009 together with the Public Health Act, 2009 require Government Authorities responsible for hygiene and sanitation including LGAs to establish strategies, promote and improve hygiene practices in public places, Food Markets being among them.

Through observation the Audit found out that 2 out of 25 visited markets that is Kibondo Town and Mikaratusini in Kibondo DC had worst hygiene conditions. Also, 3 markets that is Mwanjelwa in Mbeya CC, Mwaloni in Ilemela MC and Kibirizi in Kigoma Ujiji MC were found to have satisfactory hygiene conditions in their sanitary facilities. Although Mwaloni market had satisfactory hygiene conditions, its liquid waste structures were overflowing during rainy season. This was due to faults found in the central sewer system. The waste overflow had been reported several times but no efforts had been taken to rectify up to the time of the Audit.

These were caused by the following:

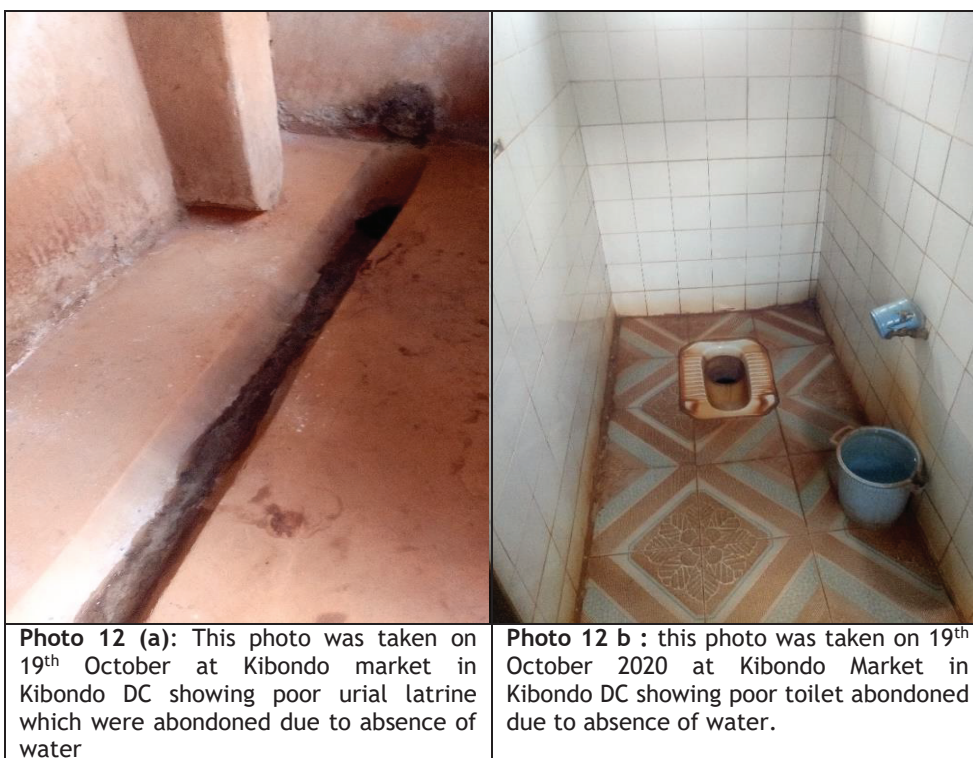
##### **a) Poor Dilapidated Structures**

Toilets were not renovated and maintained to ensure their quality. Seven out of 25 markets were found with unsatisfactory hygiene conditions due to dilapidated structures but at least water was available. Those markets were Sabasaba in Dodoma CC, Kibaigwa in Kongwa DC, Rujewa in Mbarali DC, Sido and Soweto in Mbeya CC, Mwanga in Kigoma Ujiji MC, and Kirumba in Ilemela MC. This has been contributed by low priority given to the toilet facilities by the LGAs.

##### **b) Absence of Water in Markets**

The Audit found out that 17 out of 25 visited food markets did not have adequate supply of water in the food markets even though there is water supply systems and hand washing sinks were provided.

Furthermore, Markets found at Kibondo DC had no supply of water and the service provider claimed that he was not given funds to facilitate provision of water in the toilets. Absence of water supply in the toilet worsened the status of hygiene in those toilets. Photo 12a and 12b shows the status of the toilets at Kibondo DC.



Main reasons for not having water supply in markets sanitary facilities are as follows.

**(i) Absence of Water Supply Systems in the Sanitary Facilities**

Eight of 25 visited markets had no water supply systems in the toilets. The LGAs did not plan for water supply in markets and the situation remain the same. This is seen as a failure by the market management and LGA in general.

**(ii) Inadequate Management of Sanitation Facilities in the Markets**

Due to poor management of sanitation, some components of sanitation facilities were stolen in some markets. Their management could not provide enough security. They had to disconnect the water supply from the toilets because of the theft.

Markets such as Majengo in Dodoma CC, Kibaigwa Mbogamboga in Kongwa DC and Igurusi in Mbarali DC were found with standard hygiene conditions. Photo 13(a) and 13(b) shows the status of the toilets at Kibaigwa market and Mikaratusini markets.



Inadequate sanitary facilities have resulted into overutilization of the sanitary facilities that led to frequent overflow and increase in charges of waste removals and difficulties in managing hygiene of the sanitary facilities.

### 3.5. Inadequate Enforcement of Hygiene Controls and Standards

According to the Local Government Act, 1982; LGAs, subject to the consent of the responsible Minister, can make and enforce by-laws designed to foster and maintain the health, safety and well-being of the inhabitants of its area of jurisdiction.

The Audit found out that in the 25 visited markets there were inadequate enforcement of standards and controls as evidenced through the following:

### a) Arrangement/Placing of Food on the Floor

Sixteen out of 25 visited markets had food products arranged on the floor by sellers contrary to the requirements of Public Health Act. These markets were Majengo and Sabasaba in Dodoma CC, Sido and Soweto in Mbeya CC, Kibirizi, Mwanga and Jioni in Kigoma Ujiji MC, Mikaratusini in Kibondo DC, Kirumba, Mwaloni and Mecco in Ilemela MC, Jioni in Sengerema, Ilala and Gongo la mboto in Ilala MC, Tazara and Temeke Stereo in Temeke MC (Table 3.18)

**Table 3. 18: Status of Food Arrangement in Markets**

Situation	Number of markets
Markets not arranging food on the floor	9
Markets arranging food on the floor	16

*Source: Auditors' Analysis, 2020*



Arrangement of food on the floor as seen in photo 14 (a) and (b) was due to inadequate number of selling stalls. This practice can lead to contamination of food at market and thus increase health risk to the consumers.

## b) Absence of Zoning

Through observation the audit noted that 17 out of 25 visited markets had not adhered to zoning standards. There was no proper grouping of sellers with respect to types of food they sell (Photo 15 a and b). For example, butcheries were seen located in areas with ordinary shops in Mwanjelwa market. Further details on the analysis of zoning with respect to markets is attached in **Appendix 10**.



**Photo 15 (a):** This photo was taken on 30<sup>th</sup> September 2020 at Rujewa market in Mbarali DC showing poor zoning of commodities in the market.

**Photo 15 (b):** This photo was taken on 14<sup>th</sup> September 2020 at Sabasaba market in Dodoma CC showing mixing of commodities in the market.

Analysis of the markets on the zoning status is presented in Table 3.19 below:

**Table 3. 19: Status Zoning in the Visited Markets**

Situation	Number of markets with that situation
Markets with satisfactory zoning	8
Markets with unsatisfactory zoning	17

*Source: Auditors' Analysis, 2020*

Lack of proper zoning in the market was partly caused by poor management of the market by the market administration including

market manager and health officers that were supposed to ensure adherence of zoning practices in the market.

Poor zoning in the market can lead to contamination of food stuff and thus increase health risk to the consumers.

**c) Non-Compliance with Health Requirement including Medical Examination to Food Handlers**

Through observation made in 25 visited markets health checkups were done to those who sell cooked food only but not to sellers of vegetables and other food products of public health importance. Public health Act did not explicitly mention other sellers like the ones who deal with vegetables, but it gives room for other related matters. This means that even those who sell vegetables and fruits must undergo medical checkup after every six months.

In this Audit, it was found that only 4 out of 25 visited markets had vendors who underwent health checkups as required by the public health Act. Others claimed that they left their medical certificates at home. These markets were Majengo in Dodoma CC, Kirumba and Mwaloni in Ilemela MC and Soko Kuu in Sengerema DC. Conducting medical examination to food handlers is important to prevent transmission of communicable disease from one person (seller) to the other (customer) or vice versa.

Furthermore, health checkup forms were not similar across all LGAs. The difference was also noted on parameters for medical examination. The differences is cause by absence of national guideline on medical examination among food handlers and those doing similar businesses that can facilitate spread of communicable diseases.

Inadequate zoning was attributed to the following:

**a) Ineffective Operations of Health Officers**

In the visited markets the audit noted ineffective operations by health officers in 15 out of 25 markets where periodic inspections were not conducted due to absence of proper planning and prioritization of inspection activities.

#### **b) Absence of Inspection Checklist**

The Audit found out that inspections conducted in Markets have no checklist to ensure that all important aspects have been covered and facilitate evaluation for further decision making. Health Officers conducted inspections based on their knowledge and interest. As a result, important aspects were left out. This was caused by inadequate priority given to the market by the authority responsible which would have assisted in preparation of inspection checklist or a standard form for all users.

#### **c) Absence of Stationed Health Officers in Markets**

There were no Health Officers stationed in 22 Out of 25 visited markets to enable frequently inspection. Review of reports from Health Departments and Finance departments in both LGAs and interviews held with operational officials from the markets showed that inspection activities in markets without stationed health officers such as Mwaloni in Illemela Mwanza and Kibirizi in Kigoma Ujiji MC were ineffectively done. Markets needs to be inspected daily from cleanliness status of the market, status of food products sold and all the way to handling of food.

The only markets with stationed Health Officers were Ferry in Ilala MC, Temeke Stereo in Temeke MC and Majengo in Dodoma CC. This was associated with insufficient allocation of health Officers. The impact of this is absence of frequent inspections which compromises the standard requirements of hygiene practises in the market.

Implication for non-compliance with health requirements were increased spread of non-communicable diseases since markets are the source of food for all people. Hence if there are contaminations they spread quickly in the community.

#### **3.5.1 Inadequate Inspection in Markets**

Public Health Act of 2009 requires that a permit or licence for markets establishment shall not be issued by the Authority unless its Conditions are fully satisfied for issuance of a permit

Through review of Medium-Term Expenditure Framework of the visited LGAs it was noted that 4 out of 10 visited LGA had plans for inspection but they did not cover the markets. These LGAs were Dodoma CC, Kongwa DC, Mbarali DC and Kibondo DC. Furthermore, through review of

quarterly reports 4 LGAs reported inspection on the markets despite the fact that it was not seen in their plans. These were Ilala MC, Temeke MC, Kongwa DC and Mbarali DC. Table 3.20 presents status of inspection in the visited food markets.

**Table 3.20: Level of Inspection**

Level of Inspection	No. of Markets
Inspected regularly	2
Inspected to the smallest extent	10
Not inspected at all	13

*Source: Auditors' Analysis of the LGAs Inspection Reports, 2020*

Table 3.20 shows that 2 out of 25 markets conducted inspection regularly. These markets were Ferry and Temeke. It was noted that these markets had stationed health Officers. 10 out of 25 visited markets had smallest record of inspections. This was captured by the fact that Ward Health Officer would pass at undefined intervals of time in the markets without checklist to capture important aspects of hygiene in the markets. These markets were Majengo and Sabasaba in Dodoma CC, Kibaigwa Mbogamboga in Kongwa DC, Kirumba, Mecco and Mwaloni in Ilemela MC, Soko kuu and Jioni market in Sengerema market, Ilala in Ilala MC and Tazara in Temeke MC.

Furthermore, 13 out of 25 visited markets were not inspected at all. These markets were Kongwa and Kibaigwa in Kongwa DC, Rujewa and Igurusi in Mbarali DC, Sido, Soweto and Mwanjelwa in Mbeya CC, Kibirizi, Mwanga and Jioni in Kigoma Ujiji MC, Gongo la mboto in Ilala MC, Kibondo and Mikaratusini in Kibondo DC.

The reported reason for inadequate inspection includes the following:

#### **Inspection is Unsystematically Conducted**

The audit revealed that inspection/audit is unsystematically conducted without clear guidelines or reference for data to be collected that are necessary for decision making. Although Health Officers explained that food is being inspected before entering the markets, there was no evidence supporting this.

### **Absence of Checklist to Guide Hygiene Inspections in Markets**

There was no checklist to guide inspection which could have assured that important aspect for hygiene in the market are properly covered during inspection.

Furthermore, the Audit noted that there were no budget set aside for market inspections except for inspecting hygiene conditions in guest houses, cosmetics shops and private health facilities.

#### **3.5.2 Non- Administration of Sanctions and Penalties**

Section 149 of the Public Health Act of 2009 requires LGAs to make by-laws prescribing for goods which may be sold and other specific conditions, conditions under which goods may be brought into the markets, shops and supermarkets, layout of stalls for sale of different articles, proper management of markets, and setting of times and days of operations

The Audit revealed the following regarding non-administration of sanctions and penalties: -

##### **(a) Few LGAs Apply Sanctions to Vendors for Their Misconduct**

Through review of quarterly reports only 3 out of 10 LGA, namely Dodoma CC, Ilala MC and Illemela MC were able to show evidence of penalties given to the sellers and /or vendors for their misconduct.

##### **(b) By-Laws did Not Cover Sanctions on Hygiene Issues**

Through review of LGAs by laws it was found that 2 out of 10 visited LGAs (Mbeya CC and Sengerema DC) had by-laws that did not cover penalties and sanctions on hygiene issues in the market.

The consequence for not applying sanctions was identified as an increase in number of defaulters as 16 out of 25 markets were found to arrange foodstuff on the floor and close to the toilets, contrary to Laws and Regulations (Photo 16) thus contributing to deterioration of hygiene condition in the market.



**Photo 16:** Food Products placed close to the toilet contrary to the requirement of 50 m being placed from the toilet to avoid spread of bacteria from the toilets

In addition, the consequence for non-application of sanction to the LGAs was loss of revenue since the defaulters were not paying penalties. It was also difficult to control the cleanness of the market especially for sellers who arrange food in the market open spaces.

Furthermore, the system of payment does not separate penalties of health sector from other sectors. Therefore it was hard to identify revenue earned from penalties on the health section in the market.

### ***3.5.3 Inadequate Periodical Awareness Campaign to Traders and Vendors***

Through review of quarterly reports, the audit noted that only 4 out of 10 visited LGAs were conducting periodical awareness campaigns to traders and vendors to ensure general understanding of hygiene practices in markets. These LGAs were Mbeya CC, Dodoma CC, Ilala MC and Ilemela MC.

In Dodoma CC, provision of health education to traders and vendors was reported to be done through the radio to vendors. For example, there is evidence that in 2018/2019 awareness campaign was done in Sabasaba market.

In Ilala MC, Mbeya CC and Illemela MC the Ward Health Officers initiated and set aside a day that was special for cleanliness only and that everyone was required to participate. In addition to cleaning, providing education and awareness on hygiene matters in markets is done to vendors. There was no evidence if awareness was being conducted to the remaining 6 LGAs. Lack of awareness creation was caused by:

#### **Inadequate Planning**

The Audit noted that 6 out of 10 LGAs had inadequate planning that were neither supported with plans nor budgets for hygiene awareness campaign to vendors despite its public health importance.

#### **Non- prioritization of Market Hygiene Matters**

The Audit found out that market hygiene matters were not prioritized in the LGAs to the extent that even the need for awareness creation was not seen that adds value to the increased risk of outbreak of diseases.

### **3.6 Poor Monitoring and Evaluation in Managing Hygiene Practices in Food Markets**

There is poor monitoring on market activities by LGA, RS and PO-RALG despite their importance on public health. In the visited 25 markets there was no evidence on the monitoring conducted by LGAs and RAS. Also, PO-RALG did not have performance indicators on assessing market hygiene. Inadequate monitoring by RS and PO-RALG is due to the following:

#### **Monitoring by LGAs**

The Audit found out that 1 out of 10 LGAs, which is Ilala MC conducted supportive supervision in markets but there was no evidence for monitoring and evaluation in place. LGAs were supposed to conduct monitoring in the markets to facilitate better allocation of funds and form a basis for decision making.

#### **Monitoring by RSs**

The Audit found out that no RS conducted monitoring on hygiene matters although they were supposed to monitor all the LGAs in their

Regions. Monitoring by RS was supposed to focus on the performance of the LGA in managing hygiene matters in the markets.

### **Monitoring by PO-RALG**

PO-RALG did not conduct any monitoring on hygiene matters in the markets. Monitoring of PO-RALG was supposed to focus on the performance of the RS and LGAs in managing hygiene, compliance with policies and regulations.

Non-monitoring of food markets was caused by the following reasons.

#### ***3.6.1 Ineffective Mechanisms for Monitoring and Evaluating Hygiene in Food Markets by PO-RALG and LGAs***

PO-RALG's Strategic Plan (2016/17 - 2021/22) requires PO-RALG in improving health and social welfare of the community to putting in place effective Monitoring and Evaluation system at all levels of PO-RALG where the critical issues regarding hygiene to be considered

The Audit noted that PO-RALG and LGA do not have effective mechanisms for monitoring and evaluating hygiene in food markets due to the following:

##### **a) Absence of Structured Monitoring Plan**

Through review of monitoring reports from PO-RALG the Audit noted absence of structured monitoring plan for markets in PO-RALG. Monitoring plan in the Health Department at PO-RALG covers issues of sanitation, but there was no information related to hygiene in market that was captured. Despite presence of National Sanitation Campaign where issues of toilets in public places are addressed, there was no intervention to improve the toilets in the visited markets.

##### **b) Absence of Plans in Monitoring Hygiene of Markets by LGAs**

Through review of the Action Plan and Comprehensive Council Health Plans of the 10 visited LGAs, the Audit noted that only 1 out of 10 visited LGA which is Kongwa DC had plans for monitoring hygiene conditions in markets. Plans for inspection in the visited LGAs based on cosmetics shops, food premises and guest houses and not markets.

The Audit further noted that there was no mechanism set by LGAs to monitor hygiene condition in the markets. Furthermore, in the visited 10 LGAs none had set aside budgets for monitoring and evaluation. Through interviews with Health Officers the audit noted that there were ad hoc visits in the markets but neither inspections reports were found in place nor monitoring reports.

Inadequate monitoring of hygiene in food markets was reported to be due to low priority given to the preventive section in LGAs.

The Audit found out that in LGAs despite having sufficient resources, no monitoring activities on the hygiene of markets are implemented. Through the review of MTEF of the visited LGAs there was no evidence of budgets set aside for monitoring activities in the markets.

Absence of effective mechanism for monitoring and evaluation of hygiene conditions in the market leads to inadequate follow up on the matters to be rectified. For example, the Kongwa market was found to have no toilets but no evidence shows that follow up was done. Also, it affects the planning process where critical areas in the markets would have been prioritized.

### ***3.6.2 Absence of Relevant Performance Indicators in Place to Evaluate Hygiene Issues in Food Markets***

PO-RALG strategic plan requires LGAs to develop a results framework that will include outcome, output, process, and input indicators in the Results Framework. That will form the basis of day-to-day M&E work of the LGAs.

Through review of quarterly reports from PO-RALG there were no evidence of performance indicators for sanitation and hygiene in markets rather evidence was available for sanitation status in wards in general and not food markets. Furthermore, in the 10 visited LGA through review of quarterly reports it was noted that there was no common checklist for inspecting food markets and no LGA had performance indicators for measuring hygiene condition in the food market.

This would result into absence of information concerning hygiene in markets to the top authority such as PO-RALG for decision making which would be important for planning in addressing some health challenges such as outbreak of diseases.

### ***3.6.3 Ineffective Reporting Mechanism in Place to Facilitate Communication and Smooth Flow of Information between LGAs and PO-RALG and Vice Versa***

PO-RALG's Strategic Plan (2016/17 - 2021/22) requires PO-RALG in improving health and social welfare of the community to putting in place effective Monitoring and Evaluation system at all levels of PO-RALG where the critical issues regarding hygiene to be considered.

Through review of quarterly reports, the Audit noted that there was a good flow of information from LGA to PO-RALG on sanitation and hygiene issues but did not cover markets. In 10 out of 25 visited markets there were no reports prepared and shared from the officer in charge of the market to higher authorities in the LGA. Information is shared only and only if there is a problem that need intervention from PO-RALG.

The consequence of that was the absence of hygiene performance information at the top authority for decision making. Consequently, priority was not given to market hygiene activities and the activities were not incorporated in the plans and budgets.

### ***3.6.4 Inadequate Sharing and Use of Monitoring Information***

PO-RALG strategic plan requires that Institutions undergone M&E and to be issued with M&E report including the recommendations for improvements with an intention of ensuring that they address them for further improvements

PO-RALG was supposed to share recommendations to LGAs for improvements with an intention of addressing shortcomings for further improvements. Through review of quarterly reports from PO-RALG the Audit noted that there was no evidence on the monitoring reports concerning hygiene issues in the markets.

In the visited 10 LGAs there was no evidence of information which has been shared from PO-RALG that would have helped to improve hygiene conditions in the markets.

This was caused by ineffective and poor reporting mechanism in place as elaborated in Section 3.6.3 of this report.

The Audit noted that inadequate monitoring led to absence of information on the hygiene challenges in the market which would help to identify focus and prioritize areas during planning for further improvements. Non-monitoring of the food markets enhanced existence of same hygiene challenges in the markets.

## **CHAPTER FOUR**

### **AUDIT CONCLUSION**

#### **4.1 Introduction**

This chapter draws the audit conclusion based on the findings presented in the previous chapters. The basis for drawing the audit conclusions is the overall and specific objectives of the audit as presented in chapter one of this report.

#### **4.2 General Conclusion**

Based on the findings and as assessed by overall objective of the audit; it is concluded that President's Office - Regional Administration and Local Government has not adequately managed hygienic practices in food markets to ensure safe delivery of food products to the public.

This was evidenced through the visited markets which were found to have unsatisfactory hygienic conditions. The infrastructures necessary for hygienic conditions in food markets such as drainage and liquid waste or sewerage systems were not in place or were not well maintained. In some markets, waste bins and skip buckets were overflowing with waste and the areas around the skip buckets turned out to be dumping sites since large quantities of generated solid waste remained uncollected.

This was caused by non-enforcement of hygiene controls and standards governing food markets. In addition, market infrastructures for water, sanitation and hygiene were either not present or inadequately maintained and thus not functioning well to support hygiene requirements of the marketplace.

The audit acknowledges government efforts in improving sanitation and hygiene in the markets. However, more interventions are needed to further improve hygiene in food markets.

### **4.3 Specific Audit Conclusions**

#### **4.3.1 Lack of Adequate Controls in Place to Support Hygiene Practices in Food Markets**

PO-RALG did not ensure adequate controls of hygiene practices in the market. The LGAs have established by-laws, endorsed by PO-RALG. However, the by-laws do not cover issues related to hygiene control and other factors that may lead to contamination of food in the market.

The Audit noted that PO-RALG did not ensure that LGAs keep traders and vendors Registers in LGAs to ensure effective management of the vendors in the markets. As a result, this led to inadequate planning and loss of revenue. Furthermore, LGAs did not ensure adequate hygienic standards in formalized markets due to non-involvement of health officers during the scrutiny of markets building plans.

The absence of guidelines for the operations of the markets was due to inadequate control and monitoring by Local Government Authority to ensure that Market Committees have all necessary requirements and operational documents.

#### **4.3.2 Market Infrastructures and WASH Systems are Not Well Functioning to Support Hygiene Requirements**

PO-RALG through LGAs did not set aside enough funds for market infrastructural development to ensure that market infrastructure and sanitation are well functioning. This was attributed to low priority given to the maintenance of infrastructures despite that revenues have been collected from the markets.

12 out of 25 visited markets had no provision of water. The worst-case scenario was evidenced at Kibondo Town and Mikaratusini markets in Kibondo DC where traders had abandoned the use of public toilets due to water unavailability. This contributed to loss of revenue which could have been obtained from the use of toilet services.

Similarly, 16 out of 25 visited markets had mis-managed solid waste as these markets were found with unsatisfactory hygiene conditions. This was attributed to untimely removal of waste, overflowing skip buckets that led to development of damp around the skip bucket areas. Other reasons were presence of collapsed refuse receptacle chambers and

inadequate supervision on the areas where contractors offer solid waste management services in the market.

Furthermore, the Audit found out that LGAs, did not ensure adequate sanitation services and facilities. Markets located in urban areas had high ratio of latrines to the number of vendors compared to the ones located in rural areas. This revealed that sanitation facilities such as toilets and hand washing were insufficient to cater for available vendors, traders and clients in marketplaces. That deficiency was associated with improper control of both established and expanded market infrastructures.

#### **4.3.3 Non-Enforcement of Hygiene Controls and Standards Governing Food Markets**

PO-RALG through LGAs did not ensure that standards were effectively enforced at markets.

PO-RALG through LGAs inadequately prioritized inspections in the food markets. LGAs prioritized inspection in the cosmetics shops, guest houses and healthcare facilities. Furthermore, LGAs did not ensure adequate administration of sanctions and penalties and did not conduct periodical awareness. This was due to low priority given to the management of market hygiene by PO-RALG and LGAs.

#### **4.3.4 Absence of Effective Monitoring and Evaluation of LGAs' Performance in Managing Hygiene Practices in Food Markets**

The President's Office - Regional Administration and Local Government have developed plans for monitoring but these plans have not covered market hygiene.

Similarly, PO-RALG did not develop Key Performance Indicators for measuring the performance of LGAs and RS on management of hygiene control in the food markets. This was caused by improper planning since review of the Medium-Term Expenditure Framework showed no evidence for monitoring plans on market hygiene.

Furthermore, Regional Health Officers did not monitor the management of hygiene controls which contribute to deteriorating status of hygiene in the market. They focused instead on the health centers activities addressing the sick more than on preventive activities. This impaired ability to make proper planning for ensuring safe delivery of food to the public from the market.

## CHAPTER FIVE

### AUDIT RECOMMENDATIONS

#### 5.1 Introduction

This chapter contains recommendations to the President's Office-Regional Administration and Local Government Authority with regards to the management of hygiene controls in food markets in the country.

The audit acknowledges the Government efforts through PO-RALG towards improving hygiene conditions in food markets in the country including deployment of health officers in some of the markets. However, PO-RALG need to formulate more stringent interventions to improve the hygiene condition in the markets. This will ensure safe delivery of food products to the public emanating from hygienic environment.

The National Audit Office believes that based on the principles of 3Es' of Economy, Efficiency and Effectiveness, these recommendations need to be fully implemented to ensure improvements of the hygiene conditions in the markets.

#### 5.2 Recommendations to PO-RALG

This Audit provides the following audit recommendations to enhance the performance of PO-RALG through LGAs in improving the hygiene conditions in the markets to guarantee delivery of safe food and its products to the public.

***The President's Office - Regional Administration and Local Government should:***

- 1) Enhance efforts to improve hygiene practices in Food Markets.
- 2) In collaboration with the Ministry of Health, Community Development, Gender, Elderly and Children develop guidelines and checklists for inspection of hygiene requirements at Food Markets;
- 3) Conduct adequate need analysis on hygiene requirements during establishment and expansion of Food Market;

- 4) Ensure presence of comprehensive bylaws and application of sanction and penalties to defaulters; and
- 5) Ensure availability of a structured monitoring plan with adequate performance indicators on hygiene practices in Food Markets at LGA, RS and PO-RALG

***The President's Office - Regional Administration and Local Government should ensure that Regional Secretariats have:***

- 1) Adequate monitoring mechanism on hygiene in Food Markets using the available Risk Food Inspection Guideline for Food selling Premises
- 2) Enhance LGAs control over establishment of Food Markets.

***The President's Office - Regional Administration and Local Government should ensure that Local Government Authorities have:***

- 1) Adequate plans and budget for infrastructural development of Food Markets.
- 2) Adequate control over establishment and expansion of Food Markets; and
- 3) Proper coordination between important stakeholders in the markets mainly Market Administration and Market Committee.

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# APPENDICES

## Appendix 1: Responses from the PO-RALG

This part covers responses from the Audited Entity the President's Office-Regional Administration and Local Government (PO-RALG). The responses are divided into two parts namely, general comments and specific comments as detailed below:

### General Comment:

The President's Office Regional Administration and local Government (PORALG) through RS and LGAs has been constructing and expanding markets with the aim of ensuring services are close to people. Recommendation provided in this Performance Audit are very valid and will assist a lot on improving hygiene controls in food Markets through enhanced monitoring plan, coordination, comprehensive allocation of funds for operation and maintenance of market infrastructures, availability of guidelines for food controls in markets and ensuring officers are stationed to ensure close monitoring and compliance.

### Specific Comments:

SN	Recommendation to PO-RALG	Comments from PO-RALG	Planned Action(s)	Implementation Timeline(s)
<i>The President's Office - Regional Administration and Local Government should:</i>				
1.	Enhance adequate efforts to improve hygiene practices in Food Markets.	Auditor's Comment is adhered, LGAs do assign Health Officers to ward level who are also responsible of supervising among others Hygiene in Markets. For the main markets there have been specific health Officers for Food Markets e.g Dar es Salaam 15 officers have been stationed to markets. Due to the critical shortage of particular	PORALG through RS and LGAs will enhance Market administrations to execute their responsibility on ensuring food hygiene in Markets standards are adhered.	June,2021

		officers in all LGAs and PORALG will continue using available means to ensure safe hygiene in Market while looking forward on ensuring shortage of the officers is resolved.		
2.	In collaborations with the Ministry of Health, Community Development Gender, Elderly and Children develop regulations, guidelines and checklists for inspection and hygiene requirements at Food Markets	Currently there is no guideline for Food hygiene in Markets, The PORALG will collaborate with the Ministry of Health, Community development, Gender, Elderly and Children to facilitate availability of guidelines. LGAs will continue using available checklist in routine supervisions of public places that also involve Markets to enhance hygiene in Markets.	The Ministry Will collaborate with Ministry of Health to facilitate formulations of Guidelines for Food hygiene in Markets	June, 2022
3.	Conduct adequate need analysis on hygiene requirements during establishment and expansion of Markets.	The recommendation is adhered, The PORALG will facilitate analysis on hygiene requirement for establishment and expansion of markets for the purposes of making improvement.	Existing requirements for establishment of Markets and expansion will be reviewed to ensure they are addressing compressively food hygiene in Markets	December, 2021

4.	Ensure presence of comprehensive by-laws and application of sanctions and penalties	The main law currently used to enforce Food hygiene in LGAs is the Public Health Act.No.1 (2009). To ensure local context is considered formulation of bylaws addressing Food hygiene in Markets is very important.	The PORALG will provide directives to LGAs to ensure the inclusion of by laws regarding food hygiene in Markets in their Council's by law and their enforcement.	June, 2022
5.	Ensure availability of a structured monitoring plan with adequate indicators on hygiene practices in Food Markets at all levels of RS, LGA and PO-RALG.	Food safety and Hygiene was previously controlled under TFDA, however it delegated its functions to LGAs. By now the Food hygiene and safety matters have shifted to TBS. This important adjustment has changed the monitoring frame work as TBS is directly Supervising Food hygiene and Safety in all premises including Markets and No delegation to LGAs on functions.	PORALG will communicate with TBS and Ministry of Health, Community, Development , Gender, Elderly and Children to enhance collaboration and coordination and come out with harmonized Monitoring Plan for all on Food Hygiene in Markets	December, 2021
<b><i>The President's Office - Regional Administration and Local Government should ensure that Regional Secretariats have:</i></b>				
1.	Adequate hygiene monitoring mechanisms in food markets	The recommendation is adhered	Checklist development Reports followed up	June,2021

2.	Control over establishment of markets is enhanced	The recommendation is adhered	Conduct follow up	Routinely
<b><i>The President's Office - Regional Administration and Local Government should ensure that Local Government Authorities have:</i></b>				
1.	Set aside adequate funds for infrastructural development	Auditor's recommendation is adhered and LGAs will be instructed to set aside funds from their revenue for operation and maintenance of infrastructures of markets	Provide Instruction letter  Make Follow up	March,2021 and routinely each Fiscal Year
2.	Adequate control over establishment and expansion of markets	LGAs will be reminded to ensure adherence to controls and requirements for establishment and expansion food markets	Make Follow up	Routinely
3.	Proper coordination between important stakeholders in the market mainly Market Administration and Market Committees	Auditor's recommendation is adhere and LGAs will be directed to ensure compliance of food markets on establishing Market administrations and Committees	Make Follow up	Routinely

## Appendix 2: Audit Questions and Sub-Questions

This part provides details for the questions which were involved during the Audit.

<b>Audit Question 1</b>	<b>Do hygiene conditions in food markets meet required standards?</b>
<i>Sub-question 1.1</i>	<i>What is the status of hygiene conditions in food markets?</i>
<i>Sub-question 1.2</i>	<i>What efforts have been made by PO-RALG to ensure safe and hygiene conditions in food markets?</i>
<b>Audit Question 2</b>	<b>Are controls to support hygiene practices in food markets in place and functioning adequately?</b>
<i>Sub-question 2.1</i>	<i>Are there clear by-laws and hygiene standards that govern operations of food markets?</i>
<i>Sub-question 2.2</i>	<i>Are vendors registered and assigned selling stalls in accordance with required standards and capacity of markets?</i>
<i>Sub-question 2.3</i>	<i>Do LGAs have controls on the establishment of food market?</i>
<i>Sub-question 2.4</i>	<i>Are the newly established or formalized food markets meeting required hygiene standards?</i>
<i>Sub-question 2.5</i>	<i>Are there well-functioning Market Committees?</i>
<b>Audit Question 3</b>	<b>Are market infrastructures and sanitation systems functioning well to support hygiene requirements?</b>
<i>Sub-question 3.1</i>	<i>Do LGAs finance development of market infrastructures?</i>
<i>Sub-question 3.2</i>	<i>Are the designs for established markets conforming to standard requirements of hygiene in food markets?</i>
<i>Sub-question 3.3</i>	<i>Is there adequate supply of water to enhance sanitation and hygiene in food markets?</i>
<i>Sub-question 3.4</i>	<i>Is solid waste management system functioning well to ensure constant cleanliness in food markets?</i>
<i>Sub-question 3.5</i>	<i>Is liquid waste management system functioning well to ensure constant cleanliness in food markets?</i>
<i>Sub-question 3.6</i>	<i>Do food markets have enough sanitary facilities (toilets, handwashing etc) to accommodate both vendors and customers?</i>
<i>Sub-question 3.7</i>	<i>Are the sanitary facilities operating in hygienic conditions?</i>
<b>Audit Question 4</b>	<b>Are hygiene controls and standards governing Markets enforced adequately?</b>
<i>Sub-question 4.1</i>	<i>Are periodical inspections to check adherences to hygiene practises in market conducted adequately?</i>
<i>Sub-question 4.2</i>	<i>Are sanctions (penalties, and fines) administered to</i>

	<i>mitigate effects on effects on hygiene standards?</i>
<i>Sub-question 4.3</i>	<i>Do LGAs conduct periodical awareness campaign to vendors to ensure general understanding regarding hygiene practises in food markets?</i>
<b>Audit Question 5</b>	<b><i>Is Monitoring and Evaluation periodically conducted to assess performance of LGAs in managing hygiene practices in Food Markets?</i></b>
<i>Sub-question 5.1</i>	<i>Is there effective mechanism for monitoring and evaluating hygiene in food markets by PO-RALG and LGA?</i>
<i>Sub-question 5.2</i>	<i>Are there relevant and operating Key Performance Indicators that support control of hygiene issues in food markets?</i>
<i>Sub-question 5.3</i>	<i>Is there a reporting mechanism in place that facilitates communication and flow of information between LGAs to PO-RALG and vice versa?</i>
<i>Sub-question 5.4</i>	<i>Are the information obtained from monitoring and evaluation activities used to improve hygiene conditions in LGA?</i>

### Appendix 3: Reviewed Documents

This part provides details on the documents that were reviewed and the reasons for review.

Category of the documents	Documents reviewed	Reasons for the review
President's Office - Regional Administration and Local Government (PO-RALG)	<ul style="list-style-type: none"> <li>• Strategic plan 2017/18-2020/21</li> <li>• Annual Plans 2016/17-2019/20</li> <li>• Quarterly and Annual Progress Reports of the Health and Trade Department</li> </ul>	<p>To obtain information on:</p> <ul style="list-style-type: none"> <li>• Performance of PO-RALG in controlling hygiene in food markets.</li> <li>• Functioning of hygiene control system in food markets.</li> <li>• Effectiveness of Monitoring and Evaluation done by PO-RALG, RS and LGAs to the food markets.</li> </ul>
Regional Secretariat	<ul style="list-style-type: none"> <li>• Strategic and Annual Plans 2016/17-2020/21</li> <li>• Quarterly and Annual Progress Reports</li> </ul>	Assess the performance of Health, Environment and Waste Management Departments.
Local Government Authority	<ul style="list-style-type: none"> <li>• Quarterly and Progressive Reports from Health and Environmental and Waste Management Departments.</li> <li>• Budget allocation for Health and Environmental and Waste Management Departments.</li> <li>• Budget Implementation Reports Health and Environmental and Waste Management Departments.</li> <li>• Reports from Health Officers stationed in food markets.</li> <li>• Budgets set aside for activities related to Hygiene Control for the period from (2017/18 to</li> </ul>	Assess the performance of Health, Environment and Waste Management Departments.

Category of the documents	Documents reviewed	Reasons for the review
	2019/20);	
Markets	<ul style="list-style-type: none"> <li>• Inspection Report</li> <li>• Budget Implementation Report</li> <li>• Overall layout of the market</li> <li>• Plans and Progressive Report</li> <li>• By -laws</li> <li>• Traders Register</li> <li>• Checkup forms</li> </ul>	Assess information on the status of health, capacity of the market in terms of infrastructure (size of the building, stalls etc.) and sanitation facilities such as toilets, hand washing places and bathrooms.

*Source: Auditors' Analysis of Documents from PO-RALG,RS and LGAs*

#### Appendix 4: Persons Interviewed and Reasons for the Interviews

This part provides details on the interviewed persons and why they were interviewed.

Public Entity	Person interviewed	Reason(s) for the interview
President's Office - Regional Administration and Local Government (PO-RALG)	Director of Health, Nutrition and Social Welfare	To obtain performance information on <ul style="list-style-type: none"> <li>• Mechanisms for monitoring and evaluating hygiene in markets by PO-RALG and LGA.</li> <li>• Key Performance Indicators that support control of hygiene issues in food markets.</li> <li>• Reporting mechanisms in place that facilitate communication and flow of information between LGA to PO-RALG.</li> </ul>
	2 Health and Environmental Officer	To obtain performance information on: <ul style="list-style-type: none"> <li>• Efforts made by PO-RALG to ensure hygiene in food markets</li> <li>• The status of hygiene in food markets</li> <li>• Mechanisms for monitoring and evaluating hygiene in markets by PO-RALG and LGA.</li> <li>• Key Performance Indicators that support control of hygiene issues in food markets.</li> </ul>
	1 Legal Officer	To obtain information on <ul style="list-style-type: none"> <li>• Adequacy and contribution of current by-laws related to hygiene.</li> <li>• The performance of PO-RALG in ensuring that by - laws are adequately enforced.</li> </ul>

Public Entity	Person interviewed	Reason(s) for the interview
	2 Trade Officers	To obtain information on <ul style="list-style-type: none"> <li>Established formal and informal markets.</li> <li>Registered vendors and assigned selling stalls.</li> <li>functioning of Market Committee</li> <li>development of market infrastructures</li> </ul>
5 Regional Secretariats	5 Assistant RAS	To obtain information on <ul style="list-style-type: none"> <li>The status of hygiene in food markets.</li> <li>Monitoring of hygiene controls in food markets.</li> </ul>
	5 Regional Medical Officers	To obtain information on <ul style="list-style-type: none"> <li>The status of hygiene in food markets</li> <li>Monitoring done in their areas of jurisdiction.</li> </ul>
	5 Senior Health Officers	To obtain information on <ul style="list-style-type: none"> <li>Reporting mechanisms in place that facilitate communication and flow of information between LGA and RS.</li> <li>Newly established or formalized food markets and their required hygienic standards.</li> </ul>
10 Local Government Authorities	10 District/Municipal/City Directors	To obtain information on <ul style="list-style-type: none"> <li>The status of hygiene in food markets.</li> <li>Fund allocated to cater for development of market infrastructures.</li> </ul>
	10 Head of Environment and Waste Management	To obtain information on the <ul style="list-style-type: none"> <li>System for waste management in food markets.</li> <li>Management of waste infrastructures in food markets.</li> </ul>
	10 Health Officers	To obtain information on <ul style="list-style-type: none"> <li>Status of hygiene control in the food markets.</li> <li>Performance of sanitation system.</li> <li>Inspection, supervision and monitoring done in</li> </ul>

Public Entity	Person interviewed	Reason(s) for the interview
		food markets.
	10 Trade Officers	To obtain information on <ul style="list-style-type: none"> <li>Established formal and informal markets</li> <li>Registered vendors and assigned selling stalls.</li> <li>functioning of Market Committee</li> <li>development of market infrastructures</li> </ul>
	10 District/Municipal/City Treasurers	To obtain details on the revenue collected from the market and expenditures allocated in the markets related to hygiene control
20 Food Markets (Formal and Informal) and 5 Specialized Food Markets	10 Market Managers	To obtain performance information on the: <ul style="list-style-type: none"> <li>hygiene in the market</li> <li>Infrastructure development and maintenance in the food market</li> <li>Market Committee</li> <li>Supportive supervision</li> <li>Reporting of challenges related to hygiene control</li> </ul>
	19 Health Officers	To obtain performance information on the: <ul style="list-style-type: none"> <li>Hygiene in the market.</li> <li>Health check-ups for traders in the markets.</li> <li>Market Committee.</li> <li>Supportive supervision.</li> <li>Reporting of challenges related to hygiene control.</li> </ul>
	Market Committees <ul style="list-style-type: none"> <li>Chairperson</li> <li>Secretary</li> <li>Selected Members of the committee</li> </ul>	To obtain performance information on the: <ul style="list-style-type: none"> <li>Hygiene in the market.</li> <li>Health check-ups for vendors in the markets.</li> <li>Adequacy of market infrastructures and sanitation systems.</li> <li>Registration and allocation of selling stalls.</li> </ul>

Public Entity	Person interviewed	Reason(s) for the interview
	2 Selected Traders	To obtain information on awareness and challenges faced on hygiene control by the traders and their involvement in ensuring hygiene.

*Source: Auditors' Analysis of the Interviewed officials from PO-RALG, RS, LGAs and Markets 2020*

## Appendix 5: Analysis of By-Laws in Respective LGAs

It gives details of the assessment done on by-laws with respect to the visited LGAs and special markets.

LGA	Liquid Waste System	Solid Waste	Penalties and Fines	Food Safety	Health Check ups	Presence of Market Committees and Their Roles	Zoning
Dodoma CC	V	V	V	V	not for traders	X	X
Kongwa DC	X	V	V	X	not for traders	V	X
Mbarali DC	X	X	V	V	v	X	X
Mbeya CC	X	V	X	X	x	X	X
Kigoma Ujiji MC	V	V	V	V	not for traders	V	V
Kibondo DC	V	V	V	V	not for traders	X	X
Ilemela MC	X	V	V	X	v	X	X
Sengerema DC	V	V	x	x	v	x	x
Temeke MC	X	X	v	x	x	V	x
Ilala MC	V	V	v	x	not for traders	x	x

Source: Auditors' Analysis 2020

## Special Markets By-Laws

Markets	Liquid Waste System	Solid Waste	Penalties and Fines	Food Safety	Health Check ups	Presence of Market Committee and Their Roles	Zoning
Kibaigwa	X	V	V	V	X	X	NA
Igurusi	X	V	V	V	X	X	NA
Kibirizi	X	X	X	X	X	X	NA
Mwaloni	X	v	v	V	x	X	x
Ferry	X	x	x	V	v	V	v

Source: Auditors' Analysis 2020

## Appendix 6: Analysis of Established Markets with Respect to Hygiene Standards

It provides established markets with hygiene standards.

Markets	zonin g	Management of solid waste	Management of liquid waste	Draina ge struct ures	Sanita tion	Arrange ment of foods on the floor
<b>Markets established over five years</b>						
Ilala	X	X	V	X	X	X
Ferry	n/a	V	V	V	X	v
Tazara	V	X	V	X	V	X
Temeke Stereo	V	X	V	X	V	X
Mwanga	X	X	V	X	X	V
Mwaloni	X	X	X	V	V	X
Kibondo	X	X	X	X	X	V
Soko Kuu [Sengerem a]	X	v	V	X	X	X
Majengo	V	V	V	V	V	V
Kongwa	X	V	X	X	X	V
Rujewa	X	X	X	X	X	V
Kibaigwa	n/a	X	V	V	X	X
Sabasaba	X	X	X	X	X	X
Soweto	X	X	X	X	X	X
Sido	X	X	X	X	X	V
Mikaratusi ni	X	X	X	X	X	X
Kirumba	X	X	V	X	V	X
Mbogambo ga	V	X	V	X	V	V
Igurusi	n/a	X	V	V	X	V
Mecco	X	V	X	X	X	X
<b>Markets established in less five years</b>						
Mwanjelw a	X	X	V	V	V	V
Kibirizi	V	X	V	V	V	X

*Source: Auditors' Analysis on the Market Observation in the 25 Visited Food Markets, 2020*

## Appendix 7: Market Committee Analysis

It provides details on the analysis of market committees with respect to each visited market.

No	Name of the Market	Presence of Market Committee	Presence of Market Constitutional	Evidence for Market Committee Operations
1	Majengo	v	V	v
2	Sabasaba	v	V	v
3	Mbogamboga	v	X	x
4	Kongwa	v	X	x
5	Rujewa	v	X	x
6	Mwanjelwa	v	X	x
7	Sido	v	X	x
8	Soweto	v	X	x
9	Mwanga	v	V	v
10	Jioni[Evening]	x	X	x
11	Kibondo	x	X	x
12	Mikaratusini	x	X	x
13	Kirumba	v	V	v
14	Mecco	v	V	v
15	Soko Kuu [sengerema]	v	V	v
16	Jioni[evening]	x	X	x
17	Tazara	v	V	v
18	Temeke stereo	v	V	v
19	Ilala	x	X	x
20	Gongolamboto	x	X	x
21	Kibaigwa	x	X	x
22	Igurusi	x	X	x
23	Kibirizi	v	X	x
24	Mwaloni	v	V	v
25	Ferry	v	V	v

*Source: Auditors' Analysis, 2020*

## Appendix 8: Market Revenue and Expenditure Analysis

It gives the details of the revenue collected by LGAs from each market in the respective LGA with the expenditure which has been set aside.

### Revenue and Expenditures for the Markets (Million TZS)

LGA	Markets	2016/2017		2017/2018		2018/2019		2019/2020	
		Rev	Exp	Rev	Exp	Rev	Exp	Rev	Exp
Dodoma CC	Sabasaba	0	0	63.8	0	113.8	0	0	0
	Majengo	157.3	0	185.5	0	404.7	0	458.6	0
	Total	157.3	0	249.2	0	518.5	0	458.6	0
Kongwa DC	Kongwa	0.22	0	0.5	0	0.3	0	0	0
	Kibaigwa	208.4	0	378.2	0	636.6	0	616.7	0
	Mboga mboga	0	0	0	0	8.7	0	6.5	0
	Total	208.7	0	378.7	0	645.7	0	623.2	0
Mbarali DC	Rujewa	5.3	0	6.28	0	5.420	0	6.5	0
	Igurusi	64.3	0	37.7	0	140.4	0	156.1	0
	Total	70	0	44.0	0	145.9	0	162.5	0
Mbeya CC	Mwanje Lwa	0	0	0	0	900.0	0	898.5	0
	Sido	17.4	0	22.0	0	130.5	0	226.9	0
	Soweto	69.6	0	78.9	0	97.2	0	106.5	
	Total	87.0	0	100.9	0	1,127	0	1,231.9	0
Kigoma Ujiji MC	Kibirizi								
	Mwanga	65.4	0	15.5	0	203.9	0	142.4	0
	Jioni	0	0	404.0	0	0.4	0	1.1	0
	Total	65.4	0	15.9	0	204.3	0	143.5	0
Kibondo DC	Kibondo	56.8	0	47.1	0	58.7	0	83.2	0
	Mikara tusini	0	0	0	0	8.1	0	14.4	0
	Total	56.8	0	47.1	0	66.8	0	97.6	0
Ilemela MC	Kirumba	83.0		97.0	34	91.3	0	96.9	0
	Mwaloni	66.4	63	56.9	23	62.7	23	69.1	23
	Mecco		0		0		0	0	0
	Total	149.3	63	153.9	58	154.0	23	0.2	23
Sengere ma DC	Soko kuu	37.8	0	49.7	0	75.7	0	63.5	0
	Jioni	0	0	0	0	0	0	0	0
	Total	37.8	0	49.7	0	75.7	0	63.5	0
Ilala MC	Ferry	0	0	1,221	141	1,207	257	1,204.1	0
	Ilala	0	0	1,404		1,939	0	1,886.	72
	Banana	0	0	0		0	0	0	
	Total	0	0	2,626	141	3,147	257	3,090.8	72

LGA	Markets	2016/2017		2017/2018		2018/2019		2019/2020	
		Rev	Exp	Rev	Exp	Rev	Exp	Rev	Exp
Temeke MC	Temeke Sterio	525.9	0	769.8	0	1,194	0	1,337.8	0
	Tazara	46.5	0	56.9	0	87.6	0	73.2	0
	Total	572.4	0	826.7	0	1,281	0	1,410.9	

*Source: LGAs Revenue and Expenditures reports (2016/17-2019/20)*

## Appendix 9: Analysis of Market Designs

It gives details on the infrastructural designs of the respective food markets.

Food Markets	Drainage Structures	Roof Covers	Floor Pavements	Selling Stalls	Offloading Area	Toilets	Solid waste collection point
Majengo	n	v	n	n	x	n	n
Sabasaba	X	x	x	X	x	n-	n
Mbogamboga	X	v	n	V	x	V	v
Kongwa	X	x	x	X	x	x	n/a
Rujewa	X	x	x	X	x	n-	n
Mwanjelwa	V	v	v	V	v	V	n
Sido	X	x	x	X	x	n	v
Soweto	X	x	x	X	x	N	n
Mwanga	X	x	x	X	x	n	n
Kibondo	n	n	x	n	x	n	n
Mikaratusini	n	n	n	n	x	n-	x
Kirumba	n	n	x	X	x	n	v
Mecco	X	x	x	X	x	x	n
Sengerema	X	x	x	n	x	V	n
Tazara Veterinary	X	x	x	X	x	V	x
Temeke Sterio	n	v	n	n	x	V	x
Ilala	n	n	x	X	x	V	n
Kibaigwa	V	v	v	X	v	V	n

Food Markets	Drainage Structures	Roof Covers	Floor Pavements	Selling Stalls	Offloading Area	Toilets	Solid waste collection point
Igurusi	V	v	v	X	v	V	n
Kibirizi	X	v	v	n	x	V	n
Mwaloni	V	v	v	V	v	V	n
Ferry	V	v	v	V	v	V	v

*Source: Auditors' Analysis on the Infrastructural Design in 25 Visited Markets, 2020*

#### KEY

x- No design and not available, v-Adequate design, n- Inadequate design

## Appendix 10: Analysis of Zoning in Food Markets

It gives details on the analysis of zoning in the food markets.

Markets	Potatoes and related	Vegetables	Live birds	cereals	Butcherries	Fruits
Ilala	X	x	V	X	v	x
Ferry	n/a	n/a	n/a	n/a	v	n/a
Tazara	n/a	n/a	n/a	n/a	n/a	v
Temeke Stereo	X	x	X	X	x	v
Mwanga	X	x	V	V	x	x
Mwaloni	X	x	X	X	v	x
Kibondo	X	x	X	X	x	x
Soko Kuu	X	v	X	X	v	x
Majengo	X	v	V		v	v
Kongwa	X	x	X	X	x	x
Rujewa	X	x	X	X	x	x
Kibaigwa	n/a	n/a	n/a	V	n/a	n/a
Sabasaba	X	x	X	X	x	x
Soweto	X	v	X	X	x	v
Sido	X	x	X	X	x	x
Mikaratusini	X	x	X	X	x	x
Kirumba	x	x	X	X	x	v
Mbogamboga	x	v	X	V	v	v
Igurusi	n/a	n/a	n/a	V	n/a	
Mecco	x	x	X	X	x	x
Mwanjelwa		v			v	
Kibirizi	x	x	X	X	v	x

*Source: Auditors' Analysis on the Zoning Status in 25 Visited Markets, 2020*