



Republic of Zambia

OFFICE OF THE AUDITOR GENERAL



PERFORMANCE **AUDIT REPORT**

On the construction, rehabilitation and
maintenance of drainage systems in
urban and peri urban areas 2020-2023



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ON THE

**CONSTRUCTION, REHABILITATION AND MAINTENANCE
OF DRAINAGE SYSTEMS IN URBAN AND
PERI URBAN AREAS 2020-2023**

JULY 2024



Republic of Zambia
OFFICE OF THE AUDITOR GENERAL

FOREWORD

I have the honour to publish and submit the Performance Audit on Government Efforts to Construct, Rehabilitate and Maintain Drainage Structures in Urban and Peri-Urban Areas in Zambia. In accordance with the Provisions of Article 250 of the Constitution of Zambia (Amendment) Act No. 2 of 2016, Public Audit Act No.13 of 1980 and the Public Finance Management Act No. 1 of 2018, I am mandated to carry out Performance Audits in Ministries, Provinces and Agencies (MPAs).

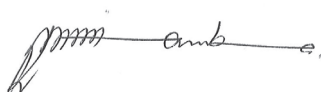
Drainages are an essential part of public infrastructure and play a vital role in the prevention of waterborne diseases and loss of property due to flooding and stagnant water in the rainy season. Zambia faces significant challenges in managing its urban and peri-urban drainage infrastructure, particularly in the face of rapid population growth and urbanisation. As such, many of Zambia's cities struggle with recurring floods during the rainy season due to inadequate drainage systems and poor waste management practices.

Zambia has demonstrated its commitment to achieving goals related to this sub sector by domesticating SDG 3 and 11 through the 8NDP 2022-2026 under Strategic Development Area 3: Environmental Sustainability whose development outcome: 2 is sustainable environment and natural resources management.

I therefore, present to you this Performance Audit Report together with recommendations, which if implemented by Ministry of Local Government and Rural Development (MLGRD) will ensure availability of well-maintained drainage structures in the country. By prioritizing drainages and working towards sustainable solutions, Zambia can mitigate the devastating impacts of floods, protect public health, and create more livable cities for its rapidly growing population.

I wish to take this opportunity to thank the management and staff of MLGRD, Local Authorities and other stakeholders for the cooperation and assistance rendered to my team during the audit.

Sincerely,



Dr. Ron Mwambwa, FCMA, FZICA, CGMA, CFE
ACTING AUDITOR GENERAL



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ACRONYMS

7NDP	Seventh National Development Plan
8NDP	Eighth National Development Plan
CBD	Central Business District
DMMU	Disaster Management Mitigation Unit
IDP	Integrated Development Plan
LA	Local Authority
LAP	Local Area Plan
LCC	Lusaka City Council
MCA	Millennium Challenge Account
MLGRD	Ministry of Local Government and Rural Development
OAG	Office of the Auditor General
RDA	Road Development Agency
WDCs	Ward Development Committees
ZNS	Zambia National Service

GLOSSARY OF TERMS

WORD	DEFINITION
Council	Refers to the locally elected representative governing body of a Local Authority. ¹
Dead-end drainages	A drainage that does not allow water and other substances to flow continuously. ²
Desilt	Removal of earthy materials, such as sand and mud, from the bed of a fast-flowing river which are deposited over time. ³
Drainage Master Plans	These are also known as Storm water Drainage Master Plans, are like blueprints for managing rainwater and preventing flooding in towns and cities. ⁴
Development Control	The process of managing or regulating the carrying out of any works on land or making of any material change in the use of any land or structures and ensuring that operations on land conform to spatial development plans as well as policy guidelines, regulations and standards issued by the planning authority from time to time in order to achieve a purposeful utilisation of land in the interest of the general welfare of the public. ⁵
Green Field Planning	Planning where there is bare land and no human developments have taken place. ⁶
Brown Field Planning	Planning in an area that is already occupied by settlements and is commonly carried out in informal settlement upgrading. ⁷
Integrated Development Plan	Is a principal strategic planning instrument which gives an overall framework for development within a District ⁸
Local Authority	A council and its secretariat consisting of persons appointed by the Local Government Service Commission. ⁹
Land Typology	A system of classifying land based on specific criteria. It involves grouping land units into categories based on shared characteristics, such as soil type, topography, vegetation, climate, land use, and land cover. This classification helps in understanding the land's potential, limitations, and suitability for different purposes. ¹⁰

¹ The National Decentralisation Policy 2023

² <https://theconstructor.org/environmental-engg/water-distribution-system-layout>.

³ <https://education.nationalgeographic.org>

⁴ <https://www.mlgrd.gov.zm/?p=4035>

⁵ www.lawinsider.com/dictionary/development-control

⁶ <https://journals.sagepub.com>

⁷ https://www.scirp.org/html/1-1150505_104597.htm

⁸ <https://www.mlgrd.gov.zm/?p=147>

⁹ Constitution of Zambia (Amendment) [No. 2 of 2016]

¹⁰ Internet



WORD	DEFINITION
Natural / Primary Drainage	A network of lateral drains that carry water to a main drain or outfall and away from the playing surface comprises natural streams and man-made open channels having various depths, sizes, and configurations. ¹¹
Planning Agreement	An agreement between a Local Authority and one or more chiefs to facilitate the implementation of an integrated development plan in an area under the jurisdiction of traditional leadership ¹²
Secondary Drainage	Open or covered concrete-lined channels. ¹³
Storm Water	Water from rain and other sources that drains into a street drainage system where it flows to streams and creeks. It is runoff water (rainwater, irrigation water, runoff from roads, wash water gutters and markets) ¹⁴
Storm Water Management	A network of structures, channels and underground pipes that carry storm water (rainwater) to ponds, lakes, streams, and rivers. ¹⁵
Spatial Planning	An interdisciplinary field in the engineering and social sciences that deals with the spatial arrangement and development of living, working and environmental conditions at a wide range of spatial levels. ¹⁶
Silt	Fine sand, clay, or other material carried by running water and deposited as a sediment, especially in a channel or harbor ¹⁷
Solid Waste	Are useless, unwanted, and discarded material resulting from day-to-day activities in the community ¹⁸
Solid Waste Management	The discipline associated with the control of generation, storage, collection, transfer, processing, and disposal of solid waste. ¹⁹
Subsurface Water	Water that occurs below the surface of Earth, where it occupies all or part of the void spaces in soils or geologic strata. ²⁰
Surface Water	Water which is found in large bodies like the oceans or lakes, or which flows overland in streams. ²¹

¹¹ <https://www.bothamsprestige.co.uk/services/sports-pitch-drainage>

¹² *ibid*

¹³ Drainage Structures Report for the Greater City of Lusaka page February, 2023

¹⁴ https://www.environmental-auditing.org/media/113687/21d-wgea_waste-water_2019-rev_18-sep-19.pdf

¹⁵ Storm Drainage System | Public Works and Environmental Services (fairfaxcounty.gov)

¹⁶ <https://raumplanung.tu-dortmund.de/en/prospective-students/what-is-spatial-planning/>

¹⁷ <https://www.encyclopedia.com/earth-and-environment/geology-and-oceanography/geology-and-oceanography>

¹⁸ https://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_extension_trainees/ln_hew_solid_waste_final.pdf

¹⁹ <http://synergytelematics.com/solid-waste-management-system.php#>

²⁰ <https://www.britannica.com/science/groundwater>

²¹ *ibid*

EXECUTIVE SUMMARY

Introduction

Drainage structures are an essential part of public infrastructure and play a vital role in the removal of excess storm and subsurface water.¹ Drainages are managed by the Ministry of Local Government and Rural Development (MLGRD) who have delegated responsibility to Local Authorities through the Local Government Act No.2 of 2019.

The construction, rehabilitation and maintenance of drainages is essential in ensuring the flow of water and in turn prevention of waterborne diseases and flooding². However, drainages have been neglected while existing ones are neither rehabilitated nor maintained.

Audit Objective

The overall audit objective was to assess the extent to which the MLGRD constructs, maintains, and rehabilitates drainage structures in urban and peri urban areas in the country.

Specific Objectives

1. To assess the extent to which the MLGRD has ensured that drainage structures in urban and peri-urban areas are constructed and rehabilitated.
2. To ascertain the effectiveness of drainage maintenance programmes by the MLGRD.

Audit Questions

- 1 To what extent has the MLGRD ensured construction and rehabilitation of drainage structures in urban and peri urban areas?
- 2 To what extent has the MLGRD ensured that measures put in place are effective in enhancing maintenance of drainage structures in the urban and peri-urban areas?
 - 2.1 How has the MLGRD ensured that drainages in urban and peri-urban areas are maintained and kept clean?
 - 2.2 How has the MLGRD ensured that monitoring of drainage structures is effective?
 - 2.3 How has the MLGRD ensured enhanced coordination with key stakeholders for effective maintenance of drainages in urban and peri-urban areas?
 - 2.4 How has the MLGRD ensured that the public is sensitised on the importance of drainage management practices?

¹ <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/natural-drainage-system>

² Rising flood waters spell doom for communities in Zambia - Zambia | Relief Web January 2023



Audit Scope

The audit examined the effectiveness of the measures developed by the MLGRD to construct, rehabilitate, and maintain drainage structures in urban and peri urban areas as well as the extent to which the public is sensitised on drainage management. The Road Development Agency (RDA) and Disaster Management and Mitigation Unit (DMMU) were also engaged during the audit. The audit covered the period from 2020 to 2023 as it provided an adequate timeframe within which to evaluate whether the measures developed had yielded the desired results.

Sources of Criteria

The criteria were extracted from the Local Government Act No. 2 of 2019, the Urban and Regional Planning Act No. 3 of 2015 and MLGRD Strategic Plan 2019 to 2021.

Summary of Findings

1. Construction of Drainage Structures in Urban and Peri-Urban areas

The audit revealed that there was low construction of drainage structures in the country. It was further revealed that, despite the requirement for all road constructions to include drainages, there was notable low construction of drainages in the country attributed to among others Lack of policy, ineffective planning and low resource allocation.

2. Maintenance of Drainage Structures in the Urban and Peri-Urban Areas

The audit revealed that not all Local Authorities planned for maintenance activities and in this regard only thirty-eight (38) Local Authorities had planned for maintenance activities during the period under review.

3. Public Sensitisation of Drainage Structures in Urban and Peri Urban Areas

The audit established that while the Ministry had conducted sensitisation on drainage management, the campaign had limited engagement at the ward and household levels primarily focusing on businesses, public spaces, and marketplaces. The Ward Development Committees (WDCs) also revealed that despite their crucial role in community sensitisation, they were not adequately trained or engaged by Local Authorities.

Conclusion

Despite strides made by MLGRD to construct rehabilitate and maintain drainage structures, the efforts were not effective to ensure sustainability of the structures.

Recommendations

1. The MLGRD should consider formulating a comprehensive drainage policy to provide guidance for the effective management of drainage structures in the country.
2. The MLGRD should develop storm drainage plans to facilitate the systematic implementation of drainage projects and mobilisation of necessary resources.

3. The MLGRD should focus on educating traditional leaders and other stakeholders about the importance of Planning Agreements, promoting systematic development, and ensuring the incorporation of drainage structures within their jurisdictions.
4. The MLGRD should explore the establishment of dedicated structures to oversee drainage management, fostering enhanced responsibility, accountability, and prioritisation.
5. The MLGRD should work towards improving monitoring mechanisms for drainage structure projects to enhance cleanliness and ensure value for money in implementation.
6. The MLGRD and Local Authorities should jointly design educational programs to raise public awareness about building requirements, promoting adherence at all development stages, and strengthening development controls to reduce encroachments.
7. The MLGRD should enhance the utilisation of Ward Development Committees (WDCs), acknowledging their critical role in supporting Local Authorities at the community level, especially considering the limited number of building inspectors.
8. Local Authorities should enforce punitive measures to deter indiscriminate waste disposal, thereby reducing the disposal of waste in undesignated places.
9. The MLGRD should enhance public sensitisation on drainage management.



Chapter One

INTRODUCTION



INTRODUCTION

1.0 Introduction

The chapter briefly presents the background of the audit and discusses the motivational factors that led to the commencement of the audit. The audit report has focused on the Government Efforts to Construct, Rehabilitate and Maintain Drainage Structures in Urban and Peri-Urban Areas in Zambia.

1.1 Mandate

In accordance with the provisions of Article 250 of the Constitution of Zambia (Amendment) Act No.2 of 2016, Public Audit Act No.13 of 1980 and Public Finance Management Act No.1 of 2018, the Office of the Auditor General (OAG) is mandated to carry out Performance Audits (Value for Money Audits) in Ministries, Provinces, and Agencies (MPAs) and to report the results to the President and Parliament. With this mandate, the OAG conducted a Performance Audit for the purpose of assessing whether measures put in place by Ministry of Local Government and Rural Development (MLGRD) to manage drainage structures in the country were effective.

1.2 Background

The importance of drainages cannot be overemphasised as they are a critical part of public infrastructure and play a vital role in the removal of excess storm and subsurface water from an area through channels or ditches to lakes and rivers. They also help in preventing flooding and controlling erosion among others.²²

As populations and economies grow, urbanisation and expansion of urban built-up areas is eminent across the globe with the population expected to live in urban areas by 2050 being estimated at over 70%. In developing countries, urban development without proper planned drainage systems, old drainage systems that do not match population growth and uncontrolled development of informal settlements has been a major challenge. A large proportion of people in Zambia live in densely populated peri-urban areas with 100 people per square kilometer. In Lusaka for example, there are about forty-three (43) unplanned settlements which host 70% of the city's 3.74 million population which negatively impacts on the capacity to deal with flood management.²³

Further, due to climate change, the country has received above-average rains year-in year-out with average rainfall ranging between 700 mm in the south and 1,400 mm in the north.²⁴ The downpours in most cities caused a wave of flooding in the northern and eastern parts of Zambia in 2020 and displaced a possible 7,000 people and over 100 households respectively.²⁵

²² <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/natural-drainage-system>

²³ International journal of environmental research and public health

²⁴ <https://climateknowledgeportal.worldbank.org/>

²⁵ <https://floodlist.com/tag/zambia>



In the 2020/2021 rainy season, more than 500,000 houses were affected by flooding in more than sixty (60) districts in Zambia.²⁶ Further, in 2022, twenty-two (22) out of 116 districts across Zambia were underwater due to flooding caused by climate change and exacerbated by poor drainage systems.²⁷

The frequent flooding in the rainy season coupled with lack of basic services, drainage systems, solid waste collection and safe disposal of waste, and the lack of maintenance and improvements of drainage systems²⁸ among others, this increased the risk of epidemic prone diseases particularly cholera and typhoid. In January 2023, cholera outbreak claimed a life with the epidemic count of twenty-one (21) cases registered from 21st to 30th January 2023 in Vubwi District in the Eastern Province of Zambia.²⁹ Further, there have been 8,276 cumulative cholera cases, with 333 deaths, and a case fatality rate of 4% between October 2023 and January 2024 which is four (4) times the World Health Organisation threshold, with Lusaka recording the highest number of cases at 7,783 as at March, 2024.³⁰

Through the Vision 2030, Government planned to have well-developed and maintained socio-economic infrastructure through enhanced establishment of new infrastructure, refurbishing and maintaining existing ones. Government also planned to develop and maintain productive and social infrastructure and services such as roads, public utilities, and other services as a way of creating an environment and investment climate consistent with socio-economic development objectives.³¹

Further, Zambia as a signatory to the United Nations Agenda subscribes to the Sustainable Development Goals (SDGs) among them Goal Number 3 which aims to promote good health and wellbeing and goal 11 which aims to make cities and human settlements inclusive, safe, resilient and sustainable³². The Government in the Seventh National Development Plan (7NDP) 2017-2021 planned to promote protection, conservation and restoration and rehabilitation of the environment, ecosystem and natural resources through the promotion of integrated and community-based natural resources management systems.³³ Furthermore, Government in the 8NDP 2022-2026 prioritises measures aimed at safeguarding the environment, enhancing climate change mitigation and adaptation as well as strengthening disaster risk reduction through Strategic Development Area 3: Environmental Sustainability whose development outcome: 2 is sustainable environment and natural resources management.³⁴

The Ministry of Local Government and Rural Development (MLGRD) is responsible for the construction, maintenance, and rehabilitation of drainage structures in urban and peri-urban areas in Zambia through the 116 Local Authorities countrywide.

²⁶ https://www.parliament.gov.zm/sites/default/files/images/publication_docs

²⁷ Rising flood waters spell doom for communities in Zambia - Zambia | Relief Web January 2023

²⁸ <https://documents1.worldbank.org/curated/zh/999601468276884552/pdf/750430WPS0Box30Africa0high00PUBLIC0.pdf>

²⁹ <https://reliefweb.int/disaster/ep-2023-000013-zmb>

³⁰ Health Alert: Cholera Outbreak (January 12, 2024) - U.S. Embassy in Zambia (usembassy.gov)

³¹ Vision 2030 2.1(i), 3.1.1, 3.1.4

³² <https://www.iisd.org/system/files/publications/sustainable-development-goals-iisd-perspectives.pdf>

³³ 7NDP 5.4.3 Disaster risk reduction

³⁴ Eighth National Development Plan 2022-2026

1.3 Motivation

The audit was motivated by a number of factors as discussed below:

1.3.1 Media Reports

The News Diggers on 19th January 2023, reported the high alert on flood warning issued by the Water Resources Management Authority (WARMA). The flood alert warning was in respect of Kabompo, Lukulu, Senanga, Kitwe, Mambwe and Solwezi districts.³⁵ Further, the Lusaka Times Newspaper dated 12th February 2023, reported that multi storey buildings in Lusaka that should house a minimum of fifteen (15) households were developed without corresponding drainage systems in recharge zones around East Park and Protea Arcades shopping areas in Lusaka. Further, on 16th February 2023, the Newspaper reported that flash floods in Kamwala South had taken a toll on residents and had caused damage to homes and properties. The paper also reported that residents littered garbage in inspection chambers which blocked the smooth flow of water and that constructions were developed without consideration on land use.³⁶

1.3.2 Parliamentary Reports

The President in his speech at the official opening of the First Session of the Thirteenth (13th) National Assembly on 11th March 2020, expressed concern on waste being disposed-of in undesignated areas making the surroundings untidy, unhygienic and clogging up drainage systems thereby contributing to perennial floods especially in urban districts.³⁷

Further, the Minister in the Office of the Vice President in his Ministerial Statement dated 25th February 2020, stated that the Country experienced flooding in urban and other peri-urban settlements such as Kanyama which was attributed to poor seepage of water due to underlying bedrocks as well as blockage of outflow drains by wallfences and illegal construction of structures.³⁸

³⁵ <https://diggers.news/local/2023/01/19/warma-warns-of-floods-in-7-districts/>

³⁶ <https://www.lusakatimes.com/2023/02/16/kamwala-south-floods-lusaka-city-council-dmmu-and-zns-team-up-to-mitigate-effects/>

³⁷ Address by the President of the Republic of Zambia, Mr. Hakainde Hichilema on the Progress made in the Application of the National Values and Principles Delivered to the First Session of the Thirteenth National Assembly on Friday, 11th March, 2022

³⁸ Tuesday, 25th February, 2020 1 Ministerial Statement on Flood Situation in the Country by the Minister in the Office of the Vice-President, Hon. Mwansa, MP

AUDIT

Chapter Two **AUDIT OBJECTIVES AND QUESTIONS**



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AUDIT OBJECTIVES AND QUESTIONS

2.0 Introduction

This chapter highlights the main and specific audit objectives, scope, and audit questions to be answered to achieve the audit objective.

2.1 Audit Objective

The overall audit objective was to assess the extent to which the MLGRD constructs, rehabilitates and maintains drainage structures in urban and peri urban areas in the country.

2.1.1 Specific Objectives

The following are the specific objectives:

- i. To assess the extent to which the MLGRD has ensured that drainage structures in urban and peri-urban areas are constructed and rehabilitated.
- ii. To ascertain the effectiveness of drainage maintenance programmes by the MLGRD.

2.2 Audit Questions and Sub-Questions

2.2.1 To what extent has the MLGRD ensured construction and rehabilitation of drainage structures in urban and peri urban areas?

2.2.2 To what extent has the MLGRD ensured that measures put in place are effective in enhancing maintenance of drainage structures in the urban and peri-urban areas?

- i How has the MLGRD ensured that drainages in urban and peri-urban areas are maintained and kept clean?
- ii How has the MLGRD ensured that monitoring of drainage structures is effective?
- iii How has the MLGRD ensured enhanced coordination with key stakeholders for effective maintenance of drainages in urban and peri-urban areas?
- iv How has the MLGRD ensured that the public is sensitised on the importance of drainage management practices?

2.3 Audit Scope

The audit examined the effectiveness of the measures developed by the MLGRD to construct, rehabilitate, and maintain drainage structures in urban and peri urban areas as well as the extent to which the public is sensitised on drainage management. The Road Development Agency (RDA) and Disaster Management and Mitigation Unit (DMMU) were also engaged during the audit. The audit covered the period from 2020 to 2023 as it provided an adequate timeframe within which to evaluate whether the measures developed had yielded the desired results.

2.4 Audit Limitations

Due to limited resources, 32 out of 116 Local Authorities was selected representing 28% making the sample size less representative which increased the sampling risk. However, this was mitigated through a request for information to all the 116 Local Authorities.



There was low response to the request for information from Local Authorities as only 38 out of 116 responded representing a response rate of 33%, thus the conclusion of the audit was based on the information provided. As of April 2024, the remaining 78 Local Authorities representing 67% had still not provided responses to the information requested.



Chapter Three

METHODOLOGY



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METHODOLOGY

3.0 Introduction

The chapter presents the methodology employed, specifying the target population, sample size, sampling techniques, data collection methods and data analysis techniques. The audit was conducted in accordance with the International Standard of Supreme Audit Institutions (ISSAIs) 300 and 3000. The Standards require that the audit is planned in a manner which ensures that an audit of high quality is carried out in an economic, efficient, and effective manner.

3.1 Research Design

The audit used a problem-based approach which examines, verifies, and analyses the causes of problems or deviations from criteria. The audit adopted a mixed method of analysis that was inclusive of quantitative and qualitative approaches.

3.2 Sampling Techniques

The audit used purposive sampling method to select seven (7) out of ten (10) provinces of Zambia from which City, Municipal and Town Councils were visited. The selection of the sample of Local Authorities to be visited was based on mix of planning and non-planning authorities and consideration of provinces which were prone to floods. **See Appendix 1.**

In addition, the selection of inspection sites was based on respective physical locations of constructed, rehabilitated, and maintained drainages.

3.3 Sample Population and Size

The sample size was obtained from seven (7) out of ten (10) provinces representing 70% of which twenty-nine (29) districts out of 116 were selected and visited representing 25%. From the selected twenty-nine (29) districts, five (5) were City Councils, nine (9) were Municipal Councils and fifteen (15) were Town Councils. From the selected sample eleven (11) were Planning Authorities while eighteen (18) were not. **See Appendix 1.**

Four (4) entities were engaged during the audit namely: MLGRD Provincial Planning Offices; Local Authorities; DMMU; and Road Development Agency (RDA). Seven (7) provinces were selected namely, Lusaka, Eastern, Southern and Central Provinces based on the susceptibility to floods while North-western, Western, Copperbelt and Lusaka Provinces were selected based on the rapid rate of urbanisation.

3.4 Data Collection Methods

To obtain sufficient, appropriate, and reliable evidence to support the audit findings, various data collection methods was used. Document review was used to collect secondary data while interviews

and physical inspection were used to collect primary data. Further, a checklist was used to collect evidence and pictures to support physical inspections.

The main methods of data collection are detailed below:

3.4.1 Interviews

A total of 190 personnel were interviewed from MLGRD, RDA, DMMU, City, Municipal and Town Councils, and Ward Development Committees (WDCs). The purpose of interviews was to establish the extent of drainage construction, rehabilitation, and maintenance, and to ascertain the extent to which the public was sensitised on drainage management. Additionally, interviews provided an opportunity to assess the extent to which the MLGRD and Local Authorities collaborated with other stakeholders in the management of drainages. See **Appendix 2**.

3.4.2 Document Review

Eight (8) documents comprising the Local Government Act No.2 of 2019, the Seventh National Development Plan (7NDP), the Eighth National Development Plan (8NDP), the Urban and Regional Planning Act No. 3 of 2015, Statutory Instrument (SI) No. 100 of 2012 and the MLGRD Strategic Plan (2017-2021). Further, Business Plans for the same period, approved budgets and work plans (2020 to 2022) and reports from Performance Contractors were reviewed to obtain comprehensive and reliable audit evidence to draw reasonable conclusions and recommendations.

3.4.3 Physical Inspections

Physical inspections were carried out to verify the status of drainages in line with information obtained through interviews and document reviews.

3.5 Data Analysis

Qualitative and quantitative techniques were used to analyse data using Microsoft Excel as it allowed compilation and comparison of data as well as graphical presentation as follows:

Question 1: To what extent has the MLGRD ensured construction and rehabilitation of drainage structures in urban and peri urban areas?

i. Interviews

Responses from interviews were themed using Microsoft Excel and a comparison made between planned versus actual number of drainages constructed and rehabilitated to determine the corresponding increase, decrease or stagnation.

Feedback from Ward Development Committees (WDCs) was compiled in Microsoft Excel and categorised based on planning and funding of drainage construction and rehabilitation activities. The categorisation also enabled the assessment of the extent of drainage construction



and rehabilitation.

ii. Documentary reviews

Data from annual reports, Local Area plans (LAPs) and Integrated Development Plans (IDPs) was analysed using Content Analysis to establish the planned and actual constructions and rehabilitation of drainages, as well as the challenges in drainage constructions and rehabilitation.

Data from the Estimates of Revenue and Expenditure was also subjected to trend analysis to assess the extent to which construction and rehabilitation of drainages was funded over time.

iii. Physical inspections

Information obtained through physical inspections was tabulated to sum the planned versus actual number of drainages constructed or rehabilitated and observe the trend in construction.

Question 2: To what extent has the MLGRD ensured that measures put in place are effective in enhancing maintenance of drainage structures in the urban and peri-urban areas?

i. Interviews

Information was systematically collected from interviews regarding maintenance of drainage structures and a thematic analysis and quantification based on the responses provided was done.

ii. Documentary review

Data from Annual Reports, IDPs, LAPs, relevant Acts etc. were analysed and categorised using Content Analysis to establish the extent to which maintenance, monitoring, coordination and sensitisation on drainage structures took place. Furthermore, funding details for drainage structures obtained from the Estimates of Revenue and Expenditure was compared over a time period to assess the extent to which maintenance funds were allocated.

iii. Physical inspections

Data on the physical status of drainage structures was obtained through a checklist which was themed and tabulated using Frequency Analysis and charts.



Chapter Four

DESCRIPTION OF THE AUDIT AREA



Republic of Zambia



DESCRIPTION OF THE AUDIT AREA

4.0 Introduction

The chapter discusses the mandate of the MLGRD, roles and responsibilities, organisational structure, funding details and key stakeholders. It also describes how the systems at MLGRD are intended to operate.

4.1 Mandate

The MLGRD is charged with the responsibility of promoting a decentralised and good local governance system, facilitating delivery of quality municipal services in order to contribute to sustainable socio-economic development. The Ministry oversees the implementation of delegated functions and responsibilities by the Local Authorities.³⁹

4.2 Roles and Responsibilities

The MLGRD is responsible for portfolio functions according to the Government Gazette Notice No. 1123 of 2021 which include urban and rural roads, urban and regional planning, storm water management as well as solid waste management. The MLGRD through the delegated responsibilities to Local Authorities has the responsibility to:

- i. Manage storm water systems in built up areas;
- ii. Require and control the provisions of drains;⁴⁰
- iii. Regulate, control and plan for the development and use of land and buildings within its area; Prepare and implement Integrated Development Plans (IDPs), Local Area Plans (LAPs) and sectorial plans in accordance with the Urban and Regional Planning Act No.3 2015;
- iv. Receive and process applications for planning permission for the development of land;
- v. Operate services and maintain infrastructure in its area;
- vi. Perform any other planning and development functions as are necessary for the implementation of the Urban and Regional Planning Act No.3 2015;⁴¹ and
- vii. Management of solid waste.⁴²

4.3 Organisational Structure

The MLGRD is headed by a Minister who is assisted by two (2) Permanent Secretaries. The Ministry has eight (8) departments that are headed by Directors namely, Department of Local Government Administration; Department of House of Chiefs and Traditional Affairs; Department of Physical Planning; Department of Rural Development; Local Government Administration and training Institute; Department of Human Resource and Administration; Departments of Planning and Information, and Information Communication and Technology; and Department of Finance, Internal Audit, Procurement and Supplies unit. **See Appendix 3.**

³⁹ https://www.mlgrd.gov.zm/?page_id=423

⁴⁰ Local Government Act No.2 of 2019 Section 10(d)&11(f)

⁴¹ URP Act No. 3 of 2015 section 13 (2)

⁴² Solid Waste Regulation and Management Act No. 20 of 2018

Below is a description of the 3 key departments which were the focus of the audit.

4.3.1 Department of Local Government Administration

The department is responsible for promoting a decentralised local governance system to contribute to sustainable socio-economic development by ensuring that they:

- a) Formulate and review policies and legislation relating to local government administration and governance.
- b) Monitor the operations of Local Authorities and devolution process to ensure that the set delivery standards and targets are met and sustained.
- c) Provide policy guidance to Local Authorities on matters related to local governance; and
- d) Mobilise financial and technical support for Local Authorities.

4.3.2 Department of Physical Planning

The department is responsible for planning the development and growth of urban, peri-urban, and rural areas in the country by ensuring that they:

- a) Formulate and review the policies and legislation related to urban and regional planning.
- b) Prepare and enforce spatial development plans.
- c) Conduct research on matters related to urban and regional planning.
- d) Prepare and publish reports, bulletins and statistics relating to urban and regional planning.
- e) Monitor spatial development plans in liaison with development agencies and stakeholders to ensure their effectiveness.
- f) Facilitate the development of sensitisation programmes on communities; and
- g) Prepare town and country plans.

4.3.3 Department of Rural Development

The department is responsible for coordinating rural development programmes to promote sustainable and inclusive growth of rural areas. It also facilitates the development of rural and municipal infrastructure by ensuring that they:

- a) Formulate and review policy and legislation relating to rural and municipal development.
- b) Facilitate the implementation of integrated rural development plans to foster development.
- c) Facilitate the provision of an improved feeder, community, and township road network.
- d) Facilitate the provision of improved solid waste management and regulation services.
- e) Coordinate the implementation of rural and municipal development capacity building programmes for communities.
- f) Enforce the provisions of the Solid Waste Management Act no. 20 of 2018 to enhance compliance and ensure a clean, safe, and healthy environment.
- g) Collaborate with other stakeholders on the domestication of international agreements and guidelines on solid waste management to ensure adoption of best practices.
- h) Provide technical and other support to Local Authorities to enhance service delivery; and
- i) Monitor and evaluate solid waste management programmes to inform decision making.⁴³



4.4 Funding Arrangements

The Ministry had a budget of K9,104,324,751 for the period under review for different programmes such as construction, maintenance, and rehabilitation of infrastructure. Out of K9,104,324,751 amounts totaling K9,022,458,198 were released, while amounts totaling K8,710,412,775 was spent on the operations including drainage related works which resulted in a balance of K312,045,423.⁴⁴ See table 4.1 below.

Table 4.1: MLGRD Budget, Releases and Expenditure 2020 - 2022

Year	GRZ Budget (K)	GRZ Funding (K)	MLGRD Expenditure (K)	Deficit/Surplus (K)
2020	1,663,600,721	1,648,437,444	1,648,401,944	35,500
2021	1,520,710,885	1,519,982,253	1,519,964,647	17,606
2022	5,920,013,145	5,854,038,501	5,542,046,184	311,992,317
Total	9,104,324,751	9,022,458,198	8,710,412,775	312,045,423

Source: Budget Performance 2020-2022

However, it was not possible to determine specific funds allocated towards the construction, rehabilitation and maintenance of drainages for the period under review as the necessary information was not provided by MLGRD as of April, 2024.

4.5 Key Stakeholders

In ensuring the effective provision of drainage structures, during the period under review, the MLGRD collaborated with different stakeholders as detailed below.

4.5.1 Local Authorities

Local Authorities are mandated through the Local Government Act No.2 of 2019 to discharge functions conferred on them by the Act within the area of a Local Authority, and may, with the approval of the Minister of MLGRD to discharge those functions outside the area of a Local Authority. Functions include;

- establish and maintain roads,
- exercise general control, care and maintenance of all public roads, streets, avenues, lanes, sanitary lanes and foot walks forming part thereof, bridges, square, ferries and water courses and remove all obstacles therefrom,
- prohibit and control the development and use of land and buildings and the erection of buildings, in the interests of public health, public safety, and the proper and orderly development of the area of the Local Authority,
- control the demolition and removal of building and require the altering demolition and removal of buildings which do not conform to plans and specifications in respect of those buildings approved by the council; or are a danger to public health or public safety,

⁴³ Restructuring Report for the Ministry of Local Government and Rural Development

⁴⁴ Budget Consumption Report 2020,2021,2022

- establish and maintain drains, sewers and works for the disposal of sewerage and refuse,
- take and require the taking of measures for the drainage of water, and
- require and control the provision of drains and sewers and compel the connection of any drains and sewers established by the Local Authority.⁴⁵

4.5.2 Road Development Agency

RDA provides training and technical assistance to Local Authorities on road maintenance and constructions best practices. Road construction, rehabilitation or maintenance by MLGRD under Local Authorities is financed by NRFA using the road fund.⁴⁶

4.5.3 Disaster Management and Mitigation Unit

DMMU works on adverse reports, intervenes, and puts in place preventive measures to reduce the negative effect of hazards. When an emergency call alert is received DMMU works under a multi-sectorial arrangement in responding to the call. For flood alerts, DMMU responds in terms of providing food and non-food items, tents, drainages construction and rehabilitation of drainages and culverts among others.⁴⁷

DMMU collaborates with the MLGRD as Local Authorities are part of the Disaster Management and Mitigation Committees at district level where disasters relating to drainages are deliberated.

4.5.4 Ward Development Committees

The WDCs provide a platform and advocate for inclusive citizen and community participation in decision-making and spearheading of local development in respective wards. The WDCs facilitate the identification of potential areas of investment such as drainage projects; promote sustainable local economic development; monitoring and evaluation of ward development projects; promote community engagement in ward development planning; provide a forum for dialogue and coordination on ward development issues and support research on an area of study for the advancement of the local community.⁴⁸ Once the WDCs identify a project, project proposals are submitted to Local Authorities who subsequently submit to the MLGRD for approval.

4.6 Systems Description

At the level of MLGRD, activities related to drainage with road infrastructure are undertaken by the Department of Rural Development. The MLGRD plays a supervisory role over the Local Authorities to whom the responsibility for drainage management has been delegated. The drainage system encompasses a comprehensive process that includes planning, construction, maintenance, and rehabilitation, and monitoring as outlined in further detail below.

⁴⁵ The Local Government Act, No. 2 of 2019 First Schedule (Section 4 (a) & (b); 5 (i) & (j) ; 10 (c),(d) & €

⁴⁶ Minutes interviews with RDA

⁴⁷ Minutes interview with DMMU

⁴⁸ The Local Government Act No. 2 of 2019 section 37

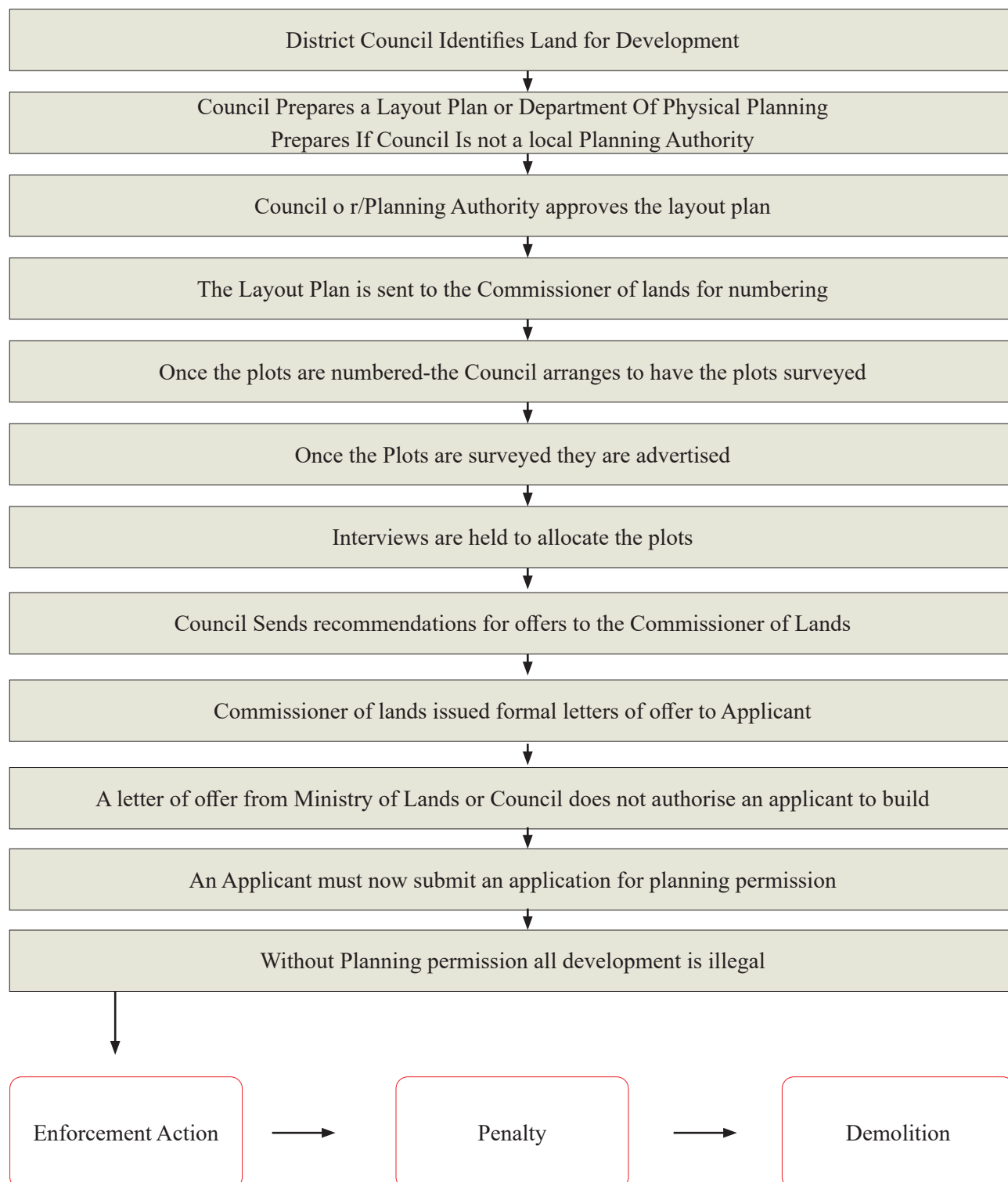


4.6.1 Planning for Drainage Structures

The planning process for drainage construction is the responsibility for the Department of Physical Planning, which collaborates with stakeholders to develop Integrated Development Plans (IDPs) at both national and district levels. The preparation of IDPs is initiated through a Council resolution followed by the preparation of a planning program, which by law is subjected to community scrutiny and then approved by the Council. National spatial plans depict land features and IDPs consider sustainability, suitability, social, demographic and environmental factors as well as terrain and natural drain availability.

Local Authorities develop detailed and zoned Local Area Plans (LAPs) which are based on IDPs, encompassing Green Fields (New land) and Brown Fields (already developed land). For Green Fields, the Local Authorities identify and plan plots with utility services and amenities, seeking approval from the Commissioner of Lands. Once approved, the Engineering Department oversees the implementation of these plans, including the construction of drainage infrastructure. Figure 4.1 shows a flowchart of land allocation for Green Fields.

Figure 4.1: Plot Allocation Process



Source: MLGRD 2023



For Brown Fields, Local Authorities establish development agreements with traditional leaders to plan for the area. When a client seeks to build or alter land use, they must obtain planning permission from the Local Authority. The client submits proposed development plans and the Local Authority (where it is a planning authority) or Provincial Planning Authority (where the Local Authority is not a planning authority) reviews and approves them with or without conditions based on adherence to planning guidelines. With planning permission granted, the developer can proceed with construction. Rejected applications prohibit construction, and if development has started, rejection will lead to demolition.

4.6.2 Drainage Construction

Drainage construction projects are initiated either by the community through the Constituency Development Funds (CDF) or by the Local Authority using the capital projects funds under the Equalisation Funds. Upon approval of the identified need, the Engineering Department at both MLGRD and Local Authority levels utilise Layout Plans from the Planning Department to design drainage structures that are based on land typology. Construction is then carried out by contracted parties under the supervision of either the MLGRD or the Local Authority, contingent on the project size and the capacity of the involved Local Authority.

4.6.3 Maintenance and Rehabilitation

The maintenance of drainages is conducted by Engineering Departments in Local Authorities who work in collaboration with Public Health Department to desilt drainages, collect and dispose solid waste to designated areas.

The cleaning of drainages is carried out through the engagement of Local Authority employees, casual workers, community members as identified by the WDCs, communities through Keep Zambia Clean Campaign and Performance Contractors engaged by Lusaka City Council in the case of Lusaka.⁴⁹

4.6.4 Monitoring of Drainage Structures

Monitoring is undertaken to control encroachments on drainage reserves and to establish if drainages are functioning as they should. Controlling of land use and physical development is done by the Physical Planning department through development controls. Enforcement of development controls is done to ensure building regulations and standards are followed, there is sustainable use of land and that properties are developed and used according to the Master Plan. Enforcement is conducted through issuance of call outs, stop order notices, enforcement notices and demolition exercises.

⁴⁹ Interviews with the Ministry and Local Authorities

AUDIT

Chapter Five **AUDIT CRITERIA**



Republic of Zambia



AUDIT CRITERIA

5.0 Introduction

The chapter presents both the sources of criteria and the criteria used to assess the extent to which MLGRD through LAs constructed, rehabilitated, and maintained drainage structures in urban and peri-urban areas.

5.1 Sources of Criteria

The criteria were extracted from the Local Government Act No. 2 of 2019, the Urban and Regional Planning Act No. 3 of 2015 and MLGRD Strategic Plan 2019 to 2021.

Specific Audit Criteria

5.1.1 Construction and rehabilitation of drainage structures in urban and peri urban areas

The Local Authority shall in relation to sanitation and drainage establish drainages among others.⁵⁰ A Local Authority may also carry out construction of drainages.⁵¹ Further, a Local Authority shall, in relation to community development prohibit and control the development and use of land and buildings and the erection of buildings, in the interests of public health, public safety, and the proper and orderly development of the area of the Local Authority.⁵²

5.1.2 Measures to enhance maintenance of drainage structures in the urban and peri-urban areas

A Local Authority shall, in relation to sanitation and drainage, establish and maintain sanitary services for the removal and destruction of, or otherwise dealing with, all kinds of refuse and effluent, and compel the use of those services; and maintain drains and works for the disposal of refuse among others.⁵³

The MLGRD shall enhance collaboration with stakeholders to ensure the participation of all citizens on solid waste management and drainages.⁵⁴

The MLGRD should intensify public awareness campaigns in order to ensure that there is active participation by all citizens on solid waste management and drainages.⁵⁵

⁵⁰ Local Government Act No.2 of 2019 (first schedule section 16(2),10

⁵¹ The urban and regional planning Act No. 3 of 2015

⁵² The Local Government Act, No. 2 of 2019 First Schedule (Section 5(i),

⁵³ The Local Government Act, No. 2 of 2019 First Schedule (Section 16(2), 10 (b)(c)

⁵⁴ MLGRD Strategic Plan 2019 to 2021

⁵⁵ MLGRD Strategic Plan 2019 to 2021



Chapter Six

FINDINGS



Republic of Zambia



FINDINGS

6.0 Introduction

The chapter highlights the findings generated from the audit by comparing the condition against the set criteria and were supported by relevant and appropriate audit evidence. Further consideration was given to ascertain the root causes and effects based on audit criteria.

6.1 Construction of Drainage Structures in Urban and Peri-Urban areas

The Local Authority shall in relation to sanitation and drainage establish drainages among others.⁵⁶ A Local Authority may also carry out construction of drainages.⁵⁷ The construction of new systems and rehabilitation of existing systems helps to improve the flow of water and prevent flooding by diverting rainwater away from populated areas. This also improves sanitation, reduces incidents of water borne diseases and helps to improve the quality of life for citizens. The MLGRD plans and undertakes major drainage construction projects as a component of road projects.⁵⁸

The audit established that the MLGRD with the support from Kreditanstalt Für Wiederaufbau (KfW) Development Bank Germany constructed a 1.7 km stretch of drainage along Trunk Road (T1) in 2020 and an additional 47 KM along the Nyawa road in Zimba District. Further, in 2023, the World Bank provided support for the construction of a 1.5kms drainage system within a residential area, also in Zimba District. The project involved directing water from the market area through the residential zone to an outflow seasonal stream.⁵⁹

A review of Local Area Plans (LAPs) revealed discrepancies in that despite the requirement for all road constructions to include drainages, there was a notable low construction of drainages in the country. For example, the LAPs for Lusaka City Council's for 2022 to 2027 with respect to Chinika, Kanyama and Mwembeshi. The Chinika report indicated that the drainage network in the ward was poor, with only two drainages which are along Mumbwa road, stretching about 3.5km and along Kalusha Bwalya road with a 2.8km stretch; Kanyama report attributed recurrent flooding of the area to the limey and rocky geology of the area as well as poor road network and lack of adequate drainage infrastructure; Mwembeshi report attributed flooding in the area to inadequate drainage and road infrastructure and Harry Mwanga Nkumbula report also showed that there was inadequate drainage as there were poor road networks with no drains on most roads and that some existing drainages were blocked.

In addition, an analysis of responses from thirty-eight (38) Local Authorities (See Appendix 4) revealed that while there was an increase in the number of planned drainage construction there was no corresponding increase in the actual construction.

⁵⁶ Local Government Act No.2 of 2019 (first schedule section 16(2),10

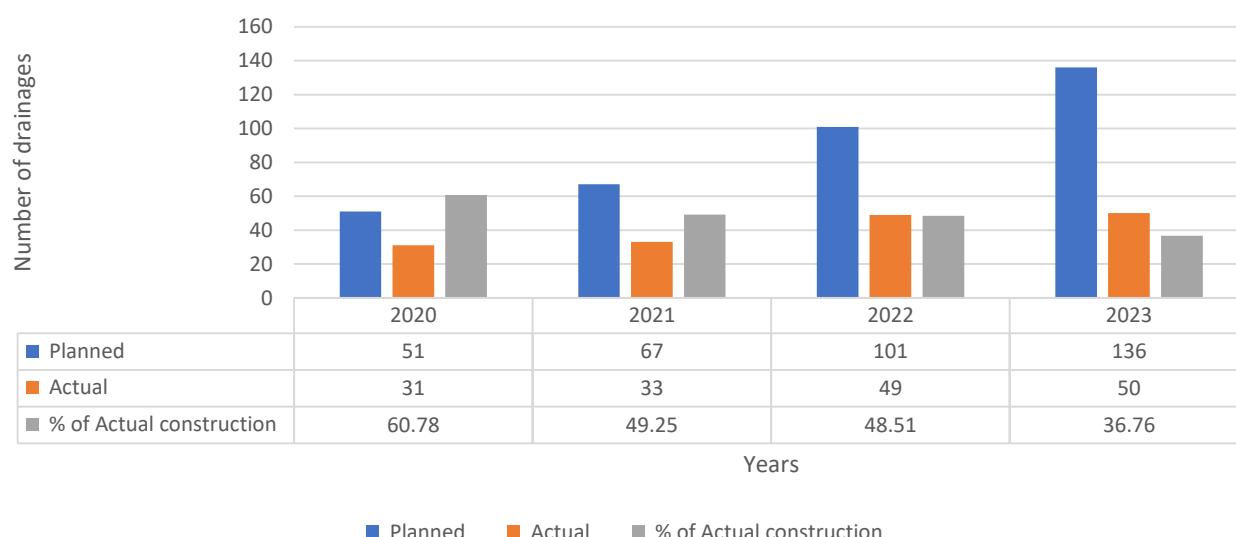
⁵⁷ The urban and regional planning Act No. 3 of 2015

⁵⁸ Minutes from interview with MLGRD

⁵⁹ Data provided from Zimba Town Council

Figure 6.1 below shows the percentage reduction in the number of drainages constructed from 60.78% in 2020 to 36.76% in 2023

Figure 6.1: Planned vs actual Drainages Constructed



Source: Performance Audit Analysis 2023.

However, the total average rate of drainage construction could not be ascertained as the number of planned and constructed drainages for the remaining seventy-eight (78) Local Authorities was not provided as of April 2024. In addition, although MLGRD targeted to construct drainage structures covering 1000km between 2019 and 2021,⁶⁰ the total distance of constructed drainages could not be ascertained as this information was not provided by MLGRD as of April, 2024.

The audit also confirmed through physical inspections and interviews that drainage construction was prioritised in urban areas. For example, Katete, Senanga and Kasempa had no drainages while districts like Pemba, Sioma and Kaoma had one (1) drainage along the main district road. Cities like Kitwe, Ndola, Chingola and Lusaka had drainage networks within the Central Business District (CBD) and peri urban areas.

The limited construction of drainages in various districts was attributed to the following factors:

6.1.1 Lack of Policy

The audit established that the MLGRD had not developed a drainage policy which would direct the implementation of drainage structures. While the MLGRD had the mandate to formulate policies and appropriate guidelines, it was revealed that deliberate efforts had not been made by the MLGRD to create a unit that would plan, design, budget and implement various types of drainages in the Country.

⁶⁰ Strategic Plan 2019 to 2021



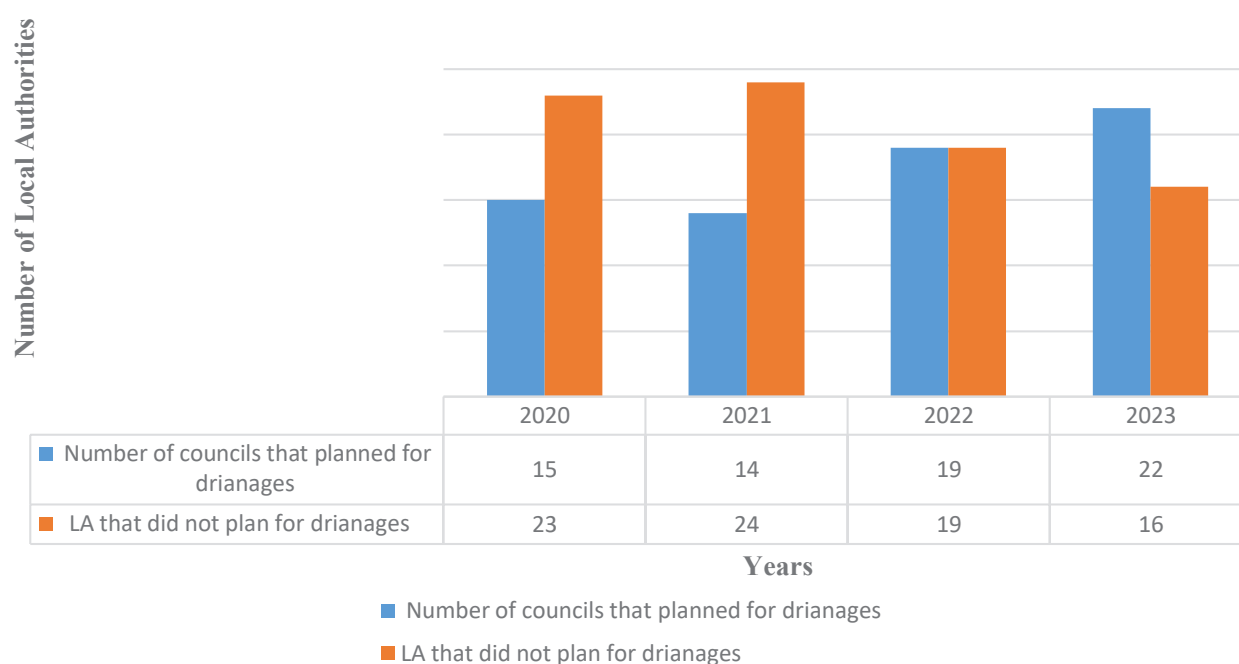
There is thus a risk of non prioritisation of drainage construction, rehabilitation, and maintenance in the country. In response, the MLGRD stated that representations to Cabinet had been made through interactions with MDD during review meetings to expand the structure to include a Drainage Section. However, authority had not been granted as of April, 2024.

6.1.2 Ineffective Planning for Drainage Infrastructure

The MLGRD and Local Authorities, as per the MLGRD Strategic Plan have undertaken the development of IDPs which are crucial for district level strategic planning. While IDPs encompass environmental and drainage aspects, the audit revealed that only eleven (11) out of twenty-six (26) Local Authorities incorporated drainage structures in their IDPs. Among 116 Local Authorities, only Lusaka City Council had developed a Drainage Master Plan and identified catchment areas which were supported by the Millennium Challenge Account. The absence of such plans in other areas was attributed to limited capacity and technical expertise. Most notably, mining towns such as Kabwe, Ndola, Kitwe and Chingola had functional drainage networks despite lacking master plans. An analysis of data from 38 Local Authorities that responded to a request for information regarding the number of drainages planned for construction during the period under review indicated varied planning for drainage construction. However, the remaining seventy-eight (78) Local Authorities did not provide responses on the number of drainage structures planned to be constructed during the period under review as of April 2024.

Figure 6.2 provides insight into the number of Local Authorities that planned for drainage structures during the period under review.

Figure 6.2: Number of LAs that Planned to Construct Drainages.



Source: Performance Audit 2023

As can be seen in figure 6.2 above, there was a minimal increase in the number of Local Authorities that planned for drainages during the period under review. There is therefore a risk that funding for drainages may not be provided for in the budget, haphazard development, dead end drainages and construction in areas not ideal for drainage placement.

In response the MLGRD submitted that it was difficult to plan and guide Local Authorities for effective management of storm water drain in the absence of Drainages Section.

6.1.3 Failure to Actualise Planning Agreements with Traditional Leaders

The planning mandate for Local Authorities covers only 6% of the country with the remaining 94% being customary land. While Local Authorities can plan for customary land through agreements with traditional leaders, the chiefdoms often resist, viewing it as a threat to land ownership.

This complicated storm water management planning in areas predominantly under customary land, leading to challenges in addressing informal development, poor road networks and the absence of storm drains in Central Business Districts (CBDs). The affected Local Authorities included Chibombo, Chongwe, Ndola, Kazungula, Mumbwa, Mongu, Senanga, Sioma, Sesheke and Solwezi. The risk of not planning for traditional land includes haphazard development without provisions for drainages construction.

6.1.4 Non-Adherence to Planning Standards

The Urban and Regional Planning Act No. 3 of 2015 clearly set out guidelines to be followed for the development of an area.

The audit revealed insufficient compliance with development plans in areas designated for opening by the Local Authorities as the prerequisite of fully servicing the land before the commencement of development was not adhered to.

Interviews with both Local Authorities and Provincial Planning Officers affirmed the position that opened land was not serviced before development commenced. The reason for non-servicing of plots was attributed to plots not being sold at a cost reflective price. The failure to service these open areas prior to occupancy presented a risk of developers encroaching on drainage reserve due to the undefined boundaries of road and drainage reserve limits.

Additionally, the audit revealed a recurring oversight in the planning of new development areas particularly, a failure to adequately consider drainage requirements for areas designated as recharge zones or dambos. For example, in Mongu, infrastructure was built on Kande Local Forest which was a recharge zone. Similarly, areas in Lusaka such as Arcades, Chinika, Kanyama, Mass Media and Kamwala South were developed without thorough consideration of drainage needs, with attention to drainage construction only emerging after these areas experienced flood incidences.



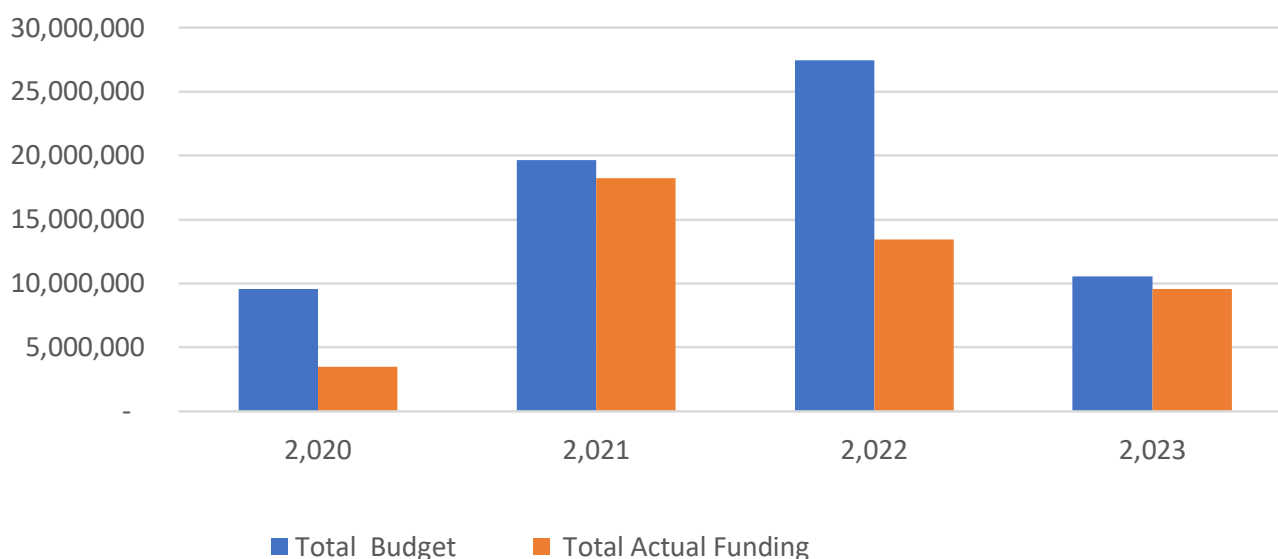
Interviews with officials from both the MLGRD and Local Authorities further stated that there was also non-adherence to planning standards by communities, which was attributed to failure by Local Authorities to protect existing natural drainages through regular development control and public awareness. Notable instances of this laxity included structures built along natural streams in Chipata in Eastern Province, and the construction of a building on top of a drainage at Cosmic Lodge in Lusaka and a bus station in Kabwe, Central Province which was built on a drainage channel. An inspection of the Arcades shopping mall and surrounding areas, and the showgrounds area in Lusaka also revealed constructions in the natural drainage areas leading to subsequent flooding.

6.1.5 Inadequate Oversight of Drainage Management

A review of documents revealed that there was no specific mandate to manage drainage systems in the country as drainage structures were considered part of the road. Within the MLGRD, only the Rural Development Department was closely associated with managing drainages, particularly facilitating improved feeder, community, and township road networks. The organisational structure lacked a clear provision dedicated to dealing with drainage systems which impacted resource allocation and planning for drainages. Interviews with MLGRD and Local Authorities officials further revealed the absence of a department with qualified personnel directly accountable for drainage systems reflected in low budgetary allocations and lack of comprehensive data management on drainages which could contribute to drainage construction. There is a risk that the absence of a department dedicated to drainage system management may result in non prioritisation of drainages leading to low drainage construction and maintenance. The MLGRD submitted that the non approval by Management Development Division (MDD) to expand the proposed organisation structure to include a drainage section had created a lack of clear provision dedicated to dealing with storm water. Further, the Ministry submitted that this had led to an inadequate budgetary allocation for storm water drainage programmes.

6.1.6 Low or Non-Resource Allocation

An examination of the budget allocation for the period 2020 to 2023 revealed a cumulative decline. While there was a notable increase from 2020 to 2021, with a budget boost of K12,492,952 from K6,176,092 to K18,669,049 subsequent years witnessed a consistent reduction, plummeting from K18,669,049 to K5,426,870, indicating a decline of 71 % percent. See Figure 6.3

Figure 6.3 Total budget Vs Actual Funding for Drainage Construction

Source: Performance Audit Analysis 2023

The audit also found that Local Authorities received equalisation funds monthly, with 20% allocated for capital projects, including drainage construction. Officials noted that these funds were generally insufficient for constructing drainages and mainly covered maintenance at the onset of the rains. However, this could not be verified as MLGRD did not provide information on the total funds allocated to Local Authorities for drainage management through equalisation funds, and the total number of drainage projects approved and undertaken using CDF during the period under review, as of January 2024. It was also established that Local Authorities utilised Constituency Development Fund (CDF) for drainage construction, purchase of desks and construction of schools among others. WDCs also submitted project proposals for drainage construction or rehabilitation, though approval was not guaranteed, as other projects were usually prioritised over drainages. Out of thirty-four (34) WDCs interviewed, only six (6) drainage project proposals were approved, with three (3) funded during the audit period. See **Appendix 5** on the interview analysis on project proposal developed by WDCs, approved, and funded.

WDCs mentioned that communities did not prioritise drainages in project rankings, often preferring the construction of schools and clinics. This low prioritisation of resources resulted in a limited number of drainage constructions. The risks associated with low construction of drainages includes water not being directed correctly, water collection in residential areas, gully formation from stormwater and contributing to road erosion. Figure 6.4 shows eroded roads in Lusaka and Sesheke districts due to lack of drainage.



Figure 6.4: Eroded road in Sesheke



Eroded road in Lusaka



Source: Performance Audit 2023

Further, there was a risk of flooding which resulted in damage of properties and disease outbreaks.

6.2 Maintenance of Drainage Structures in the Urban and Peri-Urban Areas

A Local Authority shall, in relation to sanitation and drainage, maintain sanitary services for the removal and destruction of, or otherwise dealing with, all kinds of refuse and effluent, and compel the use of those services; and maintain drains and works for the disposal of refuse among others.⁶¹

The maintenance of drainage structures is cardinal in ensuring that the lifespan of the infrastructure is extended, reduction in erosion, protection of infrastructure and improved safety as well as conserve water.⁶² The Act requires Local Authorities to maintain drainages among others⁶³.

Maintenance was conducted by various parties in the Local Authorities, for example, the MLGRD had contracted Performance Contractors to maintain drainages on behalf of Lusaka City Council. Equally, other Local Authorities like Kitwe, Kabwe, Ndola, Sesheke, Solwezi, Siavonga, Chilanga, Mazabuka, Chingola and Chipata had engaged the (WDCs) members to appoint people from the community to clean drainages within their areas. On the other hand, Ndola, Chipata, Livingstone, Kalulushi, Katete and Pemba engaged LA general workers while Mongu, Senanga and Mumbwa Local Authorities engaged the Correctional Services to provide cleaning services on drainages. Physical inspections of drainages in Kitwe, Chingola, Kalulushi, Mazabuka, Choma, Solwezi and Sioma revealed that the Local Authorities properly maintained drainages with Kitwe having designed culverts that enabled ease of access during maintenance.

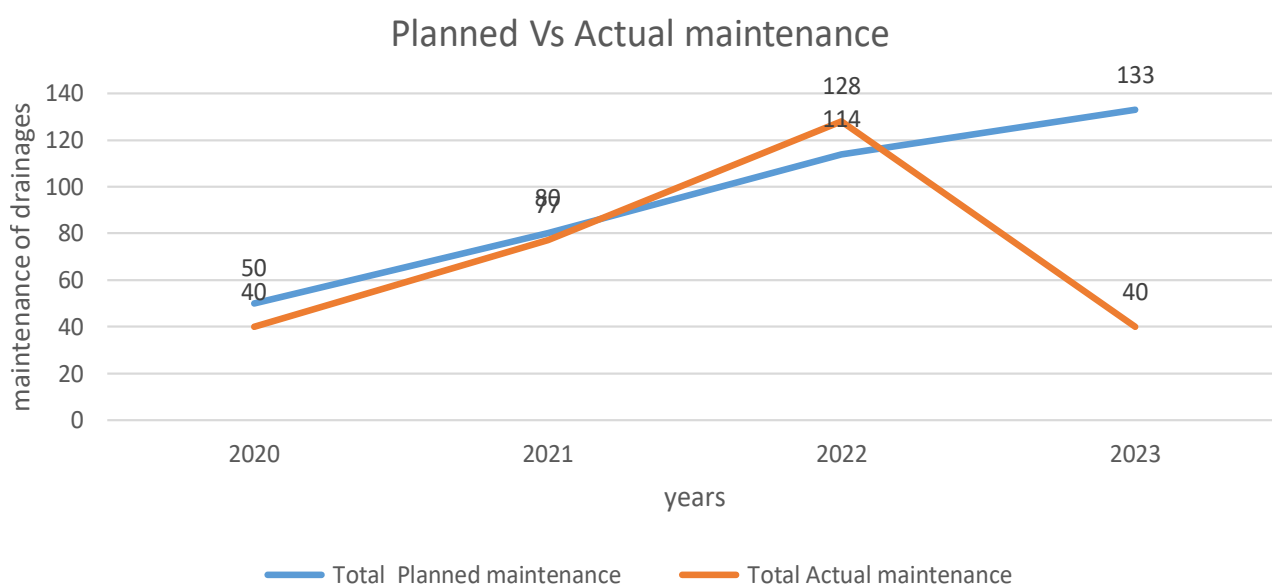
⁶¹ The Local Government Act, No. 2 of 2019 First Schedule (Section 16(2), 10 (b)(c))

⁶² https://safety.fhwa.dot.gov/local_rural/training/fhwasa09024/

⁶³ The Local Government Act, No. 2 of 2019, First Schedule (Section 16(2), 10; Urban and Regional Planning Act No. 3 of 2015)

The audit through responses from thirty-eight (38) Local Authorities revealed that not all of them had formulated plans for maintenance activities while the status of the remaining seventy-eight (78) Local Authorities was unknown as responses to the request for information had not been provided as of April 2024. The audit also revealed that not all Local Authorities planned for maintenance activities, with varying implementation rates during the period from 2020 to 2023 as detailed in **Appendix 6**. Despite the plans, Local Authorities fell short of full implementation in 2020, 2021 and 2023, with 2022 being an exception where all planned activities were successfully executed. See figure 6.5 below.

Figure 6.5: Planned Against Actual Maintenance Activities Implemented



Source: Performance Audit Analysis 2023

Data presented in figure 6.5 above illustrates the rise in the implementation of activities for the period 2020 to 2023, followed by a notable decrease in activities in 2023.

The audit, through physical inspections revealed that drainages were not adequately maintained. In October 2023 it was observed that numerous drainages were obstructed by litter, garbage and silt. Of the forty-three (43) drainages inspected, only eleven (11) were found clean, constituting 26%, refer to **Appendix 7** showing the status of drainages. Instances of severe silt accumulation were identified in locations like the main roads in Kaoma CBD in western Province and a drainage in Balastone area in Lusaka with a depth of two (2) meters entirely covered in silt due to non-maintenance. Additionally, there were various areas including Lusaka and Eastern provinces which include Lusaka CBD, Emmasdale, Chunga, Garden, Kanyama, Chawama, George, Matero and the Light Industrial area where drainages were blocked by solid waste. Figure 6.6 shows an example of drainages clogged with solid waste in Chawama compound in Lusaka.



Figure 6.6: Clogged, Uncleaned Drainage with Grown Grass in Chawama and along Mumbwa road in Lusaka.



Source: Performance Audit Field Inspections 2023

As depicted in figure 6.6 above the drainage exhibited stagnant water, resulting from the accumulation of solid waste and vegetation growth due to the absence of maintenance activities.

The low maintenance of drainages was attributed to the following among others;

6.2.1 Low Resource Prioritisation

The audit, through responses to circularized questionnaires and interviews with Local Authorities, revealed a deficiency in resource allocation for maintenance activities, leading to infrequent drainage cleaning. Further investigation, including site inspections, discussions with performance contractors responsible for areas such as Kafue-Lumumba junction, Lumumba drain, Kalabo Road, Villa area, Emmasdale Chifundo road, Esther Lungu Road, Kafue Round About, Lilayi Road Water Works area and Kamwala South to Kamulanga Roads, showed delays in payments by the MLGRD. Performance Contractors cited inconsistent drainage maintenance due to payment delays, coupled with a shortage of manpower and inadequate protective gear. Workers from various Performance Contractors faced challenges, including delayed payment of salaries averaging three (3) to four (4) months and the lack of relevant tools and equipment such as dredgers, forklifts, and protective clothing. Notably, the underground drainage in Kabwe remained clogged due to the absence of a dredger and appropriate protective gear for underground work. The MLGRD engaged performance contractors for Lusaka drainage cleaning due to its insufficient capacity in terms of manpower and equipment. Challenges were also noted in areas such as Lilanda and Chunga where performance contractors struggled with inadequate manpower due to workers ceasing operations amid issues pertaining salary payments.

6.2.2 Development Controls and Enforcement.

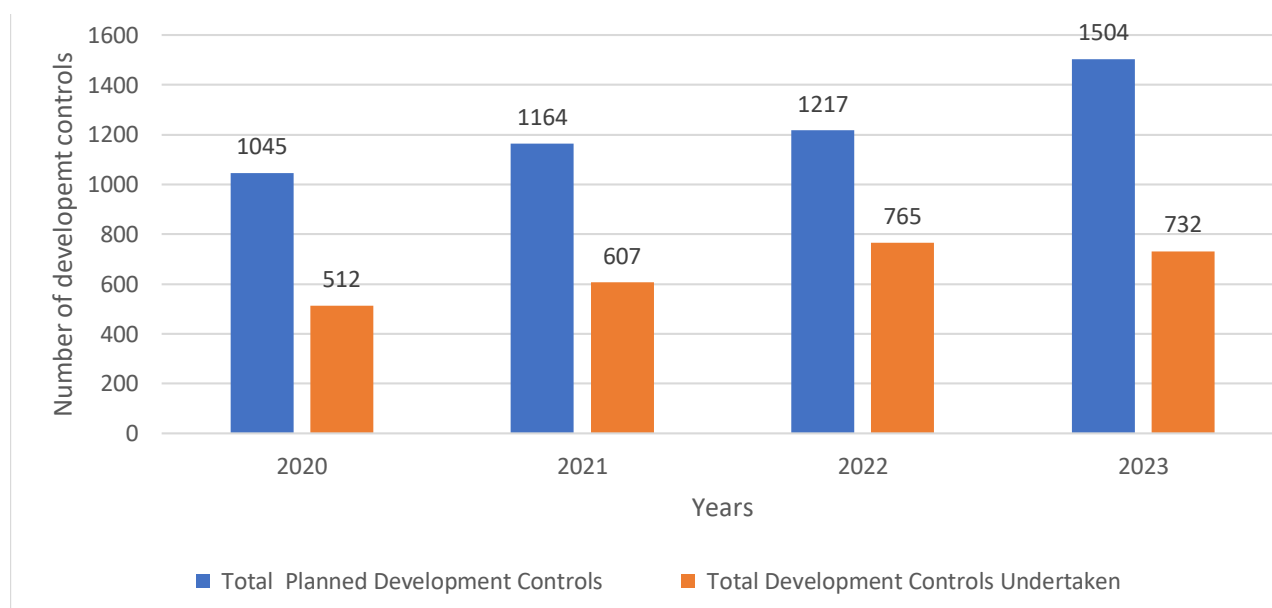
Development controls and enforcements serve as mechanisms for the MLGRD and Local Authorities to monitor drainage structures, ensuring adherence to established plans and preventing encroachments

on utility reserves. According to the Local Government Act No. 2 of 2019, Local Authorities are required to conduct developmental controls and enforcement to uphold prescribed plans.

However, the audit revealed through interviews with officials from the MLGRD and local Authorities that they had not effectively implemented development controls to safeguard drainage structures from encroachments and damage. An analysis of data from Local Authorities indicated that development controls were planned and conducted during the review period, as outlined in **Appendix 8**. It was noted that development controls were typically initiated in response to public complaints.

Through data analysis it was established that out of 116 Local Authorities, only thirty-eight (38) planned to undertake 1045 development controls in 2020, 1164 in 2021, 1217 in 2022, and 1,504 in 2023 while the status regarding the planned and actual development controls undertaken was not provided by seventy-eight (78) Local Authorities as of April 2024. However, not all planned developmental activities were implemented during the review period, as illustrated in Figure 6.7.

Figure 6.7 Planned Vs Actual Development Controls for Period 2020 to 2023



Source: Performance Audit 2023

The analysis of Figure 6.7 indicated a consistent increase in the annual number of planned development controls; however, the implementation rate remained low, ranging from 48.99% in 2020 to 48.67% in 2023. Interviews with MLGRD and Local Authorities officials revealed a lack of strict adherence to development controls, with instances where stop orders were issued but lacked follow-up, allowing illegal developments to proceed.

Moreover, the audit found that the potential role of WDCs in monitoring local development was underutilised by Local Authorities.

WDCs, when interviewed, expressed a lack of orientation on development control matters and reported challenges in receiving feedback from Local Authorities regarding cases of encroachments on road reserves in their areas. The absence of a formal reporting system also hindered the audit from tracking reported cases and actions taken.

In this regard, a case reported by WDCs on road encroachment in Chunga area, Lusaka, which was not addressed by the Lusaka City Council, resulting in the construction of a structure within the road reserve. Pictorial evidence of the reported construction is shown below:

Figure: 6.8: Encroachments on Drainage Reserve in Chunga



Source: Performance Audit 2023

Interviews with Provincial Planning Officers revealed challenges in effectively implementing development controls in areas under their planning jurisdiction. The officers reported facing difficulties in conducting consistent inspections, primarily due to their absence in the districts they planned for as they had transport constraints and lacked presence in the districts they planned for. Local Authorities such as Kalomo, Maamba, Namwala, Kaoma, Senanga, Sioma, Sesheke, Kasempa, Katete, Chadiza, and Sinda also reported difficulties in monitoring developments against established plans.

Physical inspections of drainages uncovered instances of structures erected on top of drainage systems and within road reserves, limiting space for drainage structures and other essential services. An illustrative example occurred in Chongwe, where constructions encroached upon the reserved area designated for services like drainages, as depicted in Figure 6.9

Figure 6.9 Structure built on road reserve in Chongwe.



Source: Performance Audit Field Inspection 2023

Local Authorities cited low staffing levels, particularly in the number of Building Inspectors, as a primary reason for not effectively conducting development controls. Most Local Authorities reported an average of only two Building Inspectors covering entire districts, with exceptions like Lusaka City Council, which had recruited 15 inspectors and planned to station them in various zonal centers within the district. Inadequate transport was another common challenge, as there were no dedicated vehicles for development control exercises, hindering inspections based on the availability of transportation. This issue significantly impacted larger cities like Lusaka, Ndola, Chipata, Livingstone, and Kitwe. In contrast, Chingola Municipal Council demonstrated progress in enforcing orders, as evidenced by enforcement notices issued to offenders between November 2020 and March 2023, along with documented demolition reports.

The failure to effectively conduct development controls poses several risks, including encroachment on areas designated for drainage structures, limiting future development services due to reduced buffer zones. Additionally, there is a risk of unplanned settlements, interference with planned development programs, construction on drainage structures, persistent illegality in construction, and the indiscriminate disposal of solid waste in drainages.

6.2.3 Lack of Control by Local Authorities on Traditional Jurisdiction

Representatives from all Local Authorities visited indicated that maintaining drainages located in customary land posed significant challenges because Local Authorities lacked control and did not



have Planning Agreements with traditional leadership. The presence of makeshift shops constructed on top of the drainages also created obstacles for regular maintenance activities. This scenario was substantiated by onsite inspections conducted in Sioma District as depicted in Figure 6.10 below.

Figure 6.10 Makeshift Shops Constructed on the drainage line in Sioma.



Source: Performance Audit Field Inspections 2023

The failure to regularly maintain drainage systems by removing litter, garbage and effluents poses risks such as flooding and water stagnation. These conditions can contribute to the breeding of pests like flies and mosquitoes, leading to the spread of infectious diseases. Figure 6.11 below illustrates an example of drainages with stagnant water along Mumbwa road in the light industrial area in Lusaka.

Figure 6.11: Stagnant Water off Mumbwa road in Light Industrial Area



Source: OAG Performance Audit Field Inspections 2023

6.2.4 Inadequate Collaboration with Stakeholders

The audit established that MLGRD collaborated with RDA and DMMU to some extent. However, it was established that there were different levels of prioritisation and understanding of areas requiring attention among stakeholders. The specific instances of collaboration were as follows:

6.2.4.1 Disaster Management and Mitigation Unit

Local Authorities disclosed in interviews that they engaged in collaborative efforts with DMMU by holding monthly meetings for which they served as the secretariat. DMMU in turn supported Local Authorities in responding to disaster alarms by enhancing and restoring drainages. Interviews with DMMU officials revealed that there were collaborations with Lusaka City Council on drainage management. For instance, in 2020, the Kanyama drainage was rehabilitated in conjunction with the Zambia National Service (ZNS) under a project coordinated by DMMU. DMMU all engaged a private contractor to undertake the blasting of roads during the rehabilitation works. Further, DMMU engaged private contractors in 2021 and 2022 to undertake works on the Lumumba Road drainage project spanning 500 meters and costing K6 Million.



However, interviews with LCC indicated challenges in collaboration, particularly regarding the Simon Mwewa drainage design along Lumumba Road in Lusaka. LCC reported issues pertaining to lack of consultation on the design which resulted in back flow of water. One of the design issues highlighted was the use of round culverts which were incompatible with storm water volume. As of March 2023, efforts were underway to replace round culverts with box culverts designed for efficient water flow and easy maintenance. Physical Inspections carried out in 2023 revealed that there were ongoing construction works and that there was a dead end in the drainage which was contributed to flooding.

6.2.4.2 Road Development Agency

Interviews with RDA revealed that the interaction between RDA and Local Authorities were facilitated through maintenance projects under the Force Account funding, accompanied by capacity building efforts through project monitoring. RDA addressed Local Authorities' requests for drainage through installation of broken culverts, repairing broken down crossing point bridges and prevention of wearing out of bridges due to erosion among others within its jurisdiction. While Local Authorities acknowledged collaboration with RDA, concerns were raised about insufficient feedback from RDA regarding district roads within its mandate. For instance, Kafue Town Council indicated that they had engaged RDA in 2022 to assist with fixing bridges in their area. However, despite making commitments, RDA had not fulfilled its commitment as at the time of audit in March 2023.

In locations where RDA had physical presence, there was prompt response to matters relating to drainages whenever approached for assistance by Local Authorities. For instance, during a physical inspection in Chipata in the Eastern Province, RDA constructed a drainage system to redirect storm water from the CBDs main road through the Chipata School into the mainstream. Additionally, a culvert was installed along a major stream where erosion had been reported, also in Chipata. There were similar instances in Luanshya, where RDA assisted in constructing a bridge in the Mpatamatu area and in Choma, where RDA repaired culverts along Sinazongwe road. DMMU however indicated that their response was limited by scarce resources, focusing primarily on emergency drainage problems.

The MLGRD submitted that collaboration between DMMU RDA and MLGRD seemed low due to the nature of the core mandate for each institution. DMMU interactions were mainly on disaster management while RDA interactions were mainly focused on drainages associated with roads infrastructure. MLGRD 's mandate however extended beyond road side drains to also planning construction, rehabilitation and maintenance of storm water drainages, this mandate allowed the ministry to manage storm water drainages which covers the wide area in order to protect people and the environment.

The risk of inadequate drainage construction due to poor collaboration with stakeholders heightens the potential for increased flooding, as evidenced in various districts.

6.2.5 Low Monitoring of Drainage Structures

An analysis of data from the thirty-eight (38) Local Authorities that responded to the request for information showed that a total of seventy-six (76), (103), (146) and (193) monitoring activities were planned in the periods 2020, 2021, 2022 and 2023 respectively while data from the seventy-eight (78) was not provided as of April 2024. However, they did not meet the required targets as shown in **Appendix 9**.

The Local Authorities conducted monitoring of drainage structures through the Inspections as follows:

6.2.5.1 Inspections of Maintenance Works

Interviews with Local Authorities revealed that regular monitoring of drainage structures was conducted to ensure that they were well maintained. However, the audit found that the monitoring was ineffective, as physical inspections revealed that drainages were clogged with silt, solid waste and stagnant water.

In Chawama for instance, despite the contractor claiming to have undertaken routine drainage cleaning, monitoring was not evident as drainages were clogged with silt and there was raw sewer at Chawama Level 1 Hospital as depicted in figure 6.12 below.

Figure 6.12: Sewer Effluent Discharged from Chawama Level 1 Hospital into a nearby drainage.



Source: Performance Audit Field Inspections 2023



The audit established that although the drainage in Emmasdale along Vubu road and Florida Streets was desilted and cleaned, the silt and solid waste were dumped in the drainage bed and covered in vegetation. Another example was along Katima Mulilo road in Garden compound and Chawama compound of Lusaka where it was observed that the drainage was used as a dumpsite and was filled with solid waste as can be seen in figure 6.13 below:

Figure 6.13: Drainage filled with Solid Waste in Chawama.



Source: OAG Performance Audits 2023

Inadequate monitoring of drainages was linked to low capacity of Local Authorities in terms of staffing and transportation. The risks associated with inadequate monitoring include rapid deterioration of drainage infrastructure and wasteful expenditure on ineffective drainage cleaning works.

6.3 Public Sensitisation of Drainage Structures in Urban and Peri Urban Areas

The MLGRD should intensify public awareness campaigns in order to ensure that there is active participation by all citizens on solid waste management and drainages.⁶⁴

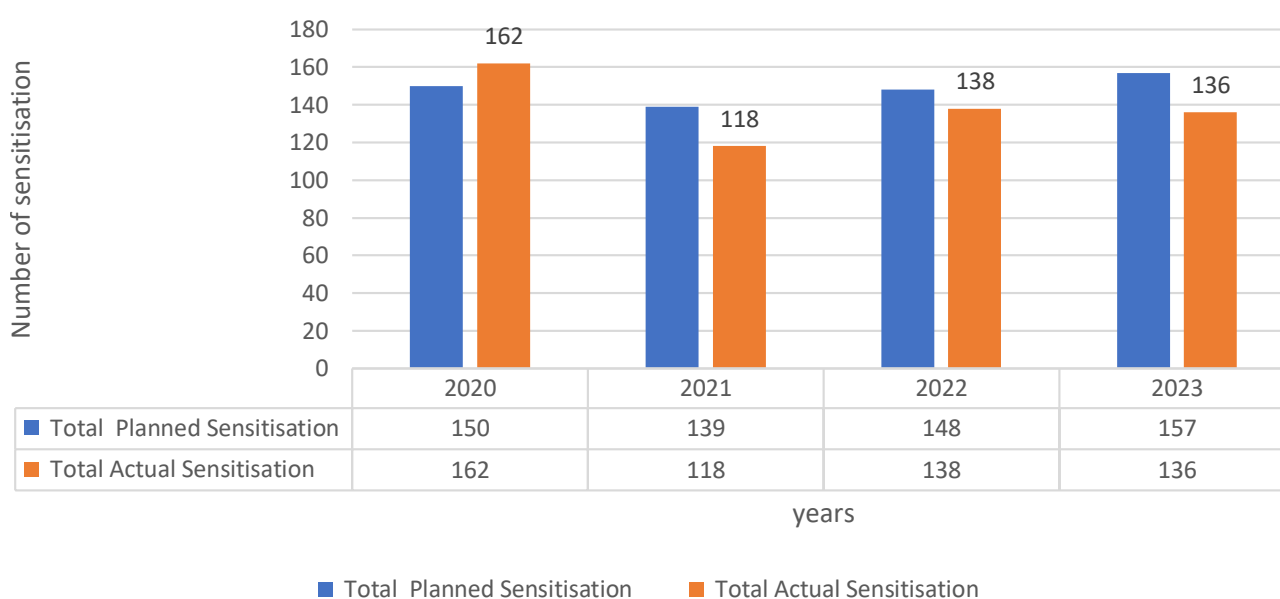
As outlined in the Ministry Strategic Plan 2019-2021, the MLGRD set targets to improve public awareness, encouraging the involvement of all citizens in solid waste management and drainage. In light of this strategic intention, the following observations were made.

⁶⁴ MLGRD Strategic Plan 2019 to 2021

6.3.1 Sensitisation on Drainage Management

The audit through analysis of data circularisation for planned and actual implementation of sensitisation activities showed that from the thirty-eight (38) Local Authorities that had responded to the request for information, twenty-two (22) had planned to undertake sensitisation activities in 2020, twenty-three (23) in 2021, twenty-four (24) in 2022 and twenty-five (25) in 2023. A further analysis showed that there was a total of 162 in 2020, 118 in 2021, 138 in 2022 and 136 in 2023 sensitisation activities undertaken. See Figure 6.14 below for details.

Figure 6.14: Planned Against Actual Sensitisation Activities implemented.



Source: Performance Audit 2023

Although figure 6.14 above depicts the status of planned and actual sensitisation activities, it was not possible to establish whether all 116 LAs had met their planned sensitisation targets as seventy-eight (78) Local Authorities did not provide information as of January, 2024. (Refer to **Appendix 10** for planned and actual details on sensitisation). Discussions with officials from MLGRD Physical Planning and Engineering Departments, as well as Local Authorities' Engineering, Planning, and Public Health Departments, revealed that Local Authorities utilised various methods for public sensitisation. These methods included community meetings, radio programs, megaphones, door-to-door outreach, and the Keep Zambia Clean Campaign.

Local Authorities engaged the public in drainage maintenance through the Keep Zambia Clean Campaign, implemented monthly. However, the campaign had limited engagement at the ward and household levels, primarily focusing on businesses, public spaces, and marketplaces. Some Local Authorities, like Lusaka, Kabwe, Chipata, Kitwe, Livingstone, and Choma, conducted radio programs to educate the public on issues such as indiscriminate waste disposal in drainages.



Others, like Katete and Kalomo, utilised Ward Development Committees (WDCs) to disseminate drainage management information.

However, interviews with WDCs revealed that despite their crucial role in community sensitisation, they were not adequately trained or engaged by Local Authorities. WDCs often focused on Constituency Development Fund (CDF) projects, and some indicated a lack of tools for cleaning. Additionally, communities assumed that cleaning activities were the responsibility of Local Authorities. Among the interviewed WDCs, only ten out of twenty-five reported receiving sensitisations from Local Authorities regarding drainage maintenance.

The consequence of low sensitisation levels was evident through increased indiscriminate waste disposal in drainages by communities, leading to blockages, vandalism, and improper waste disposal. This was particularly observed in peri-urban areas such as Kanyama, Chawama, George compounds, and the CBD in Lusaka. Figure 6.15 illustrates an example of indiscriminate waste disposal in a drainage in Chawama.

Figure 6.15 Examples of Indiscriminate Waste Disposal in a Drainage



Source: Performance Audit 2023

In Kabwe, it was observed that an individual had obstructed a natural drain, leading to flooding at ZESCO Limited premises and affecting transformers. Furthermore, at the main bus station, individuals erected makeshift shops on the drainage structure, impeding access for cleaning and water flow.

Through interviews in twenty-nine (29) Local Authorities, the audit also revealed that Local Authorities partnered with DMMU on disaster-related matters which include flooding and drainage matters such as construction and cleaning of drainages before the onset of rains through the District Disaster Management Committees.

They conducted community sensitisation sessions before the rainy season, specifically aimed at encouraging the communities to refrain from littering drainages.

MLGRD submitted that it was difficult to undertake sensitisation activities due to lack of a budget for storm water drainage management. They further submitted that more funding was required for sensitisation, community engagement and enforcement of solid waste regulations.



Chapter Seven

CONCLUSION



Republic of Zambia

CONCLUSION

Drainage systems play a vital role in safeguarding people and property from floods and diseases. However, crucial steps towards successful construction, maintenance, monitoring, and community awareness encompassing planning, policy development, storm management and sufficient funding have not been comprehensively realised. As a result, the audit asserts that the execution of drainage construction, rehabilitation, and maintenance by the MLGRD has proven ineffective.

MLGRD lacks a policy guiding drainage management, with no explicit mandate for storm management, as drainages are currently encompassed under road construction projects without any dedicated drainage initiatives and hence not receiving the necessary attention. Additionally, both MLGRD and Local Authorities lack staff with expertise in drainage management, resulting in drainages not being accorded the attention they deserve.

Most Local Authorities, excluding Lusaka City Council, lack storm drainage management plans, leading to the construction of drainages in an unsystematic manner which has occasionally resulted in the construction of dead-end drainages. The audit finds that, despite Government efforts to construct and upgrade drainages on road projects, the numbers are inadequate to meet the demand. Drainages in various districts have been subjected to low investment, with many areas lacking capacity for funding new drainage construction or upgrading existing earth drains.

Further, maintenance activities by Local Authorities, encompassing debris clearance, structural repairs, inspections, and ensuring free water flow, are irregularly and ineffectively performed. Cleaning of drainages lacks proper monitoring, leading to blockages from indiscriminate waste disposal and silt. Additionally, effective development controls, especially in customary land within the Central Business Districts, are lacking. These enforcement failures, including inaction on stop orders and regulation implementation monitoring have contributed to increased vandalism, encroachment, and indiscriminate waste disposal.

While Local Authorities have made efforts to sensitise the public through various channels, such as community meetings, radio programs, Keep Zambia Clean Campaigns, outreach initiatives and social media, the impact on changing community mindsets towards caring for drainage structures is limited. Persistent non-adherence to regulations, including construction requirements and poor solid waste management has led to issues like indiscriminate waste disposal, vandalism, and encroachments.

The MLGRD and Local Authorities has not developed a system to maintain data on drainages making it difficult for the audit to effectively track progress on drainage construction and maintenance as well as efforts made in public sensitisation and enforcement of development controls.



Chapter Eight

RECOMMENDATIONS



Republic of Zambia



RECOMMENDATIONS

Based on the audit findings and conclusions, the OAG recommends the following practical measures aimed at enhancing drainage management as follows:

- (a) The MLGRD should consider formulating a comprehensive drainage policy to provide guidance for the effective management of drainage structures in the country.
- (b) The MLGRD should develop storm drainage plans to facilitate the systematic implementation of drainage projects and mobilisation of necessary resources.
- (c) The MLGRD should focus on educating traditional leaders and other stakeholders about the importance of Planning Agreements, promoting systematic development, and ensuring the incorporation of drainage structures within their jurisdictions.
- (d) The MLGRD should explore the establishment of dedicated structures within its organisation to oversee drainage management, fostering enhanced responsibility, accountability, and prioritisation.
- (e) The MLGRD should enhance the utilisation of Ward Development Committees (WDCs), acknowledging their critical role in supporting Local Authorities at the community level, especially considering the limited number of building inspectors.
- (f) Local Authorities should enforce punitive measures to deter indiscriminate waste disposal, thereby reducing the disposal of waste in undesignated places.
- (g) Non-planning Local Authorities should receive support to become self-dependent, enabling them to conduct effective development controls within their jurisdictions.
- (h) The MLGRD should enforce the provision of additional services by Local Authorities, such as surveying and road construction, before permitting developers, to minimise encroachments in drainage and road reserve areas.
- (i) There is a need for increased collaboration with RDA and other stakeholders, leveraging their expertise, resources, and support for comprehensive sensitisation on drainage-related matters.
- (j) The MLGRD should work towards improving monitoring mechanisms for drainage structure projects to enhance cleanliness and ensure value for money in implementation.
- (k) The MLGRD and Local Authorities should jointly design educational programs to raise public awareness about building requirements, promoting adherence at all development stages, and strengthening development controls to reduce encroachments.
- (l) The MLGRD should enhance sensitisation efforts through electronic media platforms, through the utilisation of various social media platforms, for timely and effective dissemination of information to the public.



APPENDICES

Appendix 1: List of Local Authorities Sampled

SN	Province	District	Name of Local Authority	Planning Authority
1	Lusaka	Lusaka	Lusaka City Council	yes
2		Kafue	Kafue City Council	yes
3		Chongwe	Chongwe Municipal Council	yes
4		Chilanga	Chilanga Town Council	No
5	Central	Chibombo	Chibombo Town Council	No
6		Kabwe	Kabwe Municipal Council	yes
7		Kapiri Mposhi	Kapiri Mposhi Town Council	No
8		Mumbwa	Mumbwa Town Council	No
9	Copperbelt	Ndola	Ndola City Council	yes
10		Kitwe	Kitwe City Council	yes
11		Kalulushi	Kalulushi Municipal Council	yes
12		Chingola	Chingola Municipal Council	yes
13	North Western	Solwezi	Solwezi Municipal Council	yes
14		Kasempa	Kasempa Town Council	No
15	Eastern	Chipata	Chipata Municipal Council	yes
16		Katete	Katete Town Council	No
17	Southern	Choma	Choma Municipal Council	yes
18		Kalomo	Kalomo Town Council	No
19		Livingstone	Livingstone City Council	yes
20		Kazungula	Kazungula Town Council	No
21		Pemba	Pemba Town Council	No
22		Mazabuka	Mazabuka Municipal Council	yes
23		Monze	Monze Town Council	No
24		Chirundu	Chirundu Town Council	No
25	Western	Kaoma	Kaoma Town Council	No
26		Mongu	Mongu Municipal Council	yes
27		Senanga	Senanga Town Council	No
28		Sesheke	Sesheke Town Council	No
29		Sioma	Sioma Town Council	No

Appendix 2: List of Interviewees

No.	Province	District	Institution	Position
	Lusaka	Lusaka	MLGRD	Planning Department
1			Lusaka Provincial Planning Office	Provincial Engineer
2			Copperbelt Provincial Planning Office	Provincial Planner
3			Western Province Provincial Planning Office	Provincial Planner
4			Eastern Province Provincial Planning Office	Provincial Planner
5			Southern Province Provincial Planning Office	Provincial Planner
6			RDA	Acting Senior Engineer
7				Engineer Planning & Design
8			DMMU	Assistant Director- Emergency and Relief
9				Principal Accountant
10				Senior Accountant
11				Accountant
12			Lusaka City Council	Assistant Director Engineering
13				Town Planner
14				Director Public Health
15				Chief Health Inspector
16			Performance Contractors	
17			STAAM Investment	Director
18			October First - Chawama	Director
19			Chalibert	Director
20			ASINET Ltd	Supervisor
21		Kafue	Kafue Town Council	Public Health Inspector
22				Director Works
23				Director Planning





No.	Province	District	Institution	Position
24		Chongwe	Chongwe Town Council	Public Health Inspector
25				Director Works
26				Director Planning
27		Chilanga	Chilanga Town Council	Public Health Inspector
28				Director Works
29				Director Planning
30	Central	Chibombo	Chibombo Town Council	Public Health Inspector
31				Director Works
32				Director Planning
33		Kabwe	Kabwe Town Council	Public Health Inspector
34				Director Works
35				Director Planning
36		Kapiri Mposhi	Kapiri Mposhi Town Council	Public Health Inspector
37				Director Works
38				Director Planning
39		Mumbwa	Mumbwa Town Council	Public Health Inspector
40				Director Works
41				Director Planning
42	Copperbelt	Ndola	Ndola City Council	Public Health Inspector
43				Director Works
44				Director Planning
45		Kitwe	Kitwe City Council	Public Health Inspector
46				Director Works
47				Director Planning
48		Kalulushi	Kalulushi Town Council	Public Health Inspector

No.	Province	District	Institution	Position
49				Director Works
50				Director Planning
51		Chingola	Chingola Municipal Council	Public Health Inspector
52				Director Works
53				Director Planning
54	North western	Solwezi	Solwezi Municipal Council	Public health inspector
55				Director Works
56				Director Planning
57		Kasempa	Kasempa Town Council	Public Health Inspector
58				Director Works
59				Director Planning
60	Eastern	Chipata	Chipata City Council	Public Health Inspector
61				Director Works
62				Director Planning
63		Katete	Katete Town Council	Public Health Inspector
64				Director Works
65				Director Planning
66	Southern	Choma	Choma Municipal Council	Public Health Inspector
67				Director Works
68				Director Planning
69		Kalomo	Kalomo Town Council	Public Health Inspector
70				Director Works
71				Director Planning
72		Livingstone	Livingstone City Council	Public Health Inspector
73				Director Works





No.	Province	District	Institution	Position
74				Director Planning
75		Kazungula	Kazungula Town Council	Public Health Inspector
76				Director Works
77				Director Planning
78		Pemba	Pemba Town Council	Public Health Inspector
79				Director Works
80				Director Planning
81		Mazabuka	Mazabuka Town Council	Public Health Inspector
82				Director Works
83				Director Planning
84		Monze	Monze Town Council	Public Health Inspector
85				Director Works
86				Director Planning
87		Chirundu	Chirundu Town Council	Public Health Inspector
88				Director Works
89				Director Planning
90	Western	Kaoma	Kaoma Town Council	Public Health Inspector
91				Director Works
92				Director Planning
93		Mongu	Mongu Town Council	Public Health Inspector
94				Director Works
95				Director Planning
96		Senanga	Senanga Town Council	Public Health Inspector
97				Director Works
98				Director Planning

No.	Province	District	Institution	Position
99		Sesheke	Sesheke Town Council	Public Health Inspector
100				Director Works
101				Director Planning
102		Sioma	Sioma Town Council	Public Health Inspector
103				Director Works
104				Director Planning
105	Lusaka	Chongwe	Chongwe Central ward	WDC Chair
106				WDC Treasurer
107	Lusaka	Kafue	Kafue WDC	WDC Chair
108				WDC Treasurer
109			Kasenje ward	WDC Chair
110				WDC Treasurer
111			Shabusale ward	WDC Chair
112				WDC Treasurer
113			Shikoswe ward	WDC Secretary
114	Lusaka	Mandevu	Mpulungu ward 26	WDC Chair
115				WDC Treasurer
116			Mulungushi ward 21	WDC Chair
117				WDC Treasurer
118			Ngwerere ward 22	WDC Chair
119				WDC Treasurer
120			Justine Kabwe ward	WDC Chair
121				WDC Treasurer
122	Lusaka	Lusaka Central	Ward	WDC Chair
123				WDC Treasurer





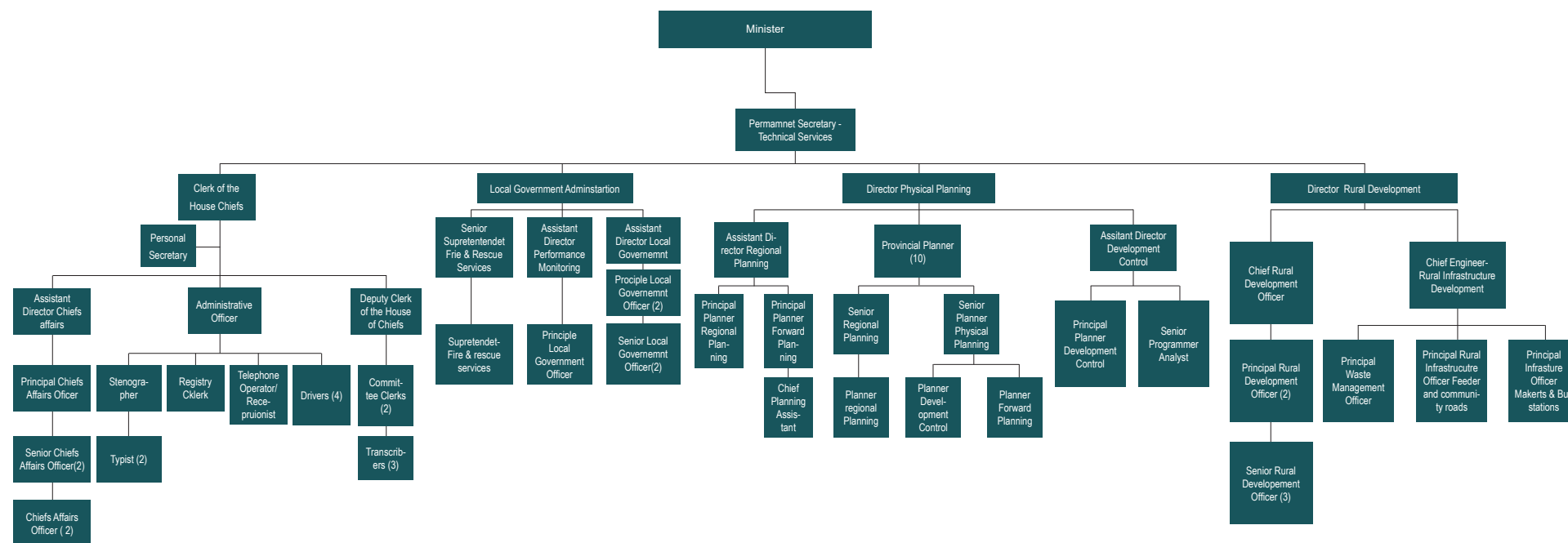
No.	Province	District	Institution	Position
124		Matero	Lima ward	WDC Chair
125				WDC Treasurer
126			Mwembeshi ward	WDC Chair
127				WDC Treasurer
128		Kanyama	Kanyama ward 13 (Old Kanyama)	WDC Chair
129				WDC Treasurer
130		Chawama	Chawama ward 2	WDC Chair
131				WDC Treasurer
132			Chawama ward 3	WDC Chair
133				WDC Treasurer
134		Chilenje	Chilenje ward 8	WDC Chair
135				WDC Secretary
136	Central	Chibombo	Chibombo Central ward	WDC Chair
137				WDC Secretary
138		Kapiri	Kapiri Central ward	WDC Chair
139				WDC Secretary
140		Mumbwa	Shimbiju ward	WDC Chair
141				WDC Secretary
142			Mumba ward	WDC Chair
143				WDC Secretary
144			Mupona ward	WDC Chair
145				WDC Secretary
146	Copperbelt	Kalulushi	Kafue ward	WDC Chair
147				WDC Secretary
148			Sokoloko ward	WDC Chair

No.	Province	District	Institution	Position
149			Kalengwa ward	WDC Chair
150				WDC Secretary
151		Chingola	Nchanga ward	WDC Chair
152				WDC Secretary
153			Chingola Central ward	WDC Chair
154				WDC Secretary
155			Maiteneke ward	WDC Chair
156				WDC Secretary
157	Western	Kaoma	Mulamatila ward	WDC Chair
158				WDC Secretary
159			Imwiko ward	WDC Chair
160				WDC Secretary
161			Lewanika Ward	WDC Chair
162				Chair Secretary
163			Kanyonyo ward	WDC Chair
164				WDC Secretary
165			Ilute ward	WDC Chair
166				WDC Secretary
167		Sesheke	Katima ward	WDC Chair
168				WDC Secretary
169			Nakatindi ward	WDC Secretary
170				WDC Chair
171		Senanga	Senanga Central	WDC Chair
172				WDC Secretary
173	North Western	Solwezi	Kazhiba ward	WDC Chair



No.	Province	District	Institution	Position
174				WDC Secretary
175			Kamaramba ward	WDC Chair
176				WDC Secretary
177			Kifiwa ward	WDC Chair
178				WDC Secretary
179			Kifuku ward	WDC Chair
180				WDC Secretary
181			Tiyalalankuba ward	WDC Chair
182				WDC Secretary
183			Kimali Ward	WDC Chair
184				WDC Secretary
185			Kiawama ward	WDC Chair
186				WDC Secretary
187			Tumvwanganai ward	WDC Chair
188				WDC Secretary
189			Kapijimpanga ward	WDC Chair
190				WDC Secretary

Appendix 3: Organisation Structure





Appendix 4: Number of Drainages Planned and Constructed

S/N	Institution	2020		2021		2022		2023	
		Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
1	ChibomboTown Council	0	0	0	0	1	1	2	2
2	Chilanga Town Council	1	1	10	0	1	1	2	2
3	Chinsali Municipal Council	1	6	12	12	6	6	7	0
4	Chipata City Council	40km	15m	40km	20m	40km	1010m	40km	650m
5	Chifunabulido Town Council	0	0	0	0	0	0	0	0
6	Isoka Town Council	4	4	3	3	5	5	0	0
7	Itezhi Tezhi Council	0	0	0	0	0	0	0	0
8	Kawambwa Town Council	9	7	13	12	15	12	17	15
9	Kalomo Town Council	0	0	0	0	0	0	8	0
10	Kapiri Mposhi Town Council	0	0	0	0	0	0	0	0
11	Kasempa Town Council	0	0	0	0	0	0	0	0
12	Livingstone City Council	1	1	1	1	6	1	1	1
13	Lumezi Town Council	0	0	0	0	0	0	11	1
14	Luwingu Town Council	2	2	0	0	6	4	0	0
15	Mazabuka Muiciple council	0	0	1	1	3	3	0	0
16	Mpika Town council	2	2	1	1	0	0	1	1
17	Mungwi Town Council	0	0	0	0	0	0	0	0
18	Monze Municipal Council	0	0	2	0	5	3	1	TBA
19	Milendi Town Council	0	0	0	0	0	0	0	0
20	Mpulungu Town Council	20	0	20	0	25	0	25	0

S/N	Institution	2020		2021		2022		2023	
		Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
21	Pemba Town Council	1	1	1	1	1	1	1	1
22	Shibuyunji Town Council	0	0	0	0	0	0	20	0
23	Zimba Town Council	1	1	0	0	0	0	47km	47km
24	Chipangali Town Council	0	0	0	0	0	0	0	0
25	Chitambo Town Council	6	3	1	1	3	2	1	1
26	Chikankata Town Council	0	0	0	0	4	1	6	4
27	Pemba Town Council	1	1	1	0	2	2	0	0
28	Kasama Town Council	0	0	0	0	10	0	22	15
29	Chadiza Town Council	0	0	0	0	1	1	1	1
30	Lukulu Town Council	0	0	0	0	0	0	0	0
31	Mambwe Town Council	0	0	0	0	0	0	0	0
32	Mongu Town Council	1	1	0	0	0	0	1	0
33	Mulobezi Town Council	0	0	0	0	0	0	4	4
34	Mungwi Town Council	0	0	0	0	0	0	0	0
35	Namwala Town Council	0	0	0	0	6	6	0	0
36	Kazungula Town Council	1	1	1	1	1	0	1	1
37	Kaoma Town Council	0	0	0	0	0	0	0	0
38	Chongwe Town Council	0	0	0	0	0	0	4	1
Total		51	31	67	33	101	49	136	50





Appendix 5: Analysis on project Proposals Developed by WDCs, approved and funded.

No.	Contiency	WDC	Any proposed drainages under CDF	Was project approved	Was project funded
1	Chongwe Central ward	Chongwe Central wards	Yes	No	No
2	Kafue	Kafue WDC	Yes	No	No
3		Kasenje ward	Yes	No	No
4		Shabusale ward	Yes	No	No
5		Shikoswe ward	Yes	No	No
6	Mandevu	Mpulungu ward 26	Yes	No	No
7		Mulungushi ward 21	Yes	No	No
8		Ngerere ward 22	Yes	No	No
9		Justine Kabwe ward	Yes	No	No
10	Matero	Lima ward	Yes	No	No
11		Mwenbeshi ward	Yes	No	No
12	Kanyama	Kanyama ward 13 (Old Kanyama	Yes	No	No
13	Chawama	Chawama ward 2	Yes	Yes	No
14		Chawama ward 3	Yes	Yes	No
15	Chilenge	Chilenje ward 8	Yes	No	No
16	Chibombo	Chibombo Central ward	Yes	No	No
17	Kapiri	Kapiri Central ward	Yes	No	No
18	Mumbwa	Shimbijii ward	Yes	No	No
19		Mumbwa ward	Yes	No	No
20		Mupona ward	Yes	No	No
21	Kalulushi	Kafue ward,	Yes	No	No
22		Sokoloko ward	Yes	Yes	yes
23		Kalengwa ward	No	No	No
24	Chingola	Nchanga ward	No	No	No
25		Chingola Central ward	Yes	Yes	No
26		Maiteneke ward	No	No	No
27	Kaoma	Mulamaitila ward	No	No	No
28	Mongu	Imwiko ward	No	No	No
29		Lewanika ward	Yes	Yes	yes
30		Kanyonyo ward	Yes	Yes	yes
31		Ilute ward	No	No	No

No.	Contituency	WDC	Any proposed drainages under CDF	Was project approved	Was project funded
32	Sesheke	Katima ward	No	No	No
33		Nakatindi ward	No	No	No
34	Senanga	Senanga ward	Yes	No	No



Appendix 6: Planned against Actual Maintenance of Drainages

S/N	Institution	2020		2021		2022		2023	
		Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
1	ChibomboTown Council	5	0	5	0	5	1	5	2
2	Chilanga Town Council	0	0	30	36	60	83	60	0
3	Chinsali Municipal Council	3	1	3	1	3	1	3	1
4	Chipata City Council	1	1	1	1	1	1	1	1
5	Chifunabulido Town Council	0	0	0	0	0	0	0	0
6	Isoka Town Council	1	1	1	1	1	1	1	1
7	Itezhi Tezhi Council	0	0	0	0	1	1	1	1
8	Kawambwa Town Council	2	2	3	3	3	3	3	2
9	Kalomo Town Council	4	4	3	3	6	6	4	4
10	Kapirimposhi Town Council	9	7	9	8	9	6	9	4
11	Kasempa Town Council	0	0	0	0	0	0	0	0
12	Livingstone City Council	0	0	0	0	0	0	0	0
13	Lumezi Town Council	4	4	4	3	4	2	4	2
14	Luwingu Town Council	7	6	7	7	7	6	7	5
15	Mazabuka Muiciple council	5	5	5	5	5	5	6	5
16	Mpika Town council	1	1	1	1	1	1	1	1
17	Mungwi Town Council	1	3	1	3	1	3	1	3
18	Monze Municipal Council	0	0	0	0	0	0	0	0
19	Milengi Town Council	0	0	0	0	0	0	0	0
20	Mpulungu Town Council	4	0	4	0	4	0	4	0

S/N	Institution	2020		2021		2022		2023	
		Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
21	Pemba Town Council	0	0	0	1	0	2	0	0
22	Shibuyunji Town Council	0	0	0	0	0	0	20	0
23	Zimba Town Council	12	12	12	12	12	12	12	12
24	Kasempa Town Council	0	0	0	0	0	0	0	0
25	Chipangali Town Council	0	0	0	0	0	0	0	0
26	Chitambo Town Council	0	0	0	0	0	0	0	0
27	Chikankata Town Council	2	0	2	0	2	1	2	1
28	Pemba Town Council	0	0	0	1	0	2	1	1
29	Kasama Town Council	0	0	17	5	17	12	19	8
30	Lukulu Town Council	0	0	0	0	0	0	0	0
31	Mambwe Town Council	0	0	0	0	0	0	0	0
32	Mongu Town Council	1	1	1	1	1	1	1	1
33	Mulobezi Town Council	1	1	1	1	1	1	1	1
34	Mungwi Town Council	1	3	1	3	1	3	1	3
35	Namwala Town Council	0	0	0	0	0	0	0	0
36	Kazungula Town Council	12	12	12	12	12	12	12	12
37	Kaoma Town Council	1	0	1	0	1	0	1	0
38	Chongwe Town Council	0	0	0	0	0	0	2	2
Total		77	64	124	108	158	166	182	73





Appendix 7: Status of Inspected Drainages

Name of Local Authority	Name of road/ Drainage	Availability of Drainage	Type of Drainage	Observations/ status of drainage - Presence of silt	Presence of solid waste	Drainage cleaned	Drainage dilapidated	Drainage built upon / encroached on	Drainage flooded	Drainage blocked	Other
Choma Municipal	Grant mart & Mt. Meru	Yes									
	Choma canal	crossing point	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Nakoli drainage										
Kalomo Town council		Yes	Earth	Yes	Yes	No	under construction	No	No	No	
Pemba Town Council	Livingstone road	Yes	Lined	No	No	Yes	No	No	No	No	
Monze Town Council	Mainza Chona	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Innapangwe road	yes	Lined	yes	yes	yes	No	Yes	No	Yes	
	ZCA road	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Manungu road	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Mazabuka	Kaonga area	Yes	Lined	No	No	Yes	No	No	No	No	
	Mulungushi road	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Drainage under construction
	Zarea - Storm drainage	Storm drainage	Earth	Earth	Yes	Yes	No	Yes	No	No	

Name of Local Authority	Name of road/ Drainage	Availability of Drainage	Type of Drainage	Observations/ status of drainage - Presence of silt	Presence of solid waste	Drainage cleaned	Drainage dilapidated	Drainage built upon / encroached on	Drainage flooded	Drainage blocked	Other
	Z area Main road	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Kabobola Storm drainage	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Livingingstones road	Yes	Lined	Yes	Yes	No	No	No	No	No	
Siavonga Town council	Sikongolo drainage	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	place is self draining but water not properly directed hence gully creation
	Bilabonga	Yes	Earth	No	No	Yes	No	No	No	No	
	Kanyebele main	Yes	Earth	No	Yes	No	No	Yes	No	No	
	New site -Kariba inn	Crossing point	Earth	N/A	N/A	N/A	N/A	N/A	N/A	N/A	place is self draining but water not properly directed hence gully creation
Mongu	Town main road	Yes	lined	No	No	Yes	No	No	No	No	





Name of Local Authority	Name of road/ Drainage	Availability of Drainage	Type of Drainage	Observations/ status of drainage - Presence of silt	Presence of solid waste	Drainage cleaned	Drainage dilapidated	Drainage built upon / encroached on	Drainage flooded	Drainage blocked	Other
	Habour road	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Gullies formed and road eroded as a result of lack of drainage
	Lusaka road	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Yeta Area	Yes	Lined	Yes	No	Yes	No	No	No	No	Drainage has dead ends
Kaoma Town council	Town center	Yes	Earth	Yes	Yes	No	Yes	No	Yes	Yes	
	Zesco	Yes	Earth	No	Yes	No	Yes	No	No	Yes	
	Mulamba site and service	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Senanga Town council	senanga - Sioma road	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Road is eroded due to lack of drainage
	Senanga - Sesheke road	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Road is eroded due to lack of drainage
Sioma	Sioma Main Maket drainage	yes	Lined	yes	No	yes	No	Yes	No	NO	Drainage was a dead end and 100 meters long

Name of Local Authority	Name of road/ Drainage	Availability of Drainage	Type of Drainage	Observations/ status of drainage - Presence of silt	Presence of solid waste	Drainage cleaned	Drainage dilapidated	Drainage built upon / encroached on	Drainage flooded	Drainage blocked	Other
Sesheke	T10 Road	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Liamango Rd	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Solwezi	Urban area shoprite drainage	Yes	Lined	No	Yes	No	No	No	No	No	
	T5 Road	Yes	Lined	No	No	Yes	No	No	No	No	
	Kandundu Road	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Kasempa	Entire Kasempa	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Kalulushi	Luato Main Maket	Yes	Lined	Yes	Yes	No	No	No	No	No	
	Luapula Road	Yes	Lined	yes	No	No	No	No	No	No	
	Mine Area	Storm drainage	Earth	No	No	Yes	No	No	No	No	
	Mine Area	No drainage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Chingola	Kabundi South main drainage	Yes	Lined	No	No	Yes	No	Yes	No	No	Rehabilitation works of 52 km taking place

[illegible]

Appendix 8: Planned Vs Actual Developmental Controls 2020-2023

S/N	Institution	2020		2021		2022		2023	
		Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
1	Chibombo Town Council	0	0	0	0	0	0	0	0
2	Chilanga Town Council	250	92	250	102	250	172	400	134
3	Chinsali Municipal Council	0	0	96	54	96	68	96	37
4	Chipata City Council	96	16	96	21	96	30	96	35
5	Chifunabulido Town Council	0	0	0	0	0	0	0	0
6	Isoka Town Council	50	35	70	54	100	72	150	61
7	Itezhi Tezhi Council	0	0	0	0	0	0	0	0
8	Kawambwa Town Council	16	10	18	12	18	10	20	10
9	Kalomo Town Council	56	0	48	0	5	0	50	0
10	Kapirimposhi Town Council	0	0	0	0	0	0	0	0
11	Kasempa Town Council	12	12	16	12	24	24	24	24
12	Livingstone City Council	0	0	0	0	0	0	0	0
13	Lumezi Town Council	0	0	0	0	0	0	0	0
14	Luwingu Town Council	0	0	0	0	1	1	2	1
15	Mazabuka Municipal Council	144	106	144	121	144	130	144	72
16	Mpika Town council	30	0	30	0	30	0	30	90
17	Mungwi Town Council	4	8	4	8	4	8	4	8
18	Monze Municipal Council	0	0	0	0	0	0	0	0
19	Milengi Town Council	7	4	15	14	25	19	30	34
20	Mpulungu Town Council	4	2	4	1	4	3	4	2





S/N	Institution	2020		2021		2022		2023	
		Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
21	Pemba Town Council	0	0	0	0	0	0	0	0
22	Sibuyunji Town Council	100	30	100	20	120	15	150	6
23	Zimba Town Council	48	30	48	26	48	21	48	19
24	Chipangali Town Council	0	0	0	0	0	0	0	0
25	Chitambo Town Council	32	36	32	36	32	36	32	36
26	Chikankata Town Council	10	6	10	10	10	12	15	25
27	Pemba Town Council	0	0	0	0	0	0	0	0
28	Kasama Town Council	48	30	48	25	48	20	48	18
29	Chadiza Town Council	24	10	24	15	48	30	48	28
30	Lukulu Town council	0	0	0	0	0	0	0	0
31	Mambwe Town Council	50	36	52	28	60	48	60	42
32	Mongu Town Council	20	20	20	20	20	20	20	20
33	Mulobezi Town Council	2	1	2	1	2	1	4	1
34	Mungwi Town Council	4	4	4	4	4	4	4	4
35	Namwala Town Council	25	17	20	14	15	13	12	15
36	Kazungula Town Council	12	7	12	9	12	8	12	10
37	Kaoma Town Council	1	0	1	0	1	0	1	0
38	Chongwe Town Council	0	0	0	0	0	0	0	0
Total		1045	512	1164	607	1217	765	1504	732

Appendix 9: Planned Vs Actual Monitoring Activities 2020 -2023

S/N	Institution	2020			2021			2022			2023		
		Planned	Actual	Adhoc	Planned	Actual	Adhoc	Planned	Actual	Adhoc	Planned	Actual	Adhoc
1	ChibomboTown Council	5	0	0	5	0	0	5	1	1	5	2	2
2	Chilanga Town Council	1	1	0	10	0	0	1	1	0	2	2	0
3	Chinsali Municipal Council	1	6	0	1	12	0	1	6	0	1	0	0
4	Chipata City Council	1	1	0	1	1	0	1	1	0	1	1	0
5	Chifunabulido Town Council	0	0	0	0	0	0	0	0	0	0	0	0
6	Isoka Town Council	4	4	0	3	3	0	5	5	0	0	0	0
7	Itezhi Tezhi Council	0	0	0	0	0	0	0	0	0	0	0	0
8	Kawambwa Town Council	9	7	0	13	12	0	15	12	0	17	15	0
9	Kalomo Town Council	0	0	0	0	0	0	0	0	0	8	0	0
10	Kapiri Mposhi Town Council	9	9	9	9	9	9	9	9	9	9	9	9
11	Kasempa Town Council	0	0	0	0	0	0	0	0	0	0	0	0
12	Livingstone City Council	0	0	0	0	0	0	0	0	0	0	0	0
13	Lumezi Town Council	0	0	0	0	0	0	0	0	0	11	0	0
14	Luwingu Town Council	2	2	0	0	0	0	6	4	0	0	0	0
15	Mazabuka Municipal Council	0	0	0	1	1	0	3	3	0	0	0	0
16	Mpika Town Council	2	2	0	1	1	0	0	0	0	1	1	0
17	Mungwi Town Council	0	0	0	0	0	0	0	0	0	0	0	0
18	Monze Municipal Council	0	0	0	2	1	0	5	3	0	1	0	0
19	Milengi Town Council	0	0	0	0	0	0	0	0	0	0	0	0
20	Mpulungu Town Council	20	0	0	20	0	0	25	0	0	25	0	0



S/N	Institution	2020			2021			2022			2023		
		Planned	Actual	Adhoc	Planned	Actual	Adhoc	Planned	Actual	Adhoc	Planned	Actual	Adhoc
21	Pemba Town Council	1	1	0	1	1	0	1	1	1	1	1	0
22	Shibuyunji Town Council	0	0	0	0	0	0	0	0	0	20	0	0
23	Zimba Town Council	1	1	0	0	0	0	0	0	0	1	1	0
24	Chipangali Town Council	0	0	0	0	0	0	0	0	0	0	0	0
25	Chitambo Town Council	0	0	0	0	0	0	0	0	0	0	0	0
26	Chikankata Town Council	0	2	1	0	2	1	0	2	2	0	4	4
27	Pemba Town Council	1	1	1	2	2	2	2	2	2	2	2	1
28	Kasama Town Council	0	0	0	15	10	3	48	32	2	69	55	4
29	Chadiza Town Council	0	0	0	0	0	0	0	0	0	0	0	0
30	Lukulu Town Council	0	0	0	0	0	0	0	0	0	0	0	0
31	Mambwe Town Council	0	0	0	0	0	0	0	0	0	0	0	0
32	Mongu Town Council	4	4	4	4	4	4	4	4	4	4	4	4
33	Mulobezi Town Council	4	4	4	4	4	4	4	4	4	4	4	4
34	Mungwi Town Council	2	2	2	2	2	2	2	2	2	2	2	2
35	Namwala Town Council	0	0	0	0	0	0	0	0	0	0	0	0
36	Kazungula Town Council	0	0	0	0	0	0	0	0	0	0	0	0
37	Kaoma Town Council	1	0	0	1	0	0	1	0	0	1	0	0
38	Chongwe Town Council	8	8	0	8	8	0	8	8	0	8	8	0
Total		76	55	21	103	73	25	146	100	27	193	111	30

Appendix 10: Planned Vs Actual Sensitisation Activities 2020-2023

No.	Institution	2020			2021			2022			2023		
		Planned	Actual	Adhoc	Planned	Actual	Adhoc	Planned	Actual	Adhoc	Planned	Actual	Adhoc
1	Chibombo Town Council	0	0	0	0	0	0	0	0	0	0	0	0
2	Chilanga Town Council	5	5	0	10	7	2	4	2	1	7	7	3
3	Chinsali Municipal Council	0	0	0	4	9	0	4	9	0	4	6	0
4	Chipata City Council	2	2	2	2	2	2	2	2	2	2	2	2
5	Chifunabulido Town Council	0	0	0	0	0	0	0	0	0	0	0	0
6	Isoka Town Council	0	0	0	0	0	0	0	0	0	0	0	0
7	Itezhi Tezhi Council	0	0	0	0	0	0	0	0	0	0	0	0
8	Kawambwa Town Council	4	4	1	3	3	1	4	3	1	4	2	1
9	Kalomo Town Council	2	0	0	2	0	0	2	0	0	2	0	0
10	Kapiri Mposhi Town Council	0	0	0	0	0	0	0	0	0	0	0	0
11	Kasempa Town Council	10	10	0	10	10	0	12	12	0	15	15	0
12	Livingstone City Council	0	0	0	0	0	0	0	0	0	0	0	0
13	Lumezi Town Council	0	0	0	0	0	0	0	0	0	0	0	0
14	Luwingu Town Council	10	8	2	6	6	0	8	4	1	6	4	1
15	Mazabuka Municipal Council	12	10	0	12	12	0	12	16	0	12	15	0
16	Mpika Town Council	1	1	0	1	1	0	1	1	0	1	1	0
17	Mungwi Town Council	2	2	1	2	2	1	2	2	1	2	2	1
18	Monze Municipal Council	0	0	0	0	0	0	4	0	0	4	0	0
19	Milengi Town Council	0	0	0	0	0	0	0	0	0	0	0	0



No.	Institution	2020			2021			2022			2023		
		Planned	Actual	Adhoc	Planned	Actual	Adhoc	Planned	Actual	Adhoc	Planned	Actual	Adhoc
20	Mpulungu Town Council	12	7	4	12	5	4	12	10	4	12	6	4
21	Pemba Town Council	4	4	0	4	4	4	4	4	0	4	3	0
22	Shibuyunji Town Council	0	0	0	0	0	0	0	0	0	5	5	0
23	Zimba Town Council	16	4	0	16	6	1	16	11	1	16	9	0
24	Chipangali Town Council	0	0	0	0	0	0	0	0	0	0	0	0
25	Chitambo Town Council	0	0	0	0	0	0	0	0	0	0	0	0
26	Chikankata Town Council	4	1	1	4	1	1	4	2	1	4	2	1
27	Pemba Town Council	4	4	0	4	4	0	4	4	0	4	3	0
28	Kasama Town Council	16	4	0	16	6	1	16	11	1	16	9	0
29	Chadiza Town Council	6	2	0	6	4	0	12	5	1	12	9	0
30	Lukulu Town Council	0	0	0	0	0	0	0	0	0	0	0	0
31	Mambwe Town Council	21	2	0	6	3	0	6	3	0	6	2	2
32	Mongu Town Council	8	4	0	8	6	1	8	10	1	8	9	0
33	Mulobezi Town Council	4	2	0	4	2	0	4	4	1	4	2	0
34	Mungwi Town Council	2	2	1	2	2	1	2	2	1	2	2	1
35	Namwala Town Council	4	4	0	4	4	0	4	4	0	4	4	0
36	Kazungula Town Council	0	0	0	0	0	0	0	0	0	0	0	0
37	Kaoma Town Council	1	0	0	1	0	0	1	0	0	1	1	0
38	Chongwe Town Council	0	0	0	0	0	0	0	0	0	0	0	0
Total		150	82	12	139	99	19	148	121	17	157	120	16



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