STRENGTHENING FRESH FOOD MARKETS for Healthier Food Environments

Lusaka City Assessment Report

Lusaka City, Zambia

March 2025

ICLEI Local Governments for Sustainability AFRICA

city food
food for resilient futures

german cooperation
DEUTSCHE ZUSAMMENARBEIT

Implemented by
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

About the Strengthening Fresh Food Markets for Healthier Food Environments Project

Funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) through Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)'s Global Programme Food Systems Transformation, this project –coordinated by ICLEI CityFood Programme– aims to leverage the potential of fresh food markets to empower residents to shift to healthier and more diversified nutrition while improving urban food environments. For more information visit: cityfood-program.org.

The primary objective of this project is to advocate for improved dietary habits and enhanced urban food environments through the evaluation of local food markets, engagement and collaboration with key stakeholders, and investment into market upgrades. The project is implemented in two distinct phases. Phase one entailed an in-depth analysis of the food environments in Lilongwe City, Malawi and Lusaka City, Zambia, with a special focus on fresh food markets. The outcomes of Phase 1 will inform subsequent interventions and the proposition of transformative projects in Phase 2. The study included scoping and mapping the markets, testing a market investment readiness index, assessing market economics, and examining historical market investments.

This report provides insights into the current state of the fresh food markets in Lusaka City, Zambia and offers recommendations for future improvements, aimed at fostering a healthier and more sustainable food environment.

More info about the project

Authors

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Acknowledgements

HYEL, the consulting firm that coordinated the research, played a crucial role in the assessment, contributing expertise and local knowledge through its core team members who included Kabwe Chishimba Chikolwa, Francis Ndhlovu, Gift Murombo, Best Sohati Hambulo, Chileshe Mulenga and Malawo Habeenzu. ICLEI Africa's team, comprising Meembo Changula, Amy Murgatroyd and Luke Metelerkamp, provided valuable guidance and oversight throughout the project's implementation.

ICLEI would like to express sincere gratitude to the various stakeholders who contributed to this assessment. Particular thanks are extended to the Mayor of Lusaka City, Her Worship Ms Chilando Chitangala, as well as the management and staff of Lusaka City Council (LCC) for their support and collaboration throughout the process. The invaluable contributions of the trader associations and community members who shared their insights and experiences are also acknowledged. Gratitude is expressed to the HIVOS team for their guidance and support in facilitating stakeholder engagement and data collection. The successful completion of this assessment would not have been possible without the dedication and hard work of the entire project team.

Reference

Chikolwa, C., Ndholovu, F., Murombo, G., Hambulo, B.S., Mulenga, C., Habeenzu, M., Murgatroyd, A., Changula, M. and Metelerkamp, L. 2025. Strengthening Fresh Food Markets: Lusaka City Assessment Report.

EXECUTIVE SUMMARY

The fresh food markets in Lusaka City play a crucial role in the urban economy providing essential goods and services while serving as significant sources of income for many families. This report details an assessment of these markets, offers an in-depth analysis of the markets' structure, governance and economic and investment readiness, focusing on four major areas: scoping of markets, testing a market investment readiness index, assessing market economics and investigating historical market investments.

This assessment involved the scoping and mapping of the fresh food markets in Lusaka City, covering 43 fresh food markets selected from a total of 92 markets. The selection included a range of council, cooperative and privately-owned markets. The markets were categorised based on size (micro, small, medium, large), location (inner city, neighbourhoods, outskirts), target market (retail, wholesale), and ownership structure (municipal, cooperative, self-built, street market).

Key findings related to characteristics of the market

Location and size

Most of the markets are situated in mixed-income areas, which accommodate both retail and wholesale trading. Markets like Chelstone, City Market and Luburma represent large markets with thousands of traders and substantial monthly throughput, while others like Chilenje and Kabuma are mid-sized, with moderate occupancy rates.

Ownership structure

Approximately 66% of the markets assessed operate on publicly owned land under the management of the city council, with the remainder being run by cooperatives on privately owned land. Publicly managed markets tend to have better infrastructure but face challenges in service provision, such as sanitation and waste management.

Revenue and business models

Markets generate revenue primarily from rent collected from traders. Some markets, such as Bauleni Katambalala Market, have advanced amenities like cold storage that is rented out for added revenue. Markets in mixed-income areas tend to attract both retail and hybrid business models, while wholesale trading is less common.

Market usage
There are varying levels of market capacity and use. Some are operating at near capacity, such as Chelstone Market, while others like the City Market are at 300%, highlighting severe overcrowding. Some markets are underutilised. There needs to be a strategic redistribution of trader activities to reduce congestion at some and optimise market operations at others.

Infrastructure
Just more than half of the markets (54%) have basic infrastructure but 36% are operating as open-air markets with very minimal facilities. The lack of infrastructure increases risks related to climate and health hazards.

Diversity of offering
Retail trade is highly diverse featuring mixed produce, meat, fish, poultry, dairy and dry goods while wholesale trade is more limited with fruit, vegetables and dry goods contributing only 50%.

Governance structure and politics
Market governance is a complex interplay of city council policies and local politics. Markets with well-documented and implemented governance frameworks, including clear management roles, transparent decision-making processes and effective enforcement of regulations tend to perform better in terms of hygiene, security and financial performance.

Key findings related to resilience and infrastructure needs

The assessment of market infrastructure revealed that markets are largely unprepared for climate and health risks. Only a handful, such as Mtendere and Lumumba, have adequate sanitation and drainage systems. Most markets lack resilience to climate shocks and have insufficient infrastructure to handle food safety and hygiene effectively.

Key gaps identified include:

- Inadequate handwashing stations and restroom facilities.
- Poor waste management and limited recycling or composting facilities.
- Absence of cold storage in many markets, contributing to food wastage.

Key findings related to investment readiness and market economics

The Market Investment Readiness Index (MIRI) was tested across six markets, namely Kaunda Square, Mtendere, Mandevu, Bauleni Katambalala, Chainda and Chilenje markets. This index evaluates factors such as governance and market management, infrastructure and investment potential.

Key insights relate to:

- **Governance and market management:** Markets with robust governance structures, such as Kaunda Square, scored higher on the index.
- **Infrastructure:** Infrastructural deficits like poor drainage, lack of cold storage and inadequate sanitation facilities negatively impacted most markets' investment readiness.
- **Financial performance:** Markets with diverse revenue streams and organised financial management, such as Katambalala, were better prepared for investment opportunities. Many markets still lack the necessary financial reporting and transparency to attract significant investments.

The economic assessment focused on the revenue models, profitability and financial sustainability of markets. The analysis included an evaluation of market owners' and traders' incomes, expenses and losses due to factors such as climate shocks and food wastage.

Markets operate on a rental-based revenue model, with traders paying rent for stalls and storage. Large markets like City Market and Luburma generate substantial monthly revenue due to high trader turnover and consumer traffic. A key finding in this regard is that profitability of markets is constrained by:

- High operational costs, especially for markets requiring frequent maintenance and waste management services.
- Losses due to food spoilage, poor infrastructure and climate-related shocks.

The turnover for traders varies significantly, with those selling high demand produce like vegetables and poultry generating higher profits. Traders often face losses, however, because of food spoilage, poor storage conditions and inefficient market operations.

Key findings related to historical investments

The assessment of historical investments in Lusaka's markets identified several instances of donor-funded upgrades and infrastructure projects. Many of these investments were poorly maintained, leading to 'white elephant' markets that failed to meet their objectives.

Investments in markets without addressing underlying governance and management challenges have often resulted in infrastructure deterioration and financial losses. Examples include markets like Bauleni Katambalala and Chawama Central markets, where poor governance and misinformation led to the underutilisation of new infrastructure.

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ACRONYMS

ICLEI	ICLEI-Local Governments for Sustainability
GIZ	Deutsche Gesellschaft fur Internationale Zusammenarbeit GmbH
HYEL	Hydrangea Enterprise Limited
MIRI	Market Investment Readiness Index
LCC	Lusaka City Council
ZMW	Zambian Kwacha

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INTRODUCTION

Urban food markets are vital to the sustenance and economic dynamics of cities, acting as critical nodes for the distribution and access to fresh produce. However, these markets often face significant challenges, including inadequate infrastructure, governance issues and varying levels of resilience to economic and climatic shocks. Addressing these challenges requires a structured approach to evaluate and enhance market readiness for investments that can drive sustainable improvements.

The fresh food markets in Lusaka City are essential to the city's food system, providing affordable access to nutritious products and serving as a significant source of income, particularly for informal traders. In Zambia, public markets are created and regulated under the *Markets and Bus Stations Act (2007),* which mandates that a city council establishes a market with operational oversight by a Market Master (an employee of the city council) and a Market Advisory Committee responsible for its functionality and management (Siame et al., 2020). The Act facilitates the establishment of cooperative markets, which are often administered by independent market committees composed of individuals elected from the merchants of the market (Siame et al., 2020).

Fresh food markets play a significant role in the informal economy, serving as accessible food distribution points for low-, middle- and high-income residents. In addition, these markets cater to a wide range of customers, including urban households, local restaurants, street food vendors and small businesses. Lusaka City’s fresh food markets offer a wide variety of produce, including vegetables, fruits, fish and meat. The producers supplying these markets are mainly small-scale farmers from peri-urban and rural areas around Lusaka City, as well as wholesalers who bring in goods from other regions of Zambia.

Despite their significance, fresh food markets encounter considerable obstacles, especially regarding infrastructure and food safety. Research demonstrates that marketplaces are deficient in critical infrastructure, including cold storage and adequate sanitation, intensifying food degradation and health hazards. Market merchants frequently encounter significant post-harvest losses, estimated at 30-40%, mostly attributable to inadequate storage facilities and the impact of climate variability (Harris et al., 2019). This difficulty is exacerbated by ineffective governance and the marginalisation of informal markets in urban planning and policy (Kaulule, 2024). Despite these issues, the fresh food markets in Lusaka City remain central to the local food system, characterised by a dynamic exchange of goods and services and strong community interaction. These markets make a critical contribution to food security in the city.

1.1 About this report

ICLEI - Local Governments for Sustainability is a global network with a bold vision for a sustainable urban future, working with and effectively advocating for local and subnational governments in the global arena for more than 30 years. Marketplaces have emerged as a vital space for intervention for food systems education and awareness for direct improvements to infrastructure and services, and locations for value-addition to food and associated livelihood generation. Recognising the vital role of marketplaces in food systems, ICLEI, with the support of GIZ, has launched the "Strengthening fresh food markets for healthier food environments" project.

This initiative aims to empower citizens to shift towards healthier and more diversified nutrition while improving urban food environments. The project takes a two-phased approach, with the first phase focusing on a situation analysis of the fresh food market environments in Lusaka City, Zambia and Lilongwe City, Malawi. The assessment aimed to analyse local food markets, engage key stakeholders at different levels, and foster place-based exchange about healthy eating and food diversity. The outputs from the assessment will inform the project's future interventions and the development of the transformative initiatives planned in other phases of the overall project being implemented by ICLEI.

The report provides an overview of the role that fresh food markets play in Lusaka City's urban food systems, contributing to food security, employment and economic development. The report details the locations, customer markets, volumes of product and trade, infrastructure and produce types at 43 markets across the city, and, using purposive sampling, focuses on 6 to assess their market readiness for investment. This focused analysis looks at market demographics, market facilities, challenges and opportunities that exist to improve the market. The ability of these markets to attract investment is presented, including the readiness of markets to integrate into formal financing mechanisms. The report also explores different business models, revenue streams and the financial viability of markets from both the owners' and traders' perspectives. Previous investments into the market are described, including donor-funded upgrades, infrastructure improvements and capacity-building initiatives. Actionable recommendations for improving Lusaka City's fresh food markets are presented to support market sustainability and resilience. See Appendix A for the research approach and scope of assessment.

1.2 Methodology

The methodological approach involved a structured, systemic process to gather comprehensive data on market infrastructure, governance, economics and investment readiness. The aim was to create an evidence-based framework that supports the evaluation of the city's fresh food markets across multiple dimensions, including economic performance, resilience to climate and health risks, and capacity to attract investment.

Multi-stage sampling was employed to ensure that a representative cross-section of the fresh food markets in Lusaka City was selected for detailed analysis. This process began with a census of all major markets of fresh produce in the city, followed by stratified random sampling to select markets based on location, ownership, size and customer groups. A total of 43 markets were selected, including 29 council-owned and 14 cooperative markets, to capture the diversity of market structures within the city.

A mixed-methods approach was used, combining both qualitative and quantitative data collection methods. Surveys, interviews and on-site observations were carried out to assess the performance of the markets in terms of governance, infrastructure, revenue streams and resilience. Structured interviews with market authorities, including Market Masters, chairpersons and committee members, traders and vendors provided detailed insights into market characteristics, vendor profiles and consumers behaviours, as well as the operational challenges and economic performance of the markets. Additionally, on-site observations were conducted to assess sanitation, food safety and infrastructure conditions, as well as markets' resilience to climate and health risks.

2

LUSAKA CITY'S MAJOR MARKETS

2.2 Key research findings

The market scoping assessment conducted in Lusaka City from 12-17 July 2024, provides critical insights into the operational conditions, capacities and challenges faced by fresh food markets. This assessment, covering 43 markets, highlighted key areas including sanitation, sewerage, accessibility for differently abled individuals and general market capacity.

The assessment revealed varying levels of market capacity and utilisation. For instance, Chelstone Market, with a capacity to accommodate up to 6 000 traders, is currently operating at 95% capacity, indicating near-full utilisation. In stark contrast, City Market, with a capacity for 5 000 traders, is operating at 300% capacity, highlighting severe overcrowding.

Overall, the average trader capacity utilisation across all markets was 72%, suggesting an imbalance where some markets are overburdened while others are underutilised. This disparity calls for strategic redistribution of trader activities to optimise market operations and reduce congestion in overcrowded markets.

Most markets (69%) are situated on public land managed by the city council, while 31% are privately owned by cooperatives. Additionally, 64% of the markets cater to mixed-income populations and predominantly engage in retail trade. Few markets operate as wholesale markets. The predominant trade involves mixed produce, with fruit and vegetables being the most frequently sold items (74%), followed by dry goods (60%), and meat, fish, poultry and dairy products (55%).

Sanitation emerged as a critical area of concern, with markets scoring an average of 31% based on cleanliness, hygiene practices, facilities and food safety. Markets such as Chelstone and Mtendere scored the highest at 78%, while 12 markets scored the lowest at 11%, reflecting substantial gaps in hygiene practices and food safety. Poor sanitation conditions pose significant risks to public health and undermine the credibility of the markets.

Waste management practices were generally inadequate, with markets scoring an average of 16%. Facilities for recycling and composting were notably lacking, with only 5% of markets reporting positive scores in this area. Markets like Libala and Mtendere performed better in waste management, scoring 50%, but the overall low scores highlight the need for improved waste disposal and segregation practices.

The assessment showed that more than half of the markets (54%) have basic infrastructure and 36% are operating as open-air markets with minimal facilities. Only a few markets have additional facilities such as cold storage, wash basins and food processing units. The lack of infrastructure affects the efficiency and hygiene standards of these markets, limiting their potential to serve the community effectively.

2.2.1 Location, size and type of market

Lusaka City has an estimated 92 markets, these facilities include a total of 43 fresh food markets. The fresh food markets include 29 managed by Lusaka City Council (LCC), one privately owned and 14 cooperative markets.

These markets are a crucial source of livelihood for many traders while also providing for the daily food needs of the city's population. Markets often feature both wholesale and retail options, with larger markets like Soweto Market serving as a distribution point for smaller vendors and individual consumers, while smaller markets primarily focus on retail sales directly to local customers.

Most of the trade activity is concentrated in mixed-income areas, accounting for 64% of the total market catchment. This is followed by low-income areas with 21%, middle-income areas with 12%, and high-income areas with only 2%. Trade can be characterised as retail, hybrid and wholesale trade.

- **Retail trade** dominates the market landscape. Retail activities are prevalent across all income groups but are particularly concentrated in mixed-income areas, which alone represent 36% of the total market catchment. Overall, retail trade constitutes 64% of all market activities, indicating a robust retail sector that spans various income groups.
- **Hybrid trade**, which involves a mix of retail and wholesale activities or other flexible business models, is also significant, especially in mixed-income areas. Hybrid trade makes up 31% of the total market catchment, with the highest concentration in mixed-income areas (24%). Middle-income areas and low-income areas have minimal hybrid trade activities, representing 5% and 2% of the total market, respectively.
- **Wholesale trade** is the least prevalent, comprising only 5% of the total market catchment. This type of trade is entirely located in mixed-income areas, with no recorded wholesaler activities in high, middle, or low-income areas. This suggests that wholesale trade might be more suited to diverse economic environments where various income groups converge, possibly due to the broader customer base and varied demand.

The distribution of trade types across different income groups highlights the diverse economic interactions and the prominence of mixed-income environments in sustaining market dynamics.

Notably, nearly 50% of markets are close to capacity. City Market, which includes sections of BH Market and New Soweto Market, has been operational for more than 27 years, and displays a remarkable overcapacity issue, with 15 000 traders against a capacity of 5 000, resulting in a 300% occupancy rate. The high consumer turnout of 30 000 enhances the trader-to-consumer ratio to 1:2, indicating robust demand. The market handles a substantial estimated monthly produce value of Zambian Kwacha (ZMW) 200 million highlighting its critical economic significance and the high volume of transactions.

Figure 1 indicates the location of all markets in Lusaka City and Table 1 below that provides a comprehensive overview of date of establishment, number of traders and customer-trader rations, as well as volumes of trade and its value. Each market presents unique characteristics that influence its operational efficiency and economic impact. Appendix B provides a written overview of the figures provided in Table 1

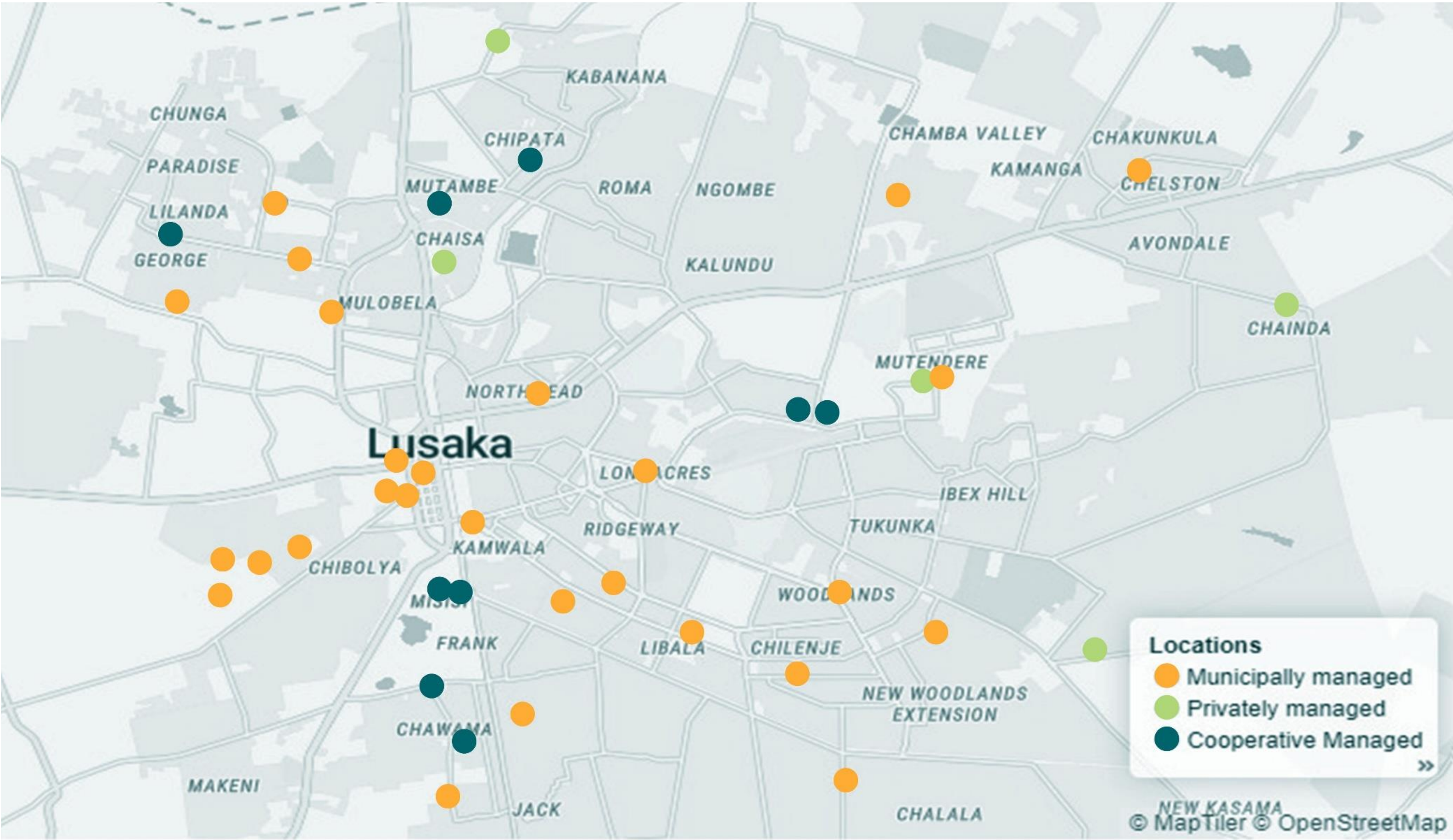

***Figure 1**: Location of fresh food markets in Lusaka City*

Source: HYEL 2024

***Table 1:** Lusaka City markets: duration, number of traders, capacity, customers and monthly value*

Table 1 key

Columns with number of traders and market trader capacity were coded with Blue-White-Red conditional colour analysis. Blue indicating the higher values, white medium and red the lowest values. Colour density is proportional to the direction of effect. So, the darker the blue, the more the value, similarly, the darker the red, the lower the value. Percentage to capacity column was coded using Red-Yellow-Green conditional analysis with red indicating markets that are far above capacity (congested) and green those that are underutilised. Similarly, the density of the colour is proportional to the direction of effect. Trader-to-customer ratio was coded using a Red-White colour gradient with darker red indicating higher trader-to-customer ratios. The estimated monthly value of produce moving through the market was coded using a Green-White colour gradient with darker green indicating higher monthly moving through the markets.

Name of market	Years in operation	Estimated number of traders at this market	Market trader capacity	% To Capacity	Estimated monthly consumers	Trader-consumer ratio	Estimated monthly value of produce moving through
Chelstone	48	5 700	6 000	95%	5000	1	ZMW 50,000.00
City Market	27	15 000	5 000	300%	30000	2	ZMW 200,000,000.00
Luburma	57	2000	3 000	67%	10000	5	ZMW 300,000.00
Chachacha	48	1146	2 250	51%	1500	1	ZMW 500,000.00
Chilenje	54	1200	2 000	60%	90000	75	-
Kabuma	7	1500	2 000	75%	7000	5	ZMW 750,000.00
Lilanda	54	1000	2 000	50%	5000	5	ZMW 50,000.00
Kabwata	50	1600	1 800	89%	3000	2	ZMW 817,500.00
Soweto	60	1300	1 500	87%	19500	15	ZMW 0.00
Mandevu	44	700	1 200	58%	7000	10	ZMW 1,000,000.00
Buseko	44	700	1 000	70%	2000	3	ZMW 200,000.00

Name of market	Years in operation	Estimated number of traders at this market	Market trader capacity	% To Capacity	Estimated monthly consumers	Trader-consumer ratio	Estimated monthly value of produce moving through
Tigwilizane	40	500	1 000	50%	1000	2	ZMW 350,000.00
Mtendere	51	300	800	38%	800	3	-
Railside	34	300	800	38%	200	1	-
Chawama Central	50	500	700	71%	1000	2	ZMW 1,000,000.00
Mtendere Kazimayi Market	14	650	670	97%	2000	3	ZMW 15,000.00
Chazanga	54	450	600	75%	1000	2	ZMW 180,000.00
Kaunda Square	50	350	600	58%	1500	4	ZMW 300,000.00
Matero	71	250	600	42%	1000	4	ZMW 271,160.00
Bauleni Katambalala	49	250	500	50%	2500	10	ZMW 50,000.00
Chainda	50	350	500	70%	1000	3	ZMW 13,000.00
Chawama	42	300	500	60%	1000	3	ZMW 850,000.00
Kalingalinga	61	60	500	12%	400	7	ZMW 28,725.00
Chaisa	41	400	495	81%	300	1	ZMW 1,298.00
Chipata Katambalala	26	300	450	67%	500	2	ZMW 1,000,000.00
Chipata Main Market	44	300	400	75%	600	2	ZMW 80,000.00
Lumumba roadside	26	100	400	25%	300	3	ZMW 10,720.00
Sekelela	39	350	400	88%	500	1	-
Kabwata Site & Service	19	200	325	62%	100	1	ZMW 50,000.00
Northmead	50	300	300	100%	500	2	ZMW 300,000.00
Chiparamba Market	34	120	250	48%	1000	8	ZMW 1,600,000.00
David Kaunda	40	240	250	96%	2000	8	ZMW 19,400.00
Bwafano	55	90	200	45%	350	4	ZMW 80,000.00
John Howard	27	70	200	35%	100	1	-
Kamwala South (ZIPAS)	22	100	200	50%	1000	10	ZMW 45,000,000.00

Name of market	Years in operation	Estimated number of traders at this market	Market trader capacity	% To Capacity	Estimated monthly consumers	Trader-consumer ratio	Estimated monthly value of produce moving through
Munyaule	5	160	195	82%	1000	6	ZMW 94,100.00
Woodlands	46	134	183	73%	800	6	ZMW 30,000.00
Libala	19	124	173	72%	800	6	ZMW 30,000.00
Nyumba Yanga	14	150	160	94%	150	1	ZMW 7,200.00
Chingwere	28	157	157	100%	500	3	ZMW 14,160.00
Chitukuko	54	85	150	57%	200	2	ZMW 120,000.00
Sikota Wina	20	50	100	50%	200	4	ZMW 250,000.00
Long acres	46	80	85	94%	300	4	ZMW 33,920.00
Average Market	**40**	**921**	**944**	**98%**	**4758**	**5**	**ZMW 6,722,267.97**

Source: HYEL 2024

2.2.2 Market governance and ownership

A significant majority of the markets, 66% (29 markets), are situated on publicly owned land and managed by the city council. In contrast, the remaining 14 markets, accounting for 34%, are managed by cooperatives on privately owned land. All the markets visited are formally recognised by public authorities, and all except for Chipata Katambala are zoned for market usage.

Roadside markets, representing 2% of the total, are the least common. Markets like Kabuma are included in this category, indicating minimal infrastructure investment and a more informal trading environment.

Table 2: *Overview of land ownership related to Lusaka City markets*

Public markets		**Cooperative/ Private markets**
Bwafano	Chilenje	Chipata Main Market
John Howard	City Market	Bauleni Katambalala
Chachacha	Chelstone	Chipata Katambalala
Kabuma	Luburma	David Kaunda
Kaunda square	Lumumba Roadside	Kabwata Main
Railside	Chingwere	Chitukuko
Libala	Kamwala South (ZIPAS)	Chawama Main
Long Acres	Munyaule	Kalingalinga
Northmead	Woodlands	Chainda
Nyumba Yanga	Mtendere Kazimayi Market	Chaisa
Sekelela	Kabwata Site & Service	Chiparamba Market
Sikota Wina	Kabwata Main	Mandevu
Soweto	Matero	Chazanga
Tigwilizane	Lilanda	Bauleni
Buseko		Mtendere
		Chawama Central

Source: HYEL 2024

2.2.3 Market infrastructure

The market landscape in Lusaka City demonstrates a diverse range of infrastructure types, each catering to different trader and consumer needs.

- **Basic infrastructure** is categorised as those where vendors operate in open markets with poorly constructed benches (poles covered with cartons or plastic sheets), which tend to be old and dilapidated or relatively new but inadequate for trading.
- **Modern infrastructure** is categorised as covered markets with some traders operating from well-constructed shops and/or benches. These markets tend to be more organised.

- **Mixed infrastructure** is categorised by a combination of well-constructed stalls and disorderly sections where traders operate from the floor.

Covered markets with basic infrastructure dominate, making up 52% of the markets. These markets have essential amenities such as roofing and basic stalls, supporting a considerable number of traders and consumers by offering a stable and sheltered environment.

Open-air markets with basic infrastructure account for 17% of the markets, indicating a balance between traditional open-air trading and the provision of essential facilities. This setup improves market conditions while maintaining the outdoor trading experience.

Covered markets with modern amenities, comprising 12% of the markets, include additional components like cold storage, wash basins, waste separation and food processing facilities. These markets cater to specialised needs and higher-value products, displaying a level of sophistication and investment.

Multi-story covered markets with additional components represent 10% of the market infrastructure, indicating an elevated level of development. These markets provide multiple levels of trading space and additional amenities.

Open-air markets with no basic infrastructure make up 7% of the markets. These markets lack essential facilities such as trading stalls, shade cover, lighting and drainage.

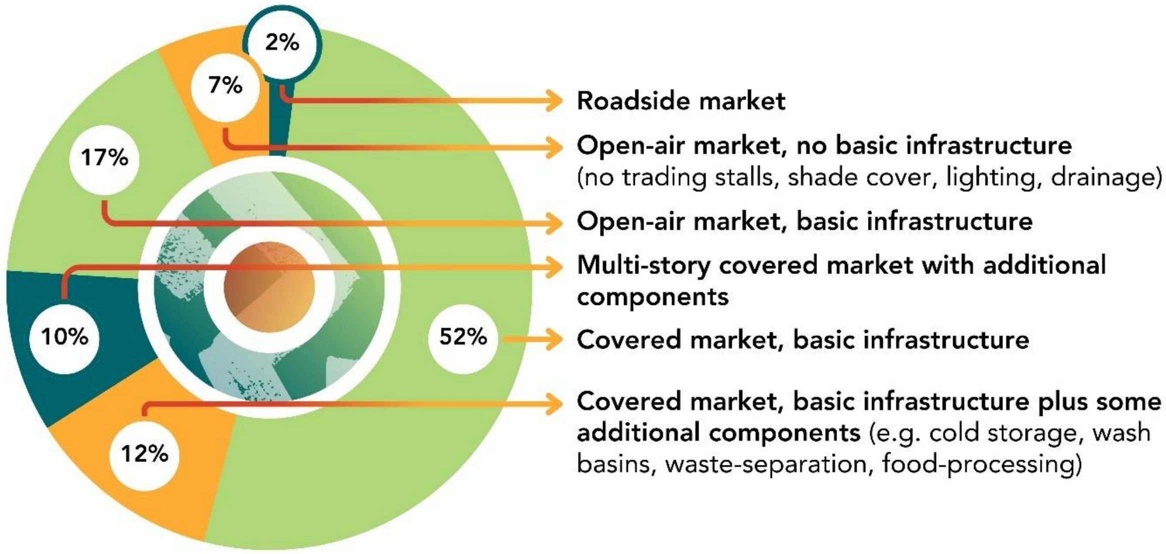

Figure 2: *Lusaka City market infrastructure overview*

Source: HYEL 2024

Produce is sold within distinct categories of trade, namely, hybrid, retail and wholesale. Note that the proportions given below are mutually exclusive, each category being assessed out of 100%. This is because traders could trade in multiple categories.

In the hybrid trade category, fruit and vegetables and dry goods each constitute 85% of the trade type, while meat, fish, poultry and dairy, as well as mixed produce, each make up 77%. This indicates a strong presence of fruit, vegetables and dry goods in hybrid trade setups, with meat and mixed produce being slightly less prevalent but still significant.

Retail trade shows a diverse distribution of produce types. Fruit and vegetables are the most dominant, comprising 70% of the retail trade. Mixed produce is also highly significant, representing 81% of retail activities. Meat, fish, poultry and dairy, along with dry goods, each constitute 48% of the retail trade. This data suggests that retail markets tend to offer a wide range of produce, with a notable emphasis on fruit, vegetables and mixed goods.

Wholesale trade, in contrast, displays a limited variety in the types of produce sold. Both fruit and vegetables and dry goods each make up 50% of the wholesaler trade, while meat, fish, poultry, dairy and mixed produce are either not represented or minimally represented, with mixed produce also at 50%. This indicates that wholesaler markets are less diverse in their produce offerings compared to hybrid and retail markets.

Overall, the total distribution of produce types within the market highlights the prominence of mixed produce (79%), followed by fruit and vegetables (74%), dry goods (60%) and meat, fish, poultry and dairy (55%). This comprehensive overview suggests that mixed produce is the most prevalent across all trade types, followed closely by fruit and vegetables, reflecting consumer preferences and market demands.

2.2.4 Key observations of selected markets

Observations were made related to hygiene and sanitation facilities, waste management, sewage infrastructure, accessibility, storage and resilience to climate shocks. A score was computed for each of these markets and expressed as a percentage for each of the markets.

2.2.4.1 Hygiene and sanitation observations

Markets were evaluated on several criteria: cleanliness and maintenance of market premises; the display of a cleaning roster; absence of visible dirt, debris or pests; proper hygiene practices by market staff; protocols for handling fresh foods; availability of adequate handwashing stations; cleanliness and stock of restrooms with hygiene supplies; food quality and safety inspections; and compliance with health and safety regulations. See Appendix C for a detailed overview of the markets' adherence to general cleanliness, hygiene practices, facilities and food safety standards.

- Mtendere Market had the highest score of 89% followed by Lumumba and Nyumba Yanga markets at 78%. These markets scored positively on cleanliness, hygiene practices, food handling protocols, handwashing stations and food safety inspections, though they varied slightly on other factors.
- Chelstone Market scored 67% and it showed good levels of cleanliness and hygiene practices but had no cleaning rosters and some visible dirt. Chainda and Luburma scored 56%, also showing good levels of cleanliness and hygiene practices but had some deficiencies in the availability of handwashing stations or restroom cleanliness.

- Bauleni, Chipata Main and Libala scored 44%, reflecting some limited cleanliness and food safety but lacking in some hygiene practices and facilities. Chachacha, Chaisa, Chilenje, Kabwata, Mtendere Kazimayi Market and Munyaule each scored 33%. These markets typically met some cleanliness or hygiene standards but fell short in key areas.
- Markets with scores of 22% or lower, including Bwafano, Chawama, Chazanga, Chingwere, City Market, David Kaunda, Kalingalinga, Kaunda Square, Long acres, Matero, Northmead, Chiparamba and Woodlands showed significant deficiencies in multiple areas. These markets often lacked basic cleanliness, proper hygiene practices and necessary facilities.

The average score was 26% in terms of general cleanliness, hygiene practices, facilities and food safety. The highest adherence to standards was found in the categories of general cleanliness (57%) and restroom cleanliness (43%), while the least adherence was observed in the display of cleaning rosters (14%) and handwashing stations (14%).

This data highlights the need for improved hygiene practices and facilities across many markets to ensure health and food safety.

2.2.4.2 Waste management

Efficient waste management is a fundamental aspect of operating fresh food markets, where organic waste (including fruit and vegetable remains) is generated in large volumes. Poor waste management practices can lead to the accumulation of refuse, which not only attracts pests and rodents but also creates unsanitary conditions that can harm public health. This is particularly true for cities such as Lusaka that have experienced cholera epidemics in the recent past. Establishing a waste management system that includes regular collection, sorting (for potential recycling or composting) and proper disposal is vital to reduce the risk of contamination and ensuring the sustainability of the market environment.

Key findings related to waste management are that:

21% of markets had enough waste bins available.

48% of markets had waste bins that were regularly emptied and maintained.

Only **5%** of markets had recycling and composting facilities available.

38% of markets had no unpleasant odour around waste disposal areas and **17%** had measures in place to control pests such as rats and flies.

Overall, the data highlights substantial deficiencies in waste management practices across most markets. The average score was 18% showing that there is a clear need for improved infrastructure and adherence to waste management protocols. The most significant gaps are observed in recycling, composting and waste segregation practices, which are almost non-existent in most markets. There are some measures to control odour and pests in place, but these need considerable improvement. The analysis underscores the necessity for comprehensive strategies to enhance waste management and hygiene standards across these markets.

See Appendix D for a detailed overview of various markets' performance across several waste management and hygiene practices criteria.

2.2.4.3 Sewerage infrastructure

Proper sewerage infrastructure is essential for maintaining hygiene in fresh food markets. In the absence of adequate sewerage systems, markets face severe health risks, including the spread of waterborne diseases such as cholera and dysentery. The lack of functional sewerage systems can also lead to environmental contamination, as wastewater from food preparation, cleaning and other activities can accumulate in and around market areas. A well-maintained sewerage system is crucial for the safe disposal of liquid waste, contributing to the health and safety of both vendors and customers.

The sewerage infrastructure seemed well maintained, with 75% of markets showing no visible signs of leaks or damage. However, the frequency of sewerage system inspections and maintenance was lower, with only 45% of markets having regular inspections and maintenance. See Appendix E for information on drainage systems, water management and maintenance in various markets.

2.2.4.4 Water management

Water management, including the absence of water pooling or flooding, was properly handled in 64% of the markets, which suggests that a significant majority of the markets manage water issues effectively. Wastewater management was a concern, with only 33% of markets showing proper management practices, indicating that two-thirds of the markets struggle with this critical aspect.

Out of all the markets assessed, only 45% had an effective drainage system in place. Only 26% were observed to have drains clean and free from blockages, demonstrating a low standard of cleanliness in this aspect.

The data reveals substantial variability in drainage, water management and maintenance practices across markets. While some markets maintain high standards, many others need significant improvements, particularly in wastewater management and regular sewerage system maintenance. The overall average score across all criteria is 49%, highlighting the need for widespread enhancements in these areas to ensure better hygiene and operational standards in the markets. See Appendix E for an overview of findings related to water management.

A note on market accessibility for the differently abled

The research revealed a significant lack of comprehensive accessibility features and support for differently abled individuals across most markets. The total average score across all criteria is 21% (see Appendix F), highlighting the urgent need for improvements in infrastructure, signage, assistance and facilities to ensure that markets are inclusive and accessible to all individuals.

Only **2%** of markets had clear signage to orient and help differently abled individuals navigate the space.

Only **2%** of the markets had designated parking spaces for those with disabilities.

Only **5%** of the markets have designated staff to assist differently abled customers, highlighting a substantial gap in personalised support services.

Only **10%** of the markets have ramps available for wheelchair access.

Only **10%** of markets had seating areas for those who might need to rest frequently.

33% of markets have wide pathways clear of obstacles to enable wheelchair access.

43% of markets did have accessible restrooms indicating that they have taken steps to consider differently able people.

63% of markets were accessible by public transportation suitable for the differently abled.

2.2.4.5 Storage facilities

Proper storage facilities are essential in fresh food markets, particularly areas for storing perishable goods. Inadequate storage leads to high food spoilage rates that can lead to economic losses for vendors and reduced quality in the food available to consumers.

Key findings related to storage conditions are that:

Only **19%** of the markets have clean and well-organised storage areas.

The availability of facilities for controlling temperature and humidity is evident in only **26%** of the markets, indicating a low standard for preserving fresh foods.

Measures to prevent pests in storage areas are implemented in only **10%** of the markets, which points to a substantial area of concern regarding pest management. Storage areas are inspected for pests in **7%** of the markets, reflecting a low level of proactive pest control measures.

Systems for tracking the shelf life of products are present in only **2%** of the markets, highlighting a significant gap in managing product freshness and minimising waste.

Storage equipment in good condition and regularly maintained is found in **14%** of markets.

Inventory management practices that ensure freshness and reduce waste are observed in **17%** of the markets.

Adequate refrigeration and freezing facilities are available in only **7%** of the markets.

Overall, the average score of 13% across all markets reveals widespread deficiencies in maintaining proper storage conditions, managing pests, tracking inventory and ensuring well-maintained equipment. This indicates a critical need for improvements in market management practices to enhance food safety, reduce waste and ensure the overall quality of goods. See Appendix G for a detailed overview of various markets' storage conditions, pest control, inventory management and equipment in various markets.

2.2.4.6 Resilience to climate shocks

There is a clear divide between markets that are well-prepared and those that are not. Out of the total markets assessed, 57% of markets have infrastructure that can withstand floods, fires and strong winds. Each of these markets scores 100%, indicating robust infrastructure capable of withstanding severe climate events.

There are, however, 18 markets where the infrastructure does not meet the standards required to withstand climate shocks. These markets score 0%, indicating that their infrastructure is vulnerable to damage from floods, fires, and intense winds. See Appendix H for the scoring of markets' resilience to climate shocks.

2.2.5 Overall scores based on observations of Lusaka City markets

There is significant disparity across the final scores; most, however, are strong in some areas and weak in others. Only three markets – Mtendere, Chainda and Lumumba

Roadside – scored above 50%. See Appendix I for an overview of the final scoring of markets across sanitation, waste management, sewerage, accessibility, storage and resilience to climate shocks. Mtendere leads with a final score of 73%, highlighting robust performance across most parameters, particularly in sanitation and storage. Chainda follows with a 58% final score, displaying good sewerage systems and accessibility but weaker waste management. Lumumba Roadside also scored above 50% with 53%.

Chelstone and Long acres were tied at 45%, struggling with waste management and storage issues. Libala and Nyumba Yanga had scores of 43% and 40% respectively, with major challenges related to storage. Bauleni, Chaisa, City Market and Woodlands were tied on 35%, showing similar strengths in sanitation but facing challenges in accessibility and storage.

Other markets like Chilenje, Chipata Main, Chitukuko, Chingwere, Kaunda Square, Munyaule, Chachacha, Chiparamba, David Kaunda, Kalingalinga and Northmead hovered around the 21-30% range, generally marked by decent sewerage systems but insufficient waste management and storage facilities.

At the upper-lower range, Bwafano, Kabwata, Mandevu, Matero, Chawama and Mtendere Kazimayi Market scored in the range of 18-20%, primarily due to weak waste management and storage capabilities. On mid-lower range, markets like Chawama Central, Kamwala South (ZIPAS), Chazanga, Kabwata Site and Service and Soweto struggle significantly, scoring between 13% and 15%, indicating substantial deficiencies across nearly all evaluated parameters.

The lowest scores, ranging from 5 to 10%, include markets like John Howard, Sekelela, Sikota Wina and Tigwilizane scoring 10%; Chipata Katambalala and Railside scoring 8% each; Buseko and Kabuma scoring 5% each. These markets displayed severe inadequacies across all assessed areas, particularly in sanitation, waste management and sewerage systems. The overall average score across all markets stands at 25%, highlighting widespread deficiencies and the need for substantial interventions.

2.3 Key recommendations

The findings from this market scoping assessment reveal critical areas that require immediate attention and action to enhance the operational efficiency and safety of Lusaka's fresh food markets.

Key recommendations include:

- **Improving sanitation:** There is a significant need to improve sanitation facilities and practices across all markets. Implementing stricter hygiene protocols and ensuring regular maintenance can help elevate the overall sanitation scores.
- **More effective management of sewerage:** Consistent and thorough maintenance of sewage systems is essential. Markets that are lagging in this area need targeted interventions to address deficiencies and ensure proper waste management.

- **Enhancing accessibility:** Markets must be made more accessible to differently abled individuals. This includes installing ramps, clear signage, designated assistance staff and ensuring accessible restrooms and transportation options.
- **Addressing overcrowding:** Overcrowding, as seen in markets like the City Market, needs to be managed through better planning and possibly expanding market facilities to accommodate the high number of traders and consumers safely.
- **Utilising capacity:** Understanding and optimising the capacity of each market can help balance trader and consumer ratios, ensuring efficient operation and better service delivery.

By addressing these key areas, Lusaka’s fresh food markets can become safer, more accessible and better managed, ultimately supporting the city's food supply chain more effectively.

Image 1: *Examples of stalls - fresh food and meat to dry goods in covered and uncovered stands at various Lusaka City fresh food markets*
Source: HYEL 2024

3

MARKET INVESTMENT READINESS INDEX IN LUSAKA CITY

3.1 Background

The testing and refinement of the MIRI was a crucial component in enhancing the functionality and sustainability of urban food markets. The focus was to leverage an existing index developed by ICLEI Africa to assess the investment readiness of selected fresh food markets in Lusaka City. The MIRI was developed as a tool to assess the potential of food markets to attract and effectively utilise investments. The process followed the scoping of major markets and was built upon the initial assessment. The index considers several factors, such as market governance, infrastructure, business models and resilience to external shocks. By systematically testing and refining this index, the project aimed to create a robust framework that can guide future investments in urban food markets, ensuring they are better equipped to meet the needs of the urban population and contribute to healthier food environments.

ICLEI Africa aims to support the development of markets that are not only economically viable but also resilient, sustainable and capable of providing safe and nutritious food to urban residents. This aligns with the broader objectives of improving urban food environments and promoting healthier, more diversified nutrition for the urban population.

3.2 Research approach

Purposive sampling was undertaken to select six fresh food markets to test and refine the MIRI. These were Kaunda Square, Mtendere, Mandevu, Bauleni Katambalala, Chainda and Chilenje markets. These markets specialise in fresh food and are frequently utilised by low- and middle-income consumers daily. The selection aims to support the goals of the Strengthening Fresh Food Markets for Healthier Food Environments initiative, which seeks to enhance household access to fresh foods. Comprehensive data was gathered on the six markets using qualitative and quantitative methods. Numerical data was collected on revenue streams, operational metrics and quantifiable infrastructure needs. This informed the one-on-one interviews along with the results of a desktop review of available literature. In-depth key informant interviews were conducted and supplemented by structured observations of market environment, infrastructure and operations. Robust evaluation of the data generated key findings related to the six markets.

Bauleni Katambalala and Kaunda Square markets were selected from the least performing markets scoring within the range of 5% to 30%, Mandevu was selected from the average performing markets scoring within the range of 30% to 50%, while

Mtendere Main Market and Chainda Market were chosen from the highest performing markets scoring above 50%. Chilenje market was selected following a stakeholders' meeting that went beyond the initial scoring criteria to evaluate the markets more comprehensively.

During this meeting, stakeholders conducted a detailed examination of each market’s attributes, followed by a voting process. Chilenje was included for its capacity utilisation, investment potential, infrastructure condition, governance and management, and strategic importance. The markets are spread across the following constituencies of Lusaka City: Bauleni Katambalala in Lusaka Central Constituency, Mandevu-Mandevu Constituency, Kaunda Square Market-Munali Munali Constituency, Mtendere-Munali Constituency, Chilenje-Kabwata Constituency and Chainda-Munali Constituency. See Appendix L for a comprehensive overview of each market.

3.3 Findings from the market assessments

3.3.1 Market characteristics

All the markets except Mtendere were reported to be trading in all the three categories of products: fruit and vegetables, dry goods and meat, and fish, poultry and dairy. Mtendere does not trade in dry goods. Katambalala and Mtendere are farmers’ markets, Chainda, Kaunda Square and Mandevu are retail markets and Chilenje is a hybrid market.

All six markets were formally recognised by public authorities and their market areas zoned for market usage. All markets except Katambalala reported not having any factors that might lead to the closing of markets in the future. Katambalala Market noted that the land on which the market was situated was owned by the Catholic Church and the market was managed by the Catholic Women’s League. The church could at some point decide to put the land to other use in the future, such as for a school.

All six markets reported facing operational challenges. Chainda Market reported that revenue collection is low because of slowness in business, that the fresh foods shelter was not in good condition and that waste management was erratic. Bauleni Katambalala Market reported facing challenges during the rainy season with flooding and muddy trading floors due to the lack of a solid surface or pavement in the market. They also noted the erratic water supply and limited ablution facilities as challenges. Stakeholders at Mtendere Market complained of the muddy condition of the property during the rainy season and of delays in collecting garbage. Vendors at Kaunda Square Market reported challenges with garbage collection, revenue collection and growing numbers of vendors. Mandevu Market vendors lamented challenges around water.

The market managers at all six markets noted challenges with revenue collection. As shown in the figure below, on average, only 38% of vendors paid the required fees. Mandevu was the most affected with only 10% of vendors paying required fees.

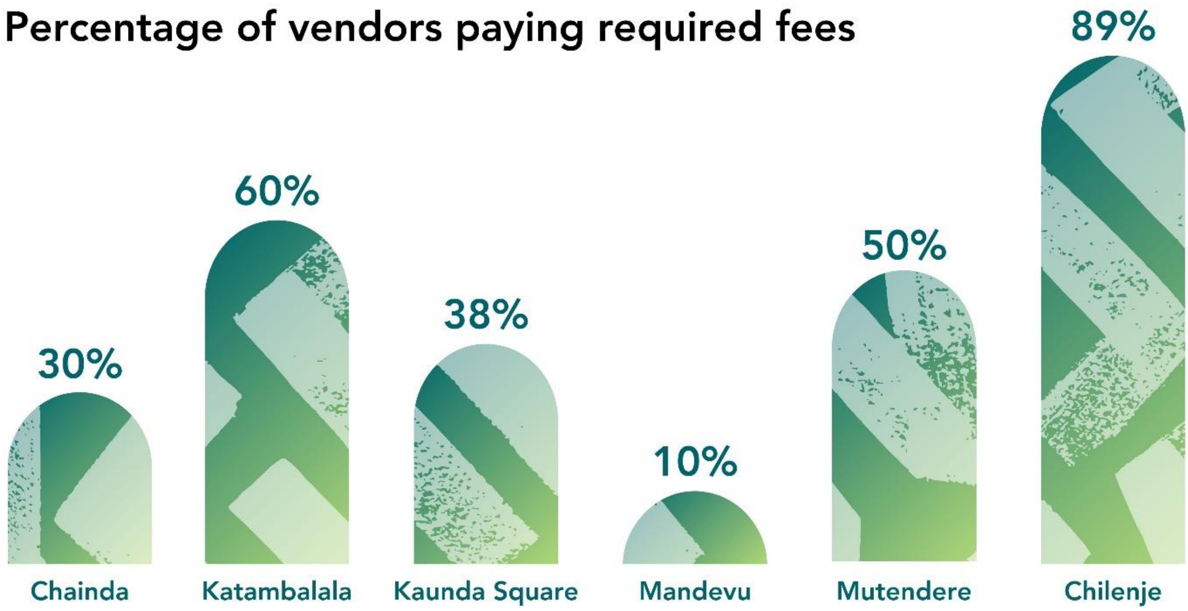

Figure 3: *Revenue collection at the six selected markets*

Source: HYEL 2024

3.3.2 Fresh food market utilisation

Four of the six markets have built-up trading stalls, while in the other two markets, traders sell their produce in an open trading area. Notably, no traders in any of the markets are making full use of the built-up trading stalls in the fresh food section: Chainda has 30 stalls, but only 10 are currently occupied (33%), Kaunda Square has 230 stalls but only 26 are occupied (11%), Mandevu has 100 stalls, but only 15 are occupied (15%), and Chilenje has 224 stalls but only 93 are currently occupied. However, in all the markets except for Chilenje, the number of traders selling fresh produce was found to be higher than the number of stalls occupied, signifying that some of the traders are operating outside of the built-up stalls, and in some cases outside of the designated trading area.

__Table 3:__ Market utilisation at the six selected markets

Market name	Market capacity			Market occupancy				
	Built trading stalls versus open trading area	**Trader capacity of entire market (built stalls and open trading area)**	**Trader capacity of fresh food section (built stalls and open trading area)**	**% of fresh food traders in the market**	**Number of traders selling fresh food from built trading stalls**	**Number of traders selling fresh food in open trading areas**	**Total number of traders selling fresh food (built stalls and open trading area)**	**Total occupancy of fresh food section in market (%)**
Chainda	Built trading stalls	500	30	6%	10	40	50/30	167%
Bauleni Katambalala	Open trading area	1000	500	50%	-	300	300/500	60%
Kaunda Square	Built trading stalls	600	230	38%	26	9	35/230	15%
Mandevu	Built trading stalls	1200	100	8%	15	10	25/100	25%
Mtendere	Open trading area	800	200	25%	-	300	300/200	150%
Chilenje	Built trading stalls	1200	224	37%	93	0	93/224	41%

Source: HYEL 2024

3.3.3 Market governance and political risk

Inquiry on the management structures revealed that the markets were managed by variously constituted structures. Three of the markets (Chainda, Chilenje and Kaunda Square) had market committees/ associations in place. Chainda Market has a management team comprising the chair, vice-chair, treasury, secretary and committee members. Chilenje and Kaunda Square Market have a market advisory committee that works with the Market Master and ward councillor.

The other three markets reported having no market committee/ association in place. Mtendere Market had a Market Master, sub inspector (police), a cashier, council police and general workers, and reported that they were planning to establish a market committee.

Katambalala is led by a women's league constituted by a chair, vice-chair, secretariat and treasurer. A seven-person management team leads Mandevu Market.

No markets, except for Katambalala, showed evidence suggesting an unofficial take-over of market operations by third-party actors (e.g., intermediaries/agents/cartels). This was validated by the market managers, customers and traders who observed that most of the markets are professionally managed by duly appointed city council personnel and/or committees in the case of the privately-owned facilities.

All six markets reported having transparency on market cashflow. Markets mostly reported issuance of receipts as audit trails and accounting systems. All six markets also reported having financial records for the market available. Chainda Market had an office where they kept records, and Mtendere had a Market Master who recording financial transactions in a book. Some of the markets, especially the cooperative-managed facilities, reported that market managers have moderate to very high control on reinvesting income streams back into the market. Cooperative markets are mostly managed by the board members and a certain percentage remains with the board to assist with running costs. In council markets, all revenue collected goes to the city council and the market must apply for funds. It does, however, take time for the approval process and, in some instances, these applications are not approved, and market offices sometimes opt to use their own money to buy essentials, such as toilet paper and cleaning supplies.

In terms of financial autonomy, Chilenje, Kaunda Square, Mtendere and Chainda reported moderate autonomy, Katambalala reported high autonomy, while Mandevu had no financial autonomy from the market owner. On overall governance and political risk, Chainda scored the highest at 82%, while Chilenje, Katambalala and Kaunda Square were tied at 76%. Mtendere and Mandevu markets had the lowest scores, both at 65%.

All six markets reported effective coordination between market managers and market owners. Examples of this coordination were cited by Bauleni Katambalala Market reporting having weekly meetings between market managers and market owners. Mtendere Market also reported constant checks on the garbage and market condition by the market managers and market owners.

Table 4 provides a snapshot of governance measures and political risk scores of the six markets.

Table 4: *Market governance and political risk scores*

Key:
All the YES/NO variables had a 1/0 scores assigned. However, scores for "Evidence suggesting that there is unofficial take-over of market operations by third-party (e.g., middlemen/agents/cartels" were reversed, Yes=0 and No=1. Control/Autonomy questions had up to 5 scores awarded (0= none, 1= Very Low, 2= Low, 3= Moderate, 4= High and 5= Very High). So, the total score was out of 17 total possible scores expressed as a percentage.

Name of Market	Market ownership structure	Market committee/ association in place	Effective coordination between market managers and market owners	Evidence suggesting that there is unofficial take-over of market operations by third-party (intermediaries/ agents/cartels)	Transparent cash flow through the market	Financial records for the market available	Control market manager has to reinvest income streams back into the market	Financial autonomy market has from the market owner	Revenue generated by the market ring-fenced	Sound record keepi ng in place	Score
Chainda	Cooperative	Yes	Yes	No	Yes	Yes	High	Moderate	Yes	Yes	82%
Bauleni Katambalala	Cooperative	No	Yes	Yes	Yes	Yes	High	High	Yes	Yes	76%
Kaunda Square	Council	Yes	Yes	No	Yes	Yes	Moderate	Moderate	Yes	Yes	76%
Mandevu	Cooperative	No	Yes	No	Yes	Yes	Very High	None	Yes	Yes	65%
Mtendere	Cooperative	No	Yes	No	Yes	Yes	Moderate	Moderate	Yes	No	65%
Chilenje	Council	No	Yes	No	Yes	Yes	Moderate	Moderate	Yes	Yes	76%

Source: Hydrangea Enterprise Limited

Table 5 shows the investment potential ratings for the six markets.

Katambalala Market revealed that their traders are willing to pay ZMK10 per day for additional services. Kaunda Square said traders are always willing to do more with their business. For Mandevu, they underlined that commitment would be made by the traders if they fully understood the benefits. In contrast, market management in Katambalala and Mtendere were reported to be very resistant to change, as were Mtendere vendors. Chainda vendors were said to be more neutral while the other three were said to be very willing for change. Nevertheless, vendors at all six markets were said to be interested in adopting modern technologies, such as cold storage units. Mandevu (67%) and Chainda (58%) were the two top scorers on the investment index, with Mtendere Market scoring a negative score (-42%) having showed more sensitivities to change and resistance for both the management and the vendors.

***Table 5:** Investment potential ratings for the six selected markets*

All the YES/NO variables had a 1/0 scores assigned. All the Sensitivity/Willingness questions had up to 2 scores awarded with Very Willing awarded the maximum score (2); neutral while the Unwillingness was scored negatively, Very Resistant with the lowest score of -2. So, the total score was out of 12 total possible scores expressed as a percentage.

Name of Market	Any previous investments into this market?	Market has free cash flow to reimburse debt?	Received loan for market upgrade	Sensitivity of traders to an increase in fees	Traders willing/able to pay more for additional services	How resistant/willing are the market management towards change?	How resistant/ willing are the vendors towards change?	Interest in adopting modern technologies amongst the vendors	Score
Mandevu	No	Yes	No	Neutral	Yes	Very Willing	Very Willing	Very Willing	67%
Chainda	Yes	Yes	No	Neutral	Yes	Very Willing	Neutral	Very Willing	58%
Kaunda Square	Yes	No	No	Very Sensitive	Yes	Very Willing	Very Willing	Very Willing	50%
Bauleni Katambalala	Yes	No	No	Neutral	Yes	Very Resistant	Very Willing	Very Willing	33%
Mtendere	No	No	No	Very Sensitive	No	Very Resistant	Very Resistant	Willing	-42%
Chilenje	Yes	Unknown	No	Neutral	Yes	Very Willing	Neutral	Willing	46%

Source: Hydrangea Enterprise Limited

3.3.4 Status of market infrastructure

For access to potable piped water, all markets except Kaunda Square and Mtendere had good facilities that were in use. Mtendere and Kaunda Square markets had facilities with minor faults but were in use. Kaunda Square had toilets without running water, but they had drums where water was stored for flushing. All markets, except for Mtendere Market, had access to electricity. At Kaunda Square Market, some shops do not have electricity as their trading requirements do not require it. Regarding designated areas for waste separation/disposal, Chainda, Chilenje and Mandevu had good facilities that were in use. The other three had hazardous and unsafe facilities but still in use. Kaunda Square Market reported a challenge with waste management in terms of disposing off-site. Mtendere Market reported that the open garbage storage was not safe. For three of the markets (Katambalala, Mandevu and Mtendere), drainage was not available.

Only Kaunda Square Market had good drainage in use, and Chainda and Chilenje Markets also had minor faults. All markets except Mtendere also had storage facilities. However, for cold storage, it was only Bauleni Katambalala Market that had good facilities in use.

Table 6: *Infrastructure ratings for six selected markets*

Questions had up to 3 scores awarded (0= Not Available, 1= Hazardous and unsafe but in use, 2= Minor faults but in use, and 3= Good and in use). So, the total score was out of 30 total possible scores expressed as a percentage

Name of Market	Access to potable piped water	Access to electricity	Designated area for waste separation/ disposal	Drainage	Hard surfaces	Roofing	Storage	Cold storage	Toilets and sewer connection	Trader's booths/ stalls	Score
Chainda	Good and in use	Good and in use	Good and in use	Minor faults but in use	Good and in use	Hazardous and unsafe but in use	Good and in use	Not Available	Minor faults but in use	Good and in use	77%
Chilenje	Good and in use	Good and in use	Good and in use	Minor faults but in use	Good and in use	Good and in use	Not Available	Not Available	Minor faults but in use	Good and in use	74%
Bauleni Katambalala	Good and in use	Good and in use	Hazardous and unsafe but in use	Not Available	Not Available	Minor faults but in use	Good and in use	Good and in use	Good and in use	Good and in use	70%

Kaunda Square	Minor faults but in use	Good and in use	Hazardous and unsafe but in use	Good and in use	Good and in use	Good and in use	Good and in use	Not Available	Good and in use	Good and in use	80%
Mandevu	Good and in use	Good and in use	Good and in use	Not Available	Not Available	Good and in use	Good and in use	Not Available	Minor faults but in use	Minor faults but in use	63%
Mtendere	Minor faults but in use	Not Available	Hazardous and unsafe but in use	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Good and in use	20%

Source: Hydrangea Enterprise Limited

Image 3: *(top row) types of toilet infrastructure; (middle row) water tank storage and cold room storage; (bottom row) basic recycling facility*
Source: HYEL 2024

For all the markets except for Mtendere Market, the infrastructure was degraded, but still in working condition. At Mtendere, however, infrastructure was in disrepair, and many features were not being used. Mtendere, Mandevu, Chilenje and Katambalala are maintained by the market owners. Kaunda square is maintained by traders and Chainda is maintained by both traders and the market owner.

3.4 Market economic overview and revenue structures

This section provides an in-depth analysis of the market economics in the six selected markets in Lusaka City, namely, Chainda, Bauleni Katambalala, Kaunda Square, Mandevu, Mtendere and Chilenje markets.

Each of these markets operates within a unique economic environment, characterised by distinct dynamics in terms of the number of traders, the volume of goods traded and overall market viability. Ownership structures and operational dynamics of these markets vary, with some being cooperative managed and others having municipal oversight. These differences influence regulatory frameworks, resource access and the economic performance of each market.

Traders in these markets have diverse income levels and expenditure challenges, with monthly fixed costs including market levies, utilities and operational expenses varying significantly. This cost structure directly impacts the profitability of various product categories and affects traders' turnover rates, which are essential indicators of market activity. High turnover rates often reflect robust economic engagement, yet they are subject to fluctuations driven by seasonal demand and specific market conditions. Moreover, external factors, such as climate shocks and infrastructure deficiencies, further complicate the economic landscape of these markets. Adverse weather can lead to product wastage, while inadequate infrastructure may impede trade efficiency and access to markets. The ability of these markets to withstand such challenges is vital for their stability and growth potential.

A comparative analysis aimed to identify patterns in economic performance across the selected markets, highlighting common challenges such as fluctuating demand, competition and varying levels of market organization. By understanding the unique characteristics of each market, stakeholders can gain valuable insights into the stability and growth potential of these essential fresh food markets in Lusaka City.

3.4.1 Overview of the economic activity in the selected fresh food markets

The economic situations of Chainda, Bauleni Katambalala, Kaunda Square, Mandevu, Mtendere and Chilenje markets vary significantly in terms of the number of traders and the volume of goods traded, each reflecting distinct market dynamics. Table 7 provides validated information on the trade activities in the six markets.

Table 7: *Estimated volume of trade in the six selected markets*

Name of market	Estimated value of goods traded in market per month (ZMW)	Number of customer transactions /month	Estimated number of traders dealing with fresh foods	Estimated capacity of fresh food sections (number of traders)
Chainda	ZMW 1 430 289.57	12 587	50	30
Bauleni Katambalala	ZMW 2 747 567.08	54 951	300	500
Kaunda Square	ZMW 3 598 471.60	71 969	35	230
Mandevu	ZMW 4 520 000.00	90 567	25	100
Mtendere	ZMW 1 200 000.00	24 011	300	200
Chilenje	ZMW 2 079 310.97	41 586	93	224

Source: HYEL 2024

These markets exhibit varying economic models, ranging from concentrated structures with few large traders to more fragmented, competitive environments. This diversity reflects different approaches to meeting local demand and managing market dynamics.

Chainda Market, with an estimated monthly trading amount of approximately around ZMW1.43 million per month in fresh foods, with an approximate number of around 12 587 transactions, is the smallest among the six analysed markets in terms of fresh food trade. Despite the relatively lower value of produce moving through, Chainda Market plays a crucial role in serving the local community with fresh food products. The market's modest size does not diminish its importance, as it meets the everyday needs of the surrounding population in areas such as Chudleigh, Chamba valley, Obama, Meanwood Kwamwena and many others. The trading activities at Chainda Market are likely more focused on retail, catering primarily to individual consumers and small-scale buyers, making it a vital component of the local food distribution network.

Bauleni Katambalala Market stands out as a significant trading hub with a retail trading amount around ZMW2.75 million per month, with an estimated transaction rate of around 54 951. However, when wholesale transactions are also considered, the market's total trading amount rises to approximately ZMW5.1 million, positioning it just above Mandevu Market in overall market activity.

This dual strength in both retail and wholesale trade highlights Katambalala's strategic importance in the fresh food supply chain. The market's ability to handle large volumes of wholesale transactions in fresh products makes it a key player in ensuring the availability of food across the broader region, serving not only local consumers but also other markets and vendors.

Kaunda Square Market is another significant player, with an estimated monthly trading volume of ZMW3.6 million, and the market has approximately 71 969 transactions per month. This market primarily focuses on retail activities, catering to a diverse customer base within Lusaka. Kaunda Square's role in the fresh food sector is vital, particularly in providing a variety of fresh produce to local residents. The market's relatively high trading volume underscores its importance in maintaining a steady flow of fresh food products to the community, ensuring that both consumers and small businesses have consistent access to necessary supplies.

Mandevu Market leads the way with an impressive monthly trading amount standing around ZMW4.52 million and has a transaction rate of approximately 90 567 per month. The market's dominance is largely driven by high transaction amounts in meat trading, which significantly boosts its overall economic activity. Mandevu Market's large-scale operations are also partly attributed its strategic location surrounded by many areas such as Chipata, Kabanana, Old Ngoma, SOS, Zanimuone, and Chazanga residential areas, which significantly boosts the market's overall economic activity and its importance in sustaining the local economy.

Mtendere Market, with an estimated monthly trading amount of ZMW1.2 million, serves as a critical source of fresh food for its surrounding community. While it is not as large as Mandevu Market or Katambalala Market, Mtendere Market plays a significant role in ensuring food security and availability in its locality, standing with a monthly transaction volume of around 24 011. The market's contribution to the overall fresh food trade in Lusaka City is substantial, particularly in providing access to fresh produce and other food products to local consumers. Mtendere Market's trading volume indicates its capacity to meet the demands of a busy, populous area, reinforcing its importance within the city's broader market ecosystem.

Chilenje Fresh Food Market, with an estimated monthly trading amount of ZMW2.08 million and a transaction volume of approximately 41 586, plays a vital role in the local fresh food supply chain. Though not the largest market in Lusaka, Chilenje is a key trading hub, providing fresh produce to residents of surrounding areas such as Chilenje South, Chalala, Woodlands and Chilenje North. The market's balanced trading activity, combined with high profitability across various fresh food categories, ensures consistent access to fresh products for local consumers and small-scale buyers. Chilenje's strategic location and stable turnover highlight its significance within the city's broader market network, contributing to food security and local economic activity.

3.4.2 Types of traders and commodity sourcing strategies

In terms of the origins of the commodities and value-added products that are retailed in the six fresh food markets, the bulk of the goods sold by the traders are purchased as follows:

- Fresh wild, indigenous and exotic vegetables bought directly from the farmers who grow and harvest the products from their farmers and/ or forests.
- Fruits usually bought from aggregators and cross-border traders who procure the products from farmers within Zambia (such as oranges and other citrus fruits from Mkushi District and pineapples from Mwinilunga and Ikelenge districts in North Western Province of Zambia), and the larger volumes of packaged apples, naartjies, bananas, large-size oranges and grapes, etc. are imported from South Africa and Zimbabwe.

In the cases of Chainda, Mtendere and Katambalala markets, there was a notable proportion of farmers and large-scale fresh food aggregators who sell the produce directly to consumers and retailers, especially on designated farmers' days. It was reported that an increasing number of farmers and/or aggregators of fresh food products are now retailing in most of the markets in Lusaka City and making it more difficult for the retailers to sell their products as farmers tend to sell larger quantities of fresh food at the wholesale price and thus attract price-sensitive consumers wanting better value for their money.

In Chilenje market, there is a distinct mix of traders sourcing fresh food from local farmers and regional aggregators. The market's proximity to urban residential areas makes it a hub for both consumers and wholesalers. While the market benefits from a steady influx of produce, competition is heightened by farmers selling directly to consumers at competitive prices and in bulk.

Figure 4 indicates the origin of the products sold by the traders in each of the six markets. The majority (88%) of the traders in the six markets above procure their fresh foods exclusively from producers and aggregators (wholesalers).

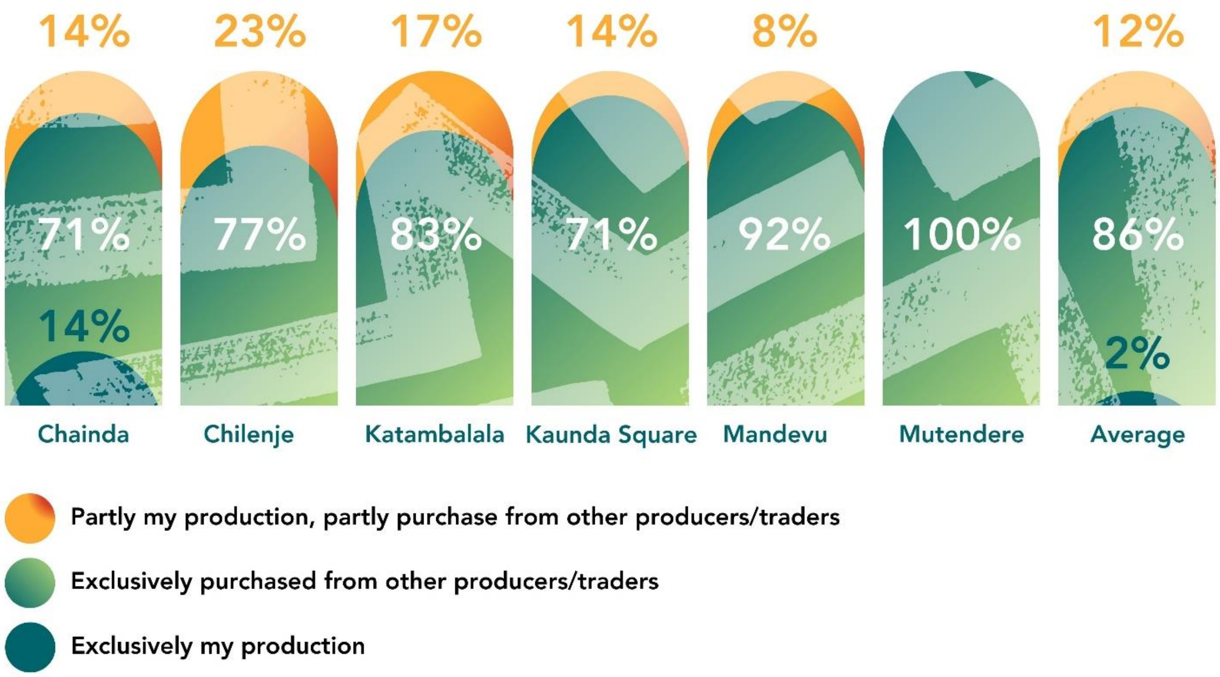

Figure 4: *Origin of produce sold at the selected six markets*

Source: Hydrangea Enterprise Limited

3.4.3 Food safety standards and certification

During the study, some consumers of fresh foods noted that they prefer to purchase food from markets that are clean and from traders that manage their activities in a hygienic way. Some observed that they would pay premium prices for well packed and clean fresh foods, as well as products sold from stores that have been inspected and certified by health authorities. During the study, it was noted that most of the traders in the six markets did not have any food safety certification. Only a few from Mandevu and Chainda markets reported having some form of food and health-related certification.

Table 8: *Status of food safety certification at the selected six markets*

Market	Food handling certificate	Business levy	Health permit certificate
Chainda	7%		7%
Chilenje			
Katambalala			
Kaunda Square		13%	7%
Mandevu	8%		8%
Mtendere			

Source: Hydrangea Enterprise Limited

When asked to describe their food safety management system, most of the participants did not have any detailed procedures rather than asynchronous methods to wash fresh foods and hands using clean water and keeping the food clean.

3.4.4 Traders' membership in associations and other clusters

The majority (91%) of traders engaged with for the assessment reported that they are not members of any traders' or farmers' organisation, market union and/or association through which they can collectively lobby for incentives, negotiate pricing of goods and/or seek support, etc. Only one trader from Mtendere Market reported being a member of a farmer's organisation, and another one from Chainda Market advised that they are a member of a cooperative.

3.4.5 Ownership and utilisation of infrastructure used in the six markets

This chapter explores the ownership and operational structures for Chainda, Katambalala, Kaunda Square, Mandevu, Mtendere and Chilenje markets. The analysis focuses on the proportion of businesses that own, rent or utilise their spaces for free, providing insights into the stability and flexibility of business operations in these markets. These insights are helpful in understanding the business models for each of the markets.

The findings reveal varying degrees of long-term investment, economic stability and potential vulnerabilities across the markets. Business owners who own their spaces demonstrate a strong commitment to their market locations, while those who rent face different operational dynamics influenced by rental costs. Rental amounts for stores and fresh food trading stands were reported to range from ZMW65 to ZMW405 in council-owned markets, though the amounts could be higher when privately owned. Additionally, the presence of free-use spaces in some markets suggests informal or community-supported business arrangements, contributing to a diverse and dynamic market environment.

Figure 5 provides an analysis of the ownership and utilisation of market infrastructure such as stores and allocated spaces. This is key for determining the costs that the traders incur while trading in these markets as well as the revenue streams for the market owners.

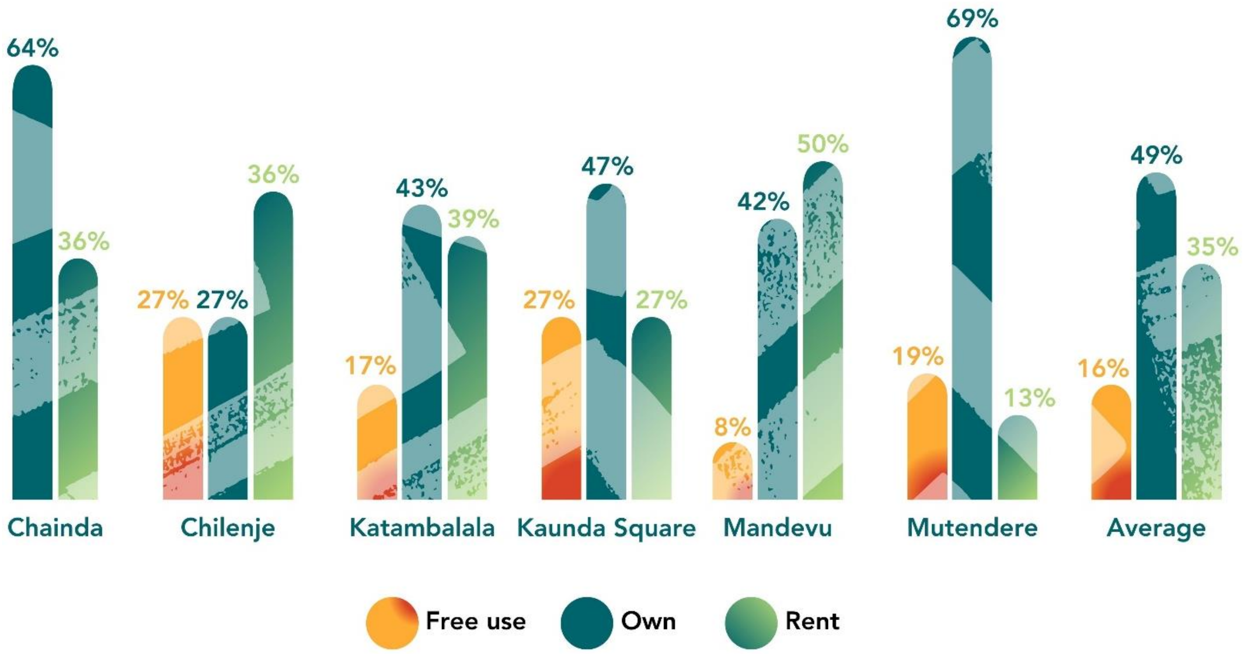

Figure 5: *Ownership and utilisation of infrastructure in the six selected markets*

Source: HYEL 2024

3.4.5.1 Chainda Market

In Chainda Market, most traders own the stalls or locations from which they conduct their trade, signifying a high level of stability and long-term investment in the market. There is a minority who rent their locations, indicating some flexibility and possibly a preference for less long-term commitment to investing in the infrastructure. This rental segment, though smaller, might face different economic pressures such as rent variability, which could influence their business operations differently from those who own their spaces.

There is a significant trading in fresh foods conducted at Chainda Market, but many of the traders do not operate within the fresh foods section of market; they are trading along the road (street vending) due to the convenience it gives to the buyers who do not want to park their cars and go inside the market (this partly because the market is not easily accessible by customers using motor vehicles). This practice creates a high demand for street vending, and it is further incentivised by the fact that vendors do not pay the market levies, and as such the traders see it as a lucrative cost-saving measure.

3.4.5.2 Katambalala Market

Katambalala Market displays a diverse mix of ownership models for the temporal structures that are used as shelters, as well as infrastructure such as cold storage facilities that are owned by organisations, including Ndkay Enterprises Limited. A sizable portion of businesses operate in spaces that they own, that have been apportioned by the Catholic Women’s League, which has been put in charge of managing the market on behalf of the Catholic Church. In Katambalala Market, businesses use their spaces for free (only pay the levy), suggesting the presence of informal arrangements of community-supported spaces.

There are, however, a considerable number of businesses that rent their spaces, indicating a potential for fluidity in business operations, with possible impacts from rent fluctuations on business sustainability.

Of the six markets, Bauleni Katambalala Market had sufficient space to enable vehicles to drive through the market but had no concrete flooring and permanent structures, thus making the traders vulnerable to heavy rains and winds.

3.4.5.3 Kaunda Square Market

The business environment at Kaunda Square Market is characterised by a substantial number of owned spaces apportioned by the city council, reflecting either informal arrangements or publicly supported market spaces. Despite the availability of the trading spaces, and almost all traders being registered by the council and owning spaces in the market, most of marketers move out of the market shade every day and display their products outside the market by the roadside where they indicated that there is high level of business operation in terms of sale as compared to trading in the structure within the market. The dynamic for Kaunda Square Market is different from other markets, because all the traders (even the ones vending outside the market) are registered under the market management, and they pay all the necessary fees to the market management.

3.4.5.4 Mandevu Market

Mandevu Market is marked by a combination of ownership and rental dynamics. Many traders own the places (stores and/ or stands) where they operate from, reflecting a strong commitment to the market and a stable business environment. However, a sizeable portion of businesses operate on rented spaces, indicating a reliance on leasing arrangements, which might expose them to economic vulnerabilities such as rent increases. There are also some businesses using spaces for free, hinting at potential community or informal support structures within the market.

3.4.5.5 Mtendere Market

In Mtendere Market, most businesses own the spaces that they operate from, reflecting a strong sense of permanence and investment in their locations. A smaller segment of businesses operates in free-use spaces, which may indicate community-based support or informal arrangements. Conversely, businesses that rent their spaces, although fewer, may face variability in operational costs due to potential rent fluctuations. This variability could adversely affect their profitability and long-term sustainability compared to those who own their premises.

3.4.5.6 Chilenje Market

Chilenje Market demonstrates a mixed model of ownership and utilisation of infrastructure. A significant number of traders rent their trading spaces, indicating a reliance on formalised market structures managed by the LCC or other authorities. This rental model provides structured revenue collection but can also pose financial burdens for traders depending on rental rates and seasonal demand fluctuations. Meanwhile, a portion of traders operate under free use arrangements, suggesting the presence of either informal trading zones or trader-specific agreements that allow cost-free occupation of market spaces. This dynamic may create disparities in operational costs among traders, influencing pricing strategies and competitiveness within the market. The remaining traders likely own their trading spaces, providing long-term business stability. However, infrastructure challenges persist, particularly in terms of cold storage facilities, waste management and market organisation, which impact efficiency, especially for perishable goods. Additionally, informal trading activities around the market continue to shape consumer purchasing patterns, as some traders position themselves outside designated areas for increased visibility and accessibility. Enhancing infrastructure, improving rental structures, and integrating informal traders into formal spaces could significantly improve Chilenje Market's operational efficiency and sustainability.

3.2 Income and expenditure analysis of the markets

This section presents a comparative analysis of the income streams and expenditure patterns of the market's owners across Chainda, Katambalala, Kaunda Square, Mandevu, Mtendere and Chilenje markets. The findings offer insights into the diverse revenue sources, their relative contributions and the key expenditure categories, providing a comprehensive understanding of the financial and economic dynamics within the six markets. The revenue structure for the markets primarily comprises daily stipends or market levies, along with 'pay-per-use' fees, particularly for essential services like water and toilet facilities. Each market generates revenue through different streams, reflecting the availability and usage of these services.

3.2.1 Income streams

The market owners generate income through various channels, including market levies, rentals, electricity fees and other service-related fees.

Table 9: *Estimated market monthly revenue (ZMW)*

Market name	Market levy	Rentals	Electricity fee	Gate	Toilets/ Washrooms	Water	Grand total
Chainda	ZMW24 000				ZMW4 000	ZMW300	ZMW 28 300
Katambalala	ZMW54 200	ZMW2 000		ZMW2 400	ZMW1 836	ZMW2 000	ZMW 62 436
Kaunda Square	ZMW15 000						ZMW15 000
Mandevu	ZMW 2 000		ZMW15 000		ZMW4 500		ZMW 21 500
Mtendere	ZMW 7 200						ZMW7 200
Chilenje	ZMW3 200	ZMW62 005			ZMW 5 350		ZMW70 555

Source: HYEL

For Chainda Market, the primary income stream is the market levy, which brings in ZMW24 000 monthly, supplemented by an additional ZMW4 000 from pay-per-use fees for toilet usage and ZMW300 from water usage, resulting in a total monthly revenue of ZMW28 300. This income is primarily stable but may vary slightly based on seasonal fluctuations in market activity. While electricity fees are not part of Chainda's revenue stream, the reliance on fees for basic amenities highlights the market's strategy to cater to traders' and customers' immediate needs. This structure allows the market to sustain operations by providing essential services to its users

Katambalala Market shows a more diversified income structure, with the highest income generated from market levies, ZMW54 200 monthly. Additional income streams include rentals (ZMW2 000), gate fees (ZMW2 400), toilets/washrooms fees (ZMW1 836) and water fees (ZMW2 000), culminating in a total revenue of ZMW62 436 per month. The stability of these income streams may vary, especially for fees and rentals, which could be influenced by the market's seasonal demand and occupancy rates. The inclusion of depo fees (for storage) distinguishes this market from others, reflecting a broader range of services that cater to both traders and consumers. The comprehensive fee structure helps maintain the market's infrastructure and services, ensuring a steady flow of revenue for their huge cost structure.

Kaunda Square Market relies solely on market levies, which give an estimated total ZMW15 000 per month. Unlike other markets, it does not charge for water, electricity or toilet facilities. This suggests limited diversification in revenue generation, which could potentially make the market's income more susceptible to fluctuations, depending on the traders' ability to pay the fee consistently throughout the year.

Mandevu Market's income is more comprehensive, featuring a mix of electricity fees of ZMW15 000, supplemented by ZMW2 000 market levy fees and ZMW4 500 from toilets/washrooms, resulting in a total revenue of ZMW21 500 per month. The stability of these income streams is likely consistent, with minor variations based on the occupancy of rental spaces. The combination of these revenue streams helps the market cover operational costs and maintain a higher standard of service.

Mtendere Market, like Kaunda Square, has a simplified revenue structure that primarily relies on the daily market levy, generating ZMW7 200. There are no additional fees for electricity, water or toilet facilities, suggesting that the market operates with minimal service provisions. This approach might be beneficial for keeping costs low for traders, but it could also limit the market's ability to generate higher revenues. The reliance on market levies alone indicates a focus on maintaining basic trading spaces rather than expanding services.

Chilenje Market has recorded impressive revenue collections, generating approximately ZMW70 555 monthly. This revenue is primarily derived from rentals, which contribute ZMW62 005, followed by daily levies amounting to ZMW3 200, and toilets/washrooms generating ZMW5 350. These figures reflect strong financial performance, highlighting effective management and consistent use of market facilities. Although the revenue streams are relatively limited compared to larger markets, Chilenje Market’s focus on essential services allows it to meet the immediate needs of its users while maintaining steady operations.

Each market in Lusaka has a distinct revenue structure, reflecting the services provided and the needs of its users. While some markets, like Bauleni Katambalala and Mandevu, generate income from multiple streams, others, such as Kaunda Square and Mtendere markets, focus solely on market levies. This variation in revenue structures ensures that each market can cater to its specific demographic while sustaining operations through tailored financial strategies

3.2.2 Breakdown of expenditure of market owners

Traders in Chainda, Katambalala, Kaunda Square, Mandevu, Mtendere and Chilenje markets, face monthly fixed costs in addition to the costs associated with purchasing products. These additional costs include daily market levies, utilities and other operational expenses, which differ from market to market as illustrated in Table 11 below.

Table 10: *Cost structure of the six selected markets*

Market name	Monthly additional cost (ZMW)	Market levy	Storage	Water	Transport	Waste management	Toilet Fee	Security	Electricity	Funeral contribution	Labour*
Chainda	120.71	YES	NO	NO	NO	YES	YES	NO	NO	NO	NO
Katambalala	213.43	YES	YES	YES	YES	NO	YES	NO	NO	NO	YES
Kaunda Square	149.58	YES	NO	YES	YES	NO	NO	YES	YES	NO	NO
Mandevu	101	YES	NO	NO	YES	NO	NO	YES	YES	YES	NO
Mtendere	241.57	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO
Chilenje	65.55	YES	YES	NO	NO	NO	YES	NO	NO	NO	NO

Source: HYEL 2024

*Note: Labour includes the cost for people who do off-loading of fresh foods as well as helpers that fetch water and provide other services to the traders.

While the figures represent the average monthly expenses for a typical trader in each market, it is important to note that some traders incur higher costs based on their trade volumes, especially those with larger operations or higher sales. Conversely, others may experience lower costs due to smaller trade volumes. On average, the provided numbers reflect the monthly costs for a typical trader across these markets.

Table 11 shows that expenditure patterns vary significantly, reflecting the distinct operational needs and dynamics in each location.

Table 11: *Estimated monthly expenses for six selected markets (ZMW)*

Market	Electricity (ZMW)	Electricity to the church (ZMW)	Garbage collection (ZMW)	Maintenance (ZMW)	Supplies like cleaning materials (ZMW)	Worker's allowance (ZMW)	Water bills (ZMW)	Corporate Social Responsibility (ZMW)	Ground rates (ZMW)	Grand total (ZMW)
Chainda	11 224.48		3,200			7 500	500	700	500	23 124.48
Bauleni Katambalala		2 500			1 000	10 000				13 500
Kaunda Square*										N/A
Mandevu	1 500		3 500	1 000		3 500				9 500
Mtendere			4 000							4 000
Chilenje*										N/A

Source: HYEL 2024

*Note: The managers of Kaunda Square and Chilenje Market did not have the required information on market expenditure as this is handled by the council.

The expenditure patterns across these markets reveal key areas of spending, including utilities, maintenance, labour and other operational costs.

In Chainda Market, the main expenditures include electricity costs of ZMW11 224.48, water bills (ZMW 500) and workers' allowances (ZMW7 500). Additional expenses include ZMW3 200 for garbage collection, ZMW 700 for Corporate Social Responsibility or rather Community Social responsibility as they term it, where they help in any unforeseen occurrences that is not related or not directly related to the day-to-day running of the market and ZMW500 for ground rates, leading to a total monthly expenditure of ZMW23 124.48. This indicates a balanced approach to managing essential services, though the market's profitability is dependent on maintaining these costs at manageable levels.

Katambalala Market's expenditures are focused on labour, with ZMW10 000 allocated to workers' allowances. Other significant costs include ZMW2 500 for electricity to the church and ZMW1 000 for supplies like cleaning materials, amounting to a total expenditure of ZMW13 500 per month. The concentration of expenses in labour indicates the market's emphasis on maintaining a workforce to support its operations, with other costs being relatively minimal. Besides that, the presence of cleaning material expense for Katambalala Market indicates the prioritisation of hygiene and sanitation in the market.

Mandevu Market's expenditures are primarily focused on garbage collection and workers allowances with each recording (ZMW 500) monthly. The additional costs include ZMW1 500 for electricity and ZMW1 000 for maintenance, which gives an estimated total expenditure of ZMW9 500 per month. The focus on waste management and labour costs suggests that the market prioritises the upkeep of its facilities and the support of its workforce, which are critical for its sustained operations.

Mtendere Market has a singular recorded expense of ZMW4 000 for garbage collection, which is relatively low compared to other markets. This limited expenditure could either reflect efficient cost management or underinvestment in essential services, which might impact the market's long-term sustainability.

As Chilenje and Kaunda Square are council markets, market management were unclear on overall spending, as this was handled by council offices. Further attention to cost management and reinvestment into market infrastructure could enhance long-term sustainability.

3.2.3 Profitability analysis of the six selected markets

The profitability analysis of the markets provides insights into their financial health, highlighting how effectively each market converts its revenue into profit. This analysis also uncovers potential issues that may affect the long-term sustainability of the markets, particularly in terms of understanding and managing operational expenses.

__Table 12:__ Profitability analysis of the six selected markets

Market name	Revenue	Expenditure	Estimated profit	Net profit margin
Chainda	ZMW 28,300	ZMW23124.48	ZMW5 175.52	18%
Katambalala	ZMW 62,436	ZMW 13 500	ZMW48 936	78%
Kaunda Square	ZMW 15,000	-	-	
Mandevu	ZMW 21,500	ZMW9 500	ZMW12 000	56%
Mtendere	ZMW 7,200	ZMW4 000	ZMW3 200	44%
Chilenje	ZMW 70,555	-	-	-

Source: HYEL 2024

3.2.3.1 Market profitability overview

Chainda Market generates a total monthly revenue of ZMW28 300 against expenditures of ZMW23 124.48, resulting in an estimated profit of ZMW5 175.52. This equates to a net profit margin of 18%, which is relatively modest. The market's profitability could be improved by exploring additional income streams (especially increasing the collection of levies by reducing street vending and promoting trade within the designated fresh food market area) or reducing operational costs, particularly in areas such as maintenance and utility expenses.

Katambalala Market, with a monthly revenue of ZMW62 436 and expenditures amounting to ZMW13 500, boasts an estimated profit of ZMW48 936 per month. This gives it a net profit margin of 78%, indicating strong financial performance. The market's diversified income streams and controlled expenditure contribute to its high profitability, making it the most financially robust market among the six that were analysed.

Kaunda Square Market and Chilenje Market present a unique situation with monthly revenue of ZMW15 000 for Kaunda Square and ZMW70 555 for Chilenje with no recorded expenditures for both markets, resulting in unknown profitability for both markets. This is problematic as it suggests that the market manager lacks accurate data on the running expenses of the market. The absence of recorded expenditures could either be due to underreporting or a lack of proper financial oversight. This gap in financial management poses a risk to the market's long-term viability, as unaccounted expenses could emerge and disrupt the proper market operations.

Mandevu Market achieves a monthly revenue of ZMW21 500 with expenditures totalling ZMW9 500, leading to an estimated profit of ZMW12 000 per month, and a net profit margin of 56%. The market’s profitability is healthy, supported by its ability to keep expenditure relatively low while maintaining steady revenue streams. However, the market could explore additional cost-saving measures or income-generating opportunities to further enhance its financial standing.

Mtendere Market, with a revenue of ZMW7 200 and estimated expenditures of ZMW4 000, reports an estimated profit of ZMW3 200, resulting in a net profit margin of 44%. While the market operates with a lower revenue base, its profitability is relatively strong. However, the limited income and expenditure suggests that the market might be undercapitalised, which could limit its growth potential.

3.2.3.2 Financial comparative analysis and key observations

When comparing the markets, Katambalala Market stands out for its high profitability driven by diversified income streams and efficient cost management. In contrast, Kaunda Square Market, like Chilenje market, have insufficient data to record their expenses, revealing a critical issue in financial management. The lack of recorded expenditures indicates that the market manager does not have a clear understanding of the market’s running costs, which could lead to financial instability if unforeseen expenses arise. Additionally, it is noteworthy that only Katambalala Market has recorded the acquisition of cleaning materials as part of its expenditures, highlighting a focus on maintaining a clean and functional environment for traders and customers. This emphasis on cleanliness could contribute to the market’s overall attractiveness and success. The absence of similar expenditures in other markets suggests that they may be neglecting essential maintenance or sanitation services, potentially affecting their long-term sustainability and appeal.

Katambalala Market leads in both income generation and expenditure, reflecting a well-rounded and diversified revenue model that supports a higher level of operational spending. Chainda Market, with its stable income from levies, shows a balanced financial profile but may need to explore additional revenue streams to enhance stability. Kaunda Square and Mtendere markets appear less diversified in both income and expenditure, potentially exposing them to greater financial risk. Mandevu Market, with moderate income and expenditure, seems to maintain a steady financial operation, although opportunities for cost-saving measures or new income streams could improve its profitability, including reducing street vending and enhancing market utilization that can help increase collections of levies.

The income and expenditure profiles of these markets highlight the importance of revenue diversification and efficient cost management. Markets with more diversified income streams, like Katambalala Market, are better positioned to withstand economic fluctuations, while those with narrow income bases, such as Kaunda Square and Mtendere markets, may face challenges in maintaining financial stability.

3.2.3.3 Losses and wastage of fresh food products

Financial losses and wastage are common challenges faced by traders across all the markets, with the dynamics being largely similar regardless of market. One of the most prevalent areas of loss stems from the spoilage of perishable goods, particularly vegetables and fruits. Due to their short shelf life, these items are prone to spoilage if not sold within a limited period, leading to significant financial losses for traders. The losses were reported to be particularly rampant and high in markets that have no storage facilities (including chillers and cold storage), as well as during the summer season in the country.

Table 13: *Average percentage of fresh produce sold on a typical market day in the six selected markets*

Market	Less than 25%	Between 25% and 50%	Between 50% and 75%	More than 75%
Chainda	14.3%	50.0%	21.4%	14.3%
Chilenje		61.5%	15.4%	23.1%
Katambalala	30.4%	30.4%	26.1%	13.0%
Kaunda Square	6.7%	53.3%	26.7%	13.3%
Mandevu	16.7%	25.0%	41.7%	16.7%
Mtendere	25.0%	37.5%	25.0%	12.5%
Average	**20.0%**	**38.8%**	**27.5%**	**13.8%**

Source: HYEL 2024

Despite these challenges, in Mandevu Market, there is a trader that has developed strategies to minimise losses. She actively manages stock by using perishable goods in other forms before they spoil by converting vegetables into value-added products that have a longer shelf life. For example, she dries and sells tomato and pumpkin leaves and uses the remainder for her household food and nutrition security. These practices help reduce the impact of spoilage and ensure that the traders can recover some of their investment, even if the products do not sell in their original form. It was reported that other traders resort to consuming the fresh foods before they go bad, though this in most cases amounts to a financial loss as well, but it is preferable to letting them go to waste.

As noted in Table 14 below, on average 31% of traders in the six markets reported that they just dump the products that cannot be sold when they go bad. Overall, the traders noted that financial impact of losses and wastage can be substantial, and there is thus a need to help address the post-harvest losses as well as food wastage.

Table 14: *Traders strategies for produce that does not sell in the six selected markets*

Market	I dump them	I consume them	I use them in another marketing channel	I have nothing left	Reduce price
Chainda	50%	43%	7%		
Chilenje	8%	38%	8%	8%	38%
Katambalala	43%	17%	4%	26%	9%
Kaunda Square	20%	27%	20%	13%	20%
Mandevu	33%	8%	25%	25%	8%
Mtendere	6%	19%	50%	19%	6%
Average	**31%**	**23%**	**20%**	**18%**	**9%**

Source: HYEL 2024

3.2.3.4 Profit margins across trading categories

Profit margins for different trader categories can be calculated by considering the revenue generated from sales minus the associated costs of goods sold. As shown in Table 15 below, based on the data provided by the traders in the six markets, the profit margins (by percentage of selling price of the fresh foods) on most of the products ranged from 20 to 50%.

Table 15: *Margins on products at the six selected markets (% of selling price)*

Market	Less than 10%	Between 10% and 20%	Between 20% and 50%	More than 50%
Chainda		42.9%	50.0%	7.1%
Chilenje	15.4%	46.2%	30.8%	7.7%
Katambalala	4.3%	30.4%	56.5%	8.7%
Kaunda Square		66.7%	20.0%	13.3%
Mandevu		33.3%	50.0%	16.7%
Mtendere	6.3%	50.0%	31.3%	12.5%
Average	**2.5%**	**43.8%**	**42.5%**	**11.3%**

Source: Hydrangea Enterprise Limited

As shown in the tables below, the highest profitability for fresh food at Chainda Market was observed in the meat category, with a remarkable average monthly profit of ZMW32 000 and a 100% profitability percentage. This indicates that meat traders in this market enjoy substantial profit margins, likely due to high demand and premium pricing. In contrast, fresh fish has a much lower profitability of ZMW320 per month and a 25% profitability percentage, suggesting thinner profit margins for traders in this category, possibly due to higher costs or lower pricing power. Katambalala Market shows a more balanced distribution of profit margins. Fruits (ZMW1 716, equivalent to 44%) and dairy (ZMW1 220, equivalent to 63%) are the most profitable categories, with moderate to high profit margins. Fresh fish, with a monthly profitability of ZMW550 and a 33% profitability percentage, exhibits lower profit margins compared to other categories. The more even distribution of profitability across categories may indicate a diversified market where traders have multiple avenues to generate consistent profits.

In Kaunda Square Market, meat stands out again with an exceptionally high average monthly profitability of ZMW26 783 and an outstanding profitability percentage of 181%. This suggests extremely high profit margins for meat traders, likely due to a combination of high demand and premium product offerings. Other categories, such as dry fish (ZMW4 150, equivalent to 62%) and vegetables (ZMW1 286, equivalent to 83%), also show strong profit margins, indicating that Kaunda Square Market is a lucrative market for various product categories.

Table 16: *Average trading profitability percentage by product category at the six selected markets*

Market Name	Fruits	Vegetables	Dry vegetables	Dry fish	Fresh fish	Meat	Dairy	Overall average profit
Chainda	51%	48%	43%	27%	25%	100%		39.6%
Katambalala	44%	61%		35%	33%		63%	37.5%
Kaunda Square	40%	83%	39%	62%	33%	181%		45.4%
Mandevu	100%	64%	40%	25%	24%	63%	0%	47.3%
Mtendere	58%	46%		39%	264%			29.9%
Chilenje	40%	57%		40%		18%		29.9%

Source: HYEL 2024

Table 17: *Average trading profitability by product category per month at the six selected markets (ZMW)*

Market name	Fruits	Vegetables	Dry vegetables	Dry fish	Fresh fish	Meat	Dairy
Chainda	ZMW1 474.60	ZMW1 668.40	ZMW200.00	ZMW960.00	ZMW320.00	ZMW32 000.00	
Katambalala	ZMW1 716.29	ZMW1 012.56		ZMW1 160.00	ZMW550.00		ZMW1 220.00
Kaunda Square	ZMW1 542.30	ZMW1 285.92	ZMW935.00	ZMW4 150.00	ZMW500.00	ZMW26 783.33	
Mandevu	ZMW40.00	ZMW704.40	ZMW66.67	ZMW1 640.00	ZMW7 869.47	ZMW99 000.00	
Mtendere	ZMW4 986.67	ZMW2 151.24		ZMW7 250.00	ZMW7 250.00		
Chilenje	ZMW425.03	ZMW319.93		ZMW405.71		ZMW60.00	

Source: HYEL 2024

Kaunda Square is a notable market, with diverse profitability across categories, including high returns from meat (ZMW26 783.33, 181%) and dry fish (ZMW4 150, 62%), highlighting its lucrative yet concentrated product categories. Meanwhile, Katambalala demonstrates more balanced profitability across categories like dairy (63%), fruits (44%) and dry fish (35%), although its overall profits remain lower than Mandevu and Kaunda Square. Chainda and Chilenje show weaker profitability across the board, particularly in the fish and meat categories, where outside competition from butcheries may hinder market profits. These variations in profitability and monthly earnings suggest that while some markets like Mandevu and Kaunda Square thrive in specific product niches, others, such as Chainda and Chilenje, may need to address external factors to improve their overall profitability.

3.2.3.5 Comparison of profit margins across markets

When comparing profit margins across the different markets, several key factors contribute to the variations observed:

- **Market location**: Markets like Kaunda Square and Mandevu, which exhibit higher profitability percentages, likely benefit from strategic locations with higher foot traffic, allowing traders to charge premium prices and maintain high margins. Markets like Chilenje showcase stable profit margins across all the product categories showing stable demand.
- **Product type**: The type of products sold also plays a significant role in determining profit margins. For instance, meat consistently shows high profitability across multiple markets, suggesting that meat products have a strong demand and the ability to command higher prices across parts of Lusaka City where these markets are located. Conversely, categories like dry vegetables and fresh fish tend to have lower profit margins in some markets, possibly due to higher costs of goods sold or more price-sensitive consumer bases.
- **Business model:** The way traders operate, including their ability to manage costs, negotiate better prices with suppliers and optimise their sales channels, significantly impacts profit margins. Markets with higher average profitability percentages may indicate that traders in these areas have more efficient business models or benefit from economies of scale. It was reported that among the most successful models was the one where traders sell a diverse range of fresh foods and are able to source the products from the farmers within the market and/ or near the markets (as in the case of Katambalala Market where most retailers of fresh foods do not spend much on transporting products to market because farmers bring the vegetables during the farmers' market days and traders stockpile).

Conclusively, profit margins vary significantly across different markets and product categories, influenced by factors such as market location, product type and business model. Understanding these differences is crucial for traders to strategise effectively and maximise their profitability in different market environments.

3.2.3.6 Price setting and impact on profit margins

As shown in Figure 5 below, generally, in reference to setting of the selling prices, the majority of the traders relied on considering the cost of purchasing the goods (the cost of production in the case of the farmers) and retailing margins.

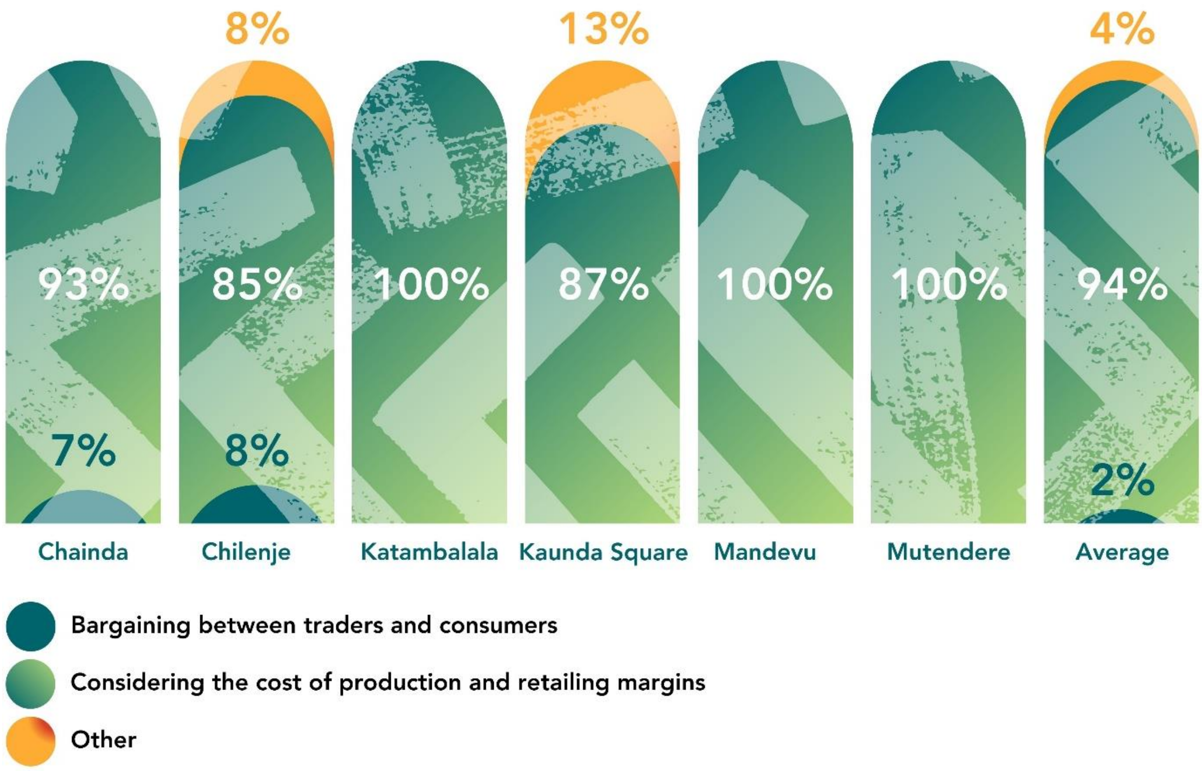

***Figure 6**:The setting of selling prices at the six selected markets*

Source: HYEL 2024

3.2.3.7 Analysis of turnover rates among traders of fresh foods in the six selected markets

Turnover rates among traders (how many times a trader's products are able to be sold, and they buy new goods/ restock) are influenced by various factors, including the profitability of different product categories, seasonal demand and supply fluctuations, as well as market-specific conditions.

***Table 18:** Average monthly trading turnover by product category in the six selected markets*

Market Name	Fruits	Vegetables	Dry vegetables	Dry fish	Fresh fish	Meat	Dairy	Overall average turnover
Chainda	3.86	5.35	4.00	4.00	4.00	4.00		4.27
Chilenje	3.83	3.76	4.00			4.00		3.92
Katambalala	4.37	3.44		3.34	1.00			2.59
Kaunda Square	7.50	18.22	21.40	10.18	0.86	9.59		12.05
Mandevu	2.00	6.70	4.00	7.41	4.00	3.00	1.00	4.35
Mtendere	3.68	4.16		3.50	4.00			3.89

Source: HYEL 2024

By analysing the data provided by the traders engaged in the study, potential drivers behind turnover rates were identified in each market. In Chainda Market, consistent turnover rates suggest a balanced market where traders may experience moderate stability, though the lower profitability in categories like fresh fish might still lead to some turnover, particularly among traders in less profitable segments.

Katambalala Market shows a more varied turnover pattern suggesting that traders may face challenges in maintaining consistent business, especially in less profitable or lower-demand categories, potentially leading to higher turnover rates in these areas.

In Kaunda Square Market, there is a significantly higher overall average turnover rate indicating a dynamic and potentially profitable market where traders might experience lower turnover rates due to the strong demand and higher earnings potential. However, categories like Fresh Fish, with a lower turnover rate of 0.86, may still experience higher trader turnover if profitability does not meet expectations.

Mandevu Market presents a mixed picture and the stark contrast between high and low turnover categories suggests that traders in less profitable segments might face financial instability, leading to higher turnover rates. Conversely, the higher turnover in dry fish might indicate a more stable trading environment for traders in this category.

Chilenje Market shows an overall turnover of 3.92, with competition from nearby butcheries affecting its meat trading. These numbers indicate that while some markets and categories thrive, others struggle due to lower turnover and profitability, affecting trader sustainability.

Mtendere Market has a steady turnover rate suggesting a more balanced market environment, where traders might experience moderate stability. However, lower turnover rates in specific categories could still lead to higher turnover among traders who struggle to maintain profitability.

3.2.3.8 Implications of turnover rates on market stability and growth potential

Turnover rates among traders have a significant impact on market stability and growth potential. In markets where turnover rates are low, such as in Katambalala Market, the challenges traders face in maintaining consistent business, especially in less profitable categories, may lead to higher trader turnover rates. This can result in inconsistent product availability, reducing consumer trust and overall market stability. High turnover also disrupts long-term business relationships, creating a fragmented market structure that hinders growth potential.

Conversely, in markets with higher turnover rates across multiple categories, such as Kaunda Square Market, the dynamic and potentially profitable environment might lead to lower trader turnover. This stability promotes sustained market growth, as traders are more likely to invest in their businesses confidently. A stable trading environment also attracts new traders, encouraging market expansion and the introduction of new products or services. Understanding turnover rates and the factors influencing them is crucial for market stakeholders to implement strategies that enhance market stability and foster sustainable growth.

3.2.3.9 Analysis of trader's profitability

The analysis of trader profitability across six key markets provides insights into the variations between the lower, average and upper bounds of profits. These are illustrated in Table 19. The most dramatic figures are observed in Mandevu Market, where the lower bound starts at ZMW190.00, but the average profit skyrockets to ZMW216 463.52, with an upper bound of ZMW2 520,000.00, largely driven by meat trading.

Table 19: *Traders profitability per market*

Market name	Lower bound profit (ZMW)	Average profit (ZMW)	Upper bound profit (ZMW)
Chainda	600	7 819.07	32 000.00
Chilenje	60	2 236.80	6 680.00
Bauleni Katambalala	62.86	3 234.98	18 440.00
Kaunda Square	950	11 811.06	74 400.00
Mandevu	190	216 463.52	2 520 000.00
Mtendere	136	8 199.73	24 000.00

Source: Hydrangea Enterprise Limited

While the lower bound profits may seem minimal, they do not accurately reflect the true profitability potential of traders. Traders barely operate at these lower bound levels. These figures typically represent traders who deal in multiple product categories, with only a smaller portion in fresh foods hence the low margin. The lowest profitability observed is more indicative of traders having a limited portion of products in fresh foods rather than being a true reflection of the overall market profitability.

A detailed overview of traders' financial data can be found in Appendix J.

3.3 Summary of economic findings

The economic assessment of the six selected markets in Lusaka City, namely, Chainda, Katambala, Kaunda Square, Mandevu, Mtendere and Chilenje markets revealed significant variability in terms of turnover, trader profitability and market dynamics. Large markets such as Mtendere and Mandevu exhibit higher trade volumes but are more concentrated in terms of trader control, which may limit competition. Katambalala Market stands out for its dynamic environment, offering strong profitability for a diverse group of traders, while Kaunda Square Market presents the highest profit margins, although it risks underreporting expenses.

Smaller markets, like Chainda Market, show steady trade but face infrastructure limitations which can restrict growth. The Chilenje Fresh Food Market is a profitable trading hub with a balanced turnover and high profit margins across most product categories that are sold by the traders in the fresh food sections of the facility. The market operates, however, below its full capacity, with a significant portion of its stalls unoccupied. Addressing this underutilization by attracting more traders and optimising stall usage could significantly boost market activity and profitability. The markets experienced challenges such as infrastructure deficiencies and inconsistent income streams. External factors like climate shocks and inadequate waste management affect operational efficiency, while profitability across product categories varies, with meat and fresh fish often yielding higher returns.

Targeted strategies to improve profitability in lower-performing categories, such as fresh fish, could further enhance the market's overall performance. With the right interventions, Chilenje Market has the potential to grow and solidify its position as a key economic driver in Lusaka City.

3.3.1 Final score of governance, investment and market infrastructure

The final scores had Chainda Market leading with a score of 75%, performing highest in all the three categories except the infrastructure in which Kaunda square had the highest score and overall was the second-best market.

Table 20: *Final scores on investment readiness assessment ratings*

Assessment was based on the summation of all the scores from governance, investment potential and infrastructure evaluation So, the total possible score was 59 expressed as a percentage.

Name of Market	Governance Score/17	Investment Score/12	Infrastructure Score/30	Final Score
Chainda	14	7	23	75%
Kaunda Square	13	6	24	73%
Chilenje	13	5	23	72%
Katambalala	13	4	21	64%
Mandevu	11	8	19	64%
Mtendere	11	-5	6	20%

Source: HYEL 2024

3.3.2 Business case development

- **Chainda Market**: The relatively small-scale level of trade and moderate turnover suggests that infrastructure improvements, particularly vehicle access, would stimulate market activity. Investment in formal market spaces could attract roadside vendors, creating a more organised and sustainable business environment.
- **Bauleni Katambalala Market**: With a diverse trader base and significant trade volumes, Katambalala has the potential to benefit from permanent market structures and waste management services. Its strong business environment makes it ideal for attracting further investment in sanitation and trader facilities.
- **Kaunda Square Market**: High profit margins in Kaunda Square indicate strong economic activity, but the lack of accurate expenditure data points to potential financial management challenges. Investments in infrastructure improvements,

like proper vendor spaces and improved financial reporting, would enhance long-term stability.

- **Mandevu Market**: Given its high trade volume and concentrated trader control, Mandevu Market could benefit from investments in expanding trade spaces and fostering competition. Introducing cold storage and waste management systems could enhance the market's operational efficiency and attract new traders.
- **Mtendere Market**: Mtendere Market already handles significant trade volumes. Investments in enhancing trader diversity, introducing advanced waste management, and expanding physical infrastructure will improve market efficiency and boost trader profitability.
- **Chilenje Market:** Chilenje Market is a profitable trading hub with steady turnover and good profit margins across most product categories in the fresh food section. The market is not, however, fully utilised, as many stalls remain unoccupied. By encouraging more traders to fill these empty spaces and optimising the use of existing stalls, the market's activity and profitability could increase significantly. Additionally, focusing on improving the profitability of lower-performing categories, such as fresh fish, could enhance overall market performance. With the right interventions, Chilenje Market has strong potential to expand and become an even more vital part of Lusaka's economy.

3.4 Summary of main findings

The assessment of the six fresh food markets in Lusaka City, including Chainda, Bauleni Katambalala, Kaunda Square, Mandevu, Mtendere and Chilenje markets, reveals diverse characteristics and varying levels of investment readiness.

All markets, except Mtendere, trade in fruits and vegetables, dry goods, and meat products, with Mtendere focusing solely on fruits, vegetables and meat products. The markets face shared challenges, including difficulties in collecting revenue, infrastructure issues and waste management problems. On average, only 38% of vendors pay required fees, with Mandevu experiencing the lowest compliance at 10%.

In terms of governance and political risk, Chainda scored highest at 82%, while Mtendere and Mandevu tied for the lowest at 65%. Most markets demonstrated effective coordination between managers and owners, transparent cash flow, and available financial records. However, financial autonomy varied across markets, with Katambalala reporting high autonomy and Mandevu reporting none.

The investment potential assessment revealed Mandevu and Chainda as the top performers, scoring 67% and 58%, respectively. Mtendere Market scored negatively at -42%, indicating significant resistance to change from both management and vendors. Infrastructure quality varied widely among the markets, with Kaunda Square scoring highest at 80% and Mtendere lowest at 20%. Most markets had degraded but functional infrastructure, with maintenance responsibilities split between market owners and traders.

Economic performance also varies widely. Mandevu emerges as the largest market in terms of monthly trading volume (approximately ZMW4.52 million), followed closely by Katambalala when considering both retail and wholesale transactions. Chainda, despite being the smallest in trading volume, plays a crucial role in serving its local community. The markets show distinct levels of investment potential, with Mandevu and Chainda scoring highest, while Mtendere shows resistance to change and scores negatively in this aspect.

The final investment readiness scores placed Chainda at the top with 75%, closely followed by Kaunda Square at 73% and Chilenje market at 72%. Bauleni Katambalala and Mandevu markets tied at 64%, while Mtendere Market significantly lagged at 20%.

3.5 Strategic recommendations

- **For market owners**: Efforts should be made to strengthen market governance structures. Markets without formal committees should be encouraged to establish them, promoting better organisation and representation of vendors' interests. Furthermore, capacity building programs for market managers and committee members could enhance their ability to manage finances and plan for future investments. Prioritise infrastructure upgrades, particularly for markets with relatively low infrastructure development, where inadequate facilities limit trade potential which may be as a result of climate shocks such as rain. Introduce formalised vendor spaces and expand access to utilities such as electricity and sanitation to improve trader and customer experiences.

- **For local government**: Improve market governance through better financial reporting and management in markets like Kaunda Square and Chilenje Market, where underreporting threatens long-term sustainability. There is a critical need to improve revenue collection systems across all markets. Implementing digital payment solutions and providing incentives for timely fee payments could significantly increase compliance rates. Infrastructure improvements should be prioritised, particularly in markets like Mtendere where facilities are in disrepair. Focus should be on enhancing basic amenities such as water supply, electricity access, and waste management systems.

- **For stakeholders and investors**: Given the varying levels of investment potential, a tailored approach to market development is recommended. For markets showing high readiness and willingness for change, like Mandevu and Chainda, more ambitious investment projects could be pursued. For markets like Mtendere, which show resistance to change, a more gradual approach focusing on community engagement and awareness-building might be more effective. Invest in cold storage facilities and sustainable waste management across all markets, which would mitigate losses due to spoilage, especially for perishable goods. Additionally, targeted investments in market infrastructure, such as roofed stalls and proper drainage systems, would enhance market resilience against climate shocks, improving trader stability and boosting market profitability. Exploring partnerships with NGOs, local government and private sector entities could provide additional resources and expertise for market upgrades. The success of community-driven investments, as seen in Chainda Market, suggests that fostering community engagement in market development projects could lead to more sustainable outcomes.

These strategic interventions will ensure long-term economic growth and stability for the fresh food markets in Lusaka City.

3.6 Stakeholder validation and investment selection meeting

As part of the validation process, a stakeholder meeting on 3 September 2024 at the Lusaka City Council was held to review and validate the results of assessment conducted by the Research Team and ICLEI Africa. During the stakeholder meeting, the participants, from various city council departments, HIVOS, ICLEI Africa and HYEL, discussed the results of the MIRI, including aspects of governance, investment and infrastructure for the fresh food markets in Lusaka City.

The participants had a detailed discussion on the possibility of investing in Mandevu, Chainda, Kaunda Square, Bauleni, Bauleni Katambalala, Mtendere, Chilenje and Michael Chilufya Sata Market (extension of City Market). This process aimed to ensure a transparent and thorough assessment of these markets, considering their readiness and potential for further investment and development. Among the key factors that the meeting considered included that:

- The market should be owned by the council and not a private or cooperatively managed facility.
- The impact of the investment that ICLEI and other stakeholders were going to make should create visibility that would allow other markets and traders to learn from as well as scale the interventions.
- The selected market should not be associated with political influence.
- The facility should have space for expansion or construction of infrastructure that would allow other traders to work inside the facility.,
- The leadership of the market, and other stakeholders should show initiatives aimed at reducing street vending and facilitating increased usage of the fresh food markets.

Chainda Market had ranked the highest in the assessment, scoring well in governance structures, investment readiness and existing infrastructure indicating that it had a robust management framework, a promising investment climate and relatively well-maintained facilities. It was, however, cooperative-managed and had no space for expansion and accommodation of more traders in the market.

The voting process was undertaken using Mentimeter to determine the top fresh food markets for investment. The voting process also considered factors such as market accessibility, the potential for job creation, alignment with urban planning objectives and the ability to attract private sector partnerships. The top four selected were Chilenje, Mtendere, Bauleni Katambalala and Michael Chilufya Sata Market.

Following this rigorous evaluation and subsequent site visits, Chilenje Market emerged as the top-ranked market for possible investment. Among the key factors that favoured Chilenje Market were its strategic location, better access to transportation networks, and stronger potential for community-driven initiatives. Furthermore, the assessors noted that the management of Chilenje Market had led an impressive initiative that had reduced street vending and enhanced the occupancy of the fresh food market. Chilenje Market was thus designated as the priority market for targeted investment efforts, such as infrastructure upgrades and capacity-building programmes for market vendors. By incorporating a more nuanced assessment, the stakeholders ensured that the chosen market aligns with both current needs and long-term sustainability objectives for fresh food markets in Lusaka City. This approach underscores the importance of stakeholder engagement in decision-making processes and highlights the need for flexibility when aligning development goals with local realities.

The results of this detailed assessment and validation process were presented in a multi-stakeholder meeting that further validated the choice of Chilenje Market. This meeting was held on 5 September 2024, and included stakeholders from the private sector, government, Lusaka City Council, University of Zambia, Hivos, GIZ, Lusaka Integrated Waste Management, ICLEI Africa and HYEL.

4 HISTORIC INVESTMENTS

Over the years, various investments have been made to enhance the infrastructure, capacity and operational efficiency of these markets. These investments, often funded by government bodies, NGOs, development agencies and international donors, aimed to address challenges such as poor sanitation, inadequate storage facilities and outdated infrastructure. While some initiatives have yielded significant improvements, others have fallen short of their intended goals, resulting in underutilised facilities. There are, however, no markets that have been fully abandoned, commonly referred to as 'white elephant' markets.

This section presents an overview of historical market investments in the six selected markets in Lusaka City, assessing the financial inputs, stakeholders involved and the tangible outcomes of these investments. The analysis covers the size of investments, the timeline of upgrades and activities, and evaluates the successes and failures of the initiatives, as well as the key lessons drawn from such investments. In cases where investments failed to deliver the anticipated benefits, the report will delve into the reasons for such failures, drawing lessons that could inform future market development strategies. By examining both successful and unsuccessful projects, this report aims to provide a comprehensive understanding of how investments have shaped Lusaka City's fresh food markets and offer recommendations for more effective, sustainable interventions moving forward.

4.1 Analysis of historical investments made in selected fresh food markets

The scale of investments into Chilenje, Katambalala, Chainda, Kaunda Square, Michael Chilufya Sata, Mtendere and Mandevu markets has varied from relatively small projects like the construction of toilet facilities to larger undertakings such as the installation of industrial boreholes and cold storage units. These historical investments have shaped the current state of Lusaka's food markets, influencing their operational efficiency, sanitation standards and overall contribution to the local economy.

4.1.1 Katambalala Market

Katambalala Market has received two major investments focused on improving sanitation and reducing post-harvest losses, thereby supporting the local economy and the needs of traders and farmers. In 2011, the Catholic Women's League constructed ablution blocks to address sanitation issues within the market. This investment aimed to improve hygiene standards for the high volume of daily traders and customers, marking a significant enhancement in the market's infrastructure. The presence of proper sanitation facilities has contributed to a cleaner environment, benefiting both traders and visitors.

The second major investment was made by Ndkay Enterprises Limited, which introduced cold storage solutions to mitigate post-harvest losses for farmers. The installation of cold storage units has the potential to reduce post-harvest losses, allowing farmers to maintain product quality and extend marketability. These improvements could bring economic benefits to traders by enabling the sale of fresher products over longer periods, thus improving the financial viability of local farmers and traders. Funded by the Water and Energy for Food Grant Challenge for development partners, the project involved donors including the German Federal Ministry of Economic Cooperation and Development, the European Union, the Norwegian Agency of Development Cooperation, Swedish International Development Cooperation Agency (SIDA), and the United States Agency for International Development (USAID). Ndkay Enterprises Limited, in collaboration with Tetra Tech from South Africa, installed two cold storage units valued at $96 000.00 at Katambalala Market. These facilities have been reported to extend the shelf life of perishable goods by 40- 50%, significantly benefiting farmers and traders alike.

The cost recovery model involves charging ZMW5 per crate stored (total of 219 crates available), generating an average monthly income of ZMW1 500 to ZMW2 000.

4.1.1.1 Investment successes and failures

The investments in Katambalala Market have yielded notable successes. The construction of the ablution blocks has significantly enhanced hygiene standards, creating a healthier environment for all market users. There are challenges though due to intermittent water supply, which undermines their effectiveness and poses sanitation risks.

Despite its potential, the installation of the cold storage units has not yet shown to be effective in reducing post-harvest losses, due to low uptake of the service amongst traders. The fee-based model for cold storage may limit access for smaller traders who struggle to afford storage costs. Other traders have expressed doubt as to the appropriateness of cold storage for their particular fresh product line. Ndkay Enterprises Limited has undergone an extensive sensitisation programme, including a one-month free promotion, yet still uptake remains low. Thus, further research should be done before investing in cold storage in this context.

4.1.1.2 Challenges faced by Katambalala Market

Katambalala Market continues to confront several challenges that affect its operational potential. The unreliable water supply significantly impacts the functionality of ablution blocks and affects hygiene practices among traders dealing with fresh produce. While cold storage facilities exist and are subsidised, they remain underutilised. This highlights a need to not only investigate the barriers preventing traders from taking full advantage of these resources, but also to implement targeted education and outreach programmes. These programmes should focus on demonstrating the benefits of cold storage to traders, providing training on proper usage, and addressing any misconceptions about costs or accessibility. By actively promoting the existing facilities and supporting traders in their use, the market can improve operations and support traders more effectively without needing to expand the current infrastructure.

4.1.2 Chainda Market

Chainda Market has undertaken several significant investments aimed at improving its infrastructure and services. In 2011, World Vision constructed a toilet facility to address sanitation issues, which has since been managed and improved by the market management. In 2021, an industrial borehole project was implemented at an estimated cost of ZMW90 000.00, including the installation of a tank stand, pipes and a submersible pump. The entire project was financed through the marketers' contributions. This initiative effectively resolved water supply challenges for the market and surrounding community. This project was an initiative from the market leadership comprising seven members, though only three were active at the time of this report. Additional water management enhancements were made through donor support, including a 2 500-litre tank from PPRZ, and a 5 000-litre tank from Yantu Bakery. The purchase cost for the two donations was not disclosed by the donor, however, it is estimated to be between ZMW2 500 to ZMW7 500 for each tank.

A small genset was also purchased for ZMW10 500 in September 2024 to assist in water pumping to mitigate electricity challenges. The market management procured this generator set using funds generated from the trader contributions, with plans for a three-phase electricity supply underway at an estimated total cost exceeding of ZMW15 000.

Additionally, the Citizens Economic Empowerment Commission provided loans to 63 individuals, and this has fostered economic growth within the community.

4.1.2.1 Investment successes and failures

Investments in Chainda Market have produced several notable successes. The toilet facility constructed in collaboration with World Vision has significantly enhanced sanitation for traders and customers. The borehole project has successfully addressed water scarcity issues, providing water to the traders and other market users at a nominal charge of ZMW1 per 20 litres, ensuring equitable access among users. The procurement of the genset and ongoing efforts to establish a three-phase electricity supply are steps towards improving energy reliability within the market.

Despite these successes, the reduced involvement of the executive committee members in daily operations has hindered the effective implementation and management of projects. Although a genset has been procured to address electricity challenges, it has yet to be connected and operationalised, delaying the expected improvements in the power supply.

4.1.2.2 Challenges faced by Chainda Market

Chainda Market continues to face several challenges that affect its operational potential. Ongoing electricity challenges necessitate further investment in reliable power solutions. The limited engagement of only three out of seven executive committee members poses a risk to effective governance and operational efficiency. While various projects have received funding from donors, continuous financial support is essential for sustaining improvements and expanding services, highlighting the need for a more sustainable funding model.

4.1.3 Michael Chilufya Sata Market

In 2019, significant infrastructural improvements were made at Micheal Chilufya Sata Market, with the Zambia National Service installing concrete pavements and drainage systems. Additionally, Gwala Electrical Company contributed to the market's development by constructing 15 new shops, each with a rental fee of ZMW1 200 per month over a 55-month investment period. The market also saw renovations to the ablution block, which was officially launched in 2024. Funding under the Constituency Development Fund has been allocated for road construction in the area, further enhancing accessibility. Moreover, the establishment of a male clinic for circumcision services has provided essential health resources to the community. The containers previously used by the Centre for Disease Control have been repurposed into offices, demonstrating a strategic use of available resources.

The current beneficiaries of these developments include market staff who use the improved ablution facilities and office spaces. However, challenges persist. The rental costs of the shops built by Gwala Electrical are perceived as prohibitively high, resulting in low occupancy rates among traders. Many are unable to afford the monthly fees for an extended period, limiting their ability to establish sustainable businesses. Respondents have advised that further discussions with local council authorities are necessary to ascertain the total investment amounts involved in these projects and to address ongoing issues related to shop affordability and drainage inadequacies. A collaborative approach involving stakeholders could lead to enhanced solutions that benefit both traders and customers while fostering a more vibrant market environment.

4.1.3.1 Investment successes and failures

The repurposing of containers previously used by the Centre for Disease Control into office spaces showcases creative resource utilisation, benefiting market staff with improved working conditions. Despite the numerous improvements, however, some initiatives at Michael Chilufya Sata Market have fallen short of expectations. The shops constructed by Gwala Electrical Company, while increasing the market's capacity, have faced occupancy challenges due to their high rental costs. This situation has limited the potential economic impact of the new shops and hindered the ability of smaller traders to establish sustainable businesses within the market. Additionally, the drainage system, despite being a part of the recent infrastructural improvements, has not performed as effectively as intended. Inadequate construction has led to the formation of swampy conditions during rainy seasons, causing flooding in certain market areas and disrupting normal operations.

4.1.3.2 Challenges faced by Michael Chilufya Sata Market

Michael Chilufya Sata Market faces ongoing challenges that require attention to fully realise its potential. The primary challenge lies in balancing the need for improved infrastructure with affordability for traders. The high rental costs of the new shops have created a barrier to entry for many potential occupants, necessitating a revaluation of the pricing strategy to ensure broader accessibility and higher occupancy rates. Another significant challenge is addressing the ineffective drainage system. The current infrastructure's inability to properly manage water during rainy seasons not only disrupts business operations but also poses health risks to traders and customers alike. This issue demands urgent attention to prevent further flooding and ensure a safe, hygienic environment year-round. Furthermore, there is a need for increased transparency and communication regarding the total investment amounts involved in various projects. Engaging in further discussions with local council authorities and other stakeholders is crucial to address these challenges effectively and to develop solutions that benefit all parties involved in the market's ecosystem.

4.1.4 Mtendere Market

Mtendere Market has evolved significantly from its initial role as a weekly venue for farmers to sell their produce on Tuesdays. Over time, it has expanded to accommodate a larger number of traders, particularly from the nearby Mtendere area, which has a dense population. No infrastructural investments have been made.

4.1.4.1 Investment successes and failures

While Mtendere Market has had no previous infrastructure investments, it has undergone many positive changes over the years. The market's strategic location and the growing local population have enabled effective revenue generation from farmers and traders. It serves as a vital economic hub, providing opportunities for both farmers and traders and contributing significantly to local economic development. Additionally, the market has successfully adapted its operations to meet the changing needs of its stakeholders over time, demonstrating flexibility and responsiveness to community demands.

Despite these successes, there have been notable failures in the market's investment efforts. Instances of farmers abandoning their produce or providing false information to avoid payments have undermined revenue collection efforts, highlighting inefficiencies in the fee collection system.

The lack of proper drainage and paving has led to flooding during the rainy season, causing traders to relocate and resulting in decreased revenue, pointing to inadequacies in the market's infrastructure development.

4.1.4.2 Challenges Faced by Mtendere Market

Mtendere Market faces several challenges that impact its operational efficiency. There is limited involvement of community members in developmental activities, leading to a disconnect between project objectives and actual community needs. The local council struggles with garbage disposal issues due to residents improperly disposing of household waste, complicating waste management efforts. Ongoing projects are hampered by a lack of funding, which affects the market's ability to maintain essential services like electricity and security. Additionally, insufficient information from project stakeholders hinders effective monitoring and evaluation of initiatives, making it difficult for management to assess project outcomes and plan for future improvements.

4.1.5 Mandevu Market

Mandevu Market has seen limited investment focused primarily on improving sanitation facilities. The single notable investment has been aimed at addressing basic hygiene needs for traders and customers. During the period 2004 to 2005, an ablution block was constructed at Mandevu Market to improve sanitation conditions. This investment was funded through revenue collected from traders' daily fees. The estimated cost of this construction ranged between ZMW45 000 and ZMW60 000. This addition aimed to enhance hygiene standards for the market's daily users, representing a modest improvement in the market's infrastructure.

4.1.5.1 Investment successes and failures

The construction of the ablution block has provided basic sanitation facilities for market users, which was previously lacking. This improvement, while limited, has contributed to better hygiene conditions within the market environment. Overall investment in Mandevu Market has been minimal, failing to address several critical operational issues. The market continues to face significant challenges, particularly in terms of water supply and power reliability, which were not addressed by the sole investment. Additionally, the lack of investment in record-keeping systems has led to poor documentation practices, hindering effective management and future planning.

4.1.5.2 Challenges faced by Mandevu Market

Mandevu Market confronts several pressing challenges that impede its operational efficiency and growth potential. The market struggles with a low supply of water, which affects hygiene practices and limits the functionality of the existing ablution block. Unreliable electricity supply significantly impacts market operations, particularly affecting businesses like butcheries that rely on consistent power for refrigeration.

The market executives face difficulties in maintaining proper documentation, especially for projects and investments. This inconsistent filing system hampers their ability to track resources and plan effectively. The lack of significant investments beyond the ablution block has left many infrastructural and operational needs unaddressed, constraining the market's potential for growth and improvement.

Unlike Katambalala Market, Mandevu Market lacks modern amenities such as cold storage facilities, which could help reduce post-harvest losses and improve product quality for traders. To enhance the operational efficiency and attractiveness of Mandevu Market, it is crucial to prioritise investments in water supply, power reliability, and implement a robust record-keeping system. Additionally, considering investments in modern facilities like cold storage could significantly benefit traders and farmers. These steps would not only support current market users but also potentially attract further investments, contributing to the long-term development and sustainability of the market.

4.1.6 Chilenje Market

Chilenje Market, historically a council tavern, evolved into a commercial hub due to population growth and increasing businesses in the surrounding area. In 1998, the European Union initiated a project to modernise the market to meet the growing demand of Chilenje's population. The project aimed to develop essential infrastructure, including shops, a fresh food shelter with capacity for 224 traders, an ablution block, borehole, tanks with tank stands and a drainage system. It also provided training in financial literacy, and included plans for loan extensions to marketers, which were to be disbursed upon project completion. During the initial stages, both the local government and a community representative group were involved in planning to ensure the development met the needs and desires of the local population. However, as the project progressed, the focus shifted to engaging only the local government, sidelining community representatives. The investment project ended in 2012.

Between 1997 and 1998 the government invested in market floodlights to improve the security of the traders and infrastructure, as well as to prolong trading into the night. In recent years, the Zambian government has built on the foundation left by the European Union, constructing additional shops to expand the market. Various Constituency Development Fund projects have improved sanitation, laid pavement, installed drainage systems and built a waste disposal area, with support from the Zambia National Service. In 2024, Zambia Electricity Supply Corporation Limited (ZESCO) working closely with Chilenje Market Advisory Committee, and the contractors MacTech Zambia and MATASE Industrial Solutions from South Africa put up 250KVA genset in the market to help traders in fresh foods and the entire market with power supply when there is load shedding.

4.1.6.1 Investment successes and failures

After the original project was abandoned due to contractor issues, the European Union shifted its focus to other regions, specifically the Copperbelt Province. However, protests by Copperbelt residents, in solidarity with Lusaka City over the incomplete Chilenje Market, compelled it to return to Lusaka City. A new contractor was appointed to finish the project, and the market's infrastructure was completed as initially planned. Although certain components, such as loan extensions to marketers, were not realised, the infrastructure was successfully delivered.

In the period 2023 to 2024, a contractor was assigned to develop and enhance the performance of the main water borehole at the market, however, the facility developed is a dry borehole and does not provide the required water yields. Some stakeholders that were engaged observed that the contractor had poor workmanship and was not properly supervised, and hence the poor delivery of the works.

Similar observations of incompetence were noted with respect to the drainage system that does not function effectively. This implies that there is a need to put in place a strong monitoring system for the management and validation of initiatives at Chilenje Market in order to prevent the recurrence of such incompetencies.

4.1.6.2 Challenges at Chilenje Market

Despite the improvements, traders and residents continue to express concerns about the market's drainage system. Flooding occurs during the rainy season, despite the presence of drainage infrastructure, indicating possible flaws in its design or maintenance. While many aspects of the market have improved, unresolved issues such as flooding still hinder its full potential. Furthermore, the water supply in the market is one of the major challenges that the traders are facing due to the dry borehole as well as the damaged supply pipelines.

4.1.7 Kaunda Square Market

Kaunda Square Market, a council-owned facility, underwent significant investment initiatives between 2016 and 2017. The Zambia National Service (ZNS), in collaboration with the Disaster Management and Mitigation Unit (DMMU), constructed approximately 65 new shops, each generating a monthly rental income of ZMW100 for the council. Additionally, a shed was built to accommodate traders, providing around 250 stalls. The investment also included paving the market ground with concrete and constructing drainage systems to enhance sanitation and accessibility.

4.1.7.1 Investment successes and failures

The investments made at Kaunda Square Market between 2016 and 2017 have brought about significant improvements to the facility's infrastructure and capacity. The construction of approximately 65 new shops expanded the market's commercial space, providing more opportunities for traders to establish their businesses. This expansion has also created a new revenue stream for the council. The addition of a shed accommodating around 250 stalls has further increased the market's capacity, allowing for a greater diversity of goods and services to be offered to customers. The paving of the market ground with concrete has improved the overall appearance and functionality of the space, making it more attractive and accessible to both traders and shoppers, even during the rainy season. The construction of drainage systems has enhanced sanitation within the market, contributing to a cleaner and healthier environment for all users.

While the investments at Kaunda Square Market have brought about many positive changes, there are areas where the initiatives may have fallen short. Additionally, the fixed rental rate of ZMW100 per shop may not adequately reflect market values or accommodate the diverse financial capabilities of different traders, potentially leading to underutilisation of some spaces or financial strain on smaller businesses.

4.1.7.2 Challenges faced by Kaunda Square Market

Kaunda Square Market faces several ongoing challenges despite the recent investments. The management of the expanded facility presents a significant challenge, requiring efficient systems for rent collection, maintenance of the new infrastructure, and ensuring fair allocation of the newly created spaces. The market may also face challenges in adapting to changing consumer preferences and economic conditions, necessitating ongoing adjustments to the types of goods and services offered.

The increased capacity brought by the new shops and stalls could potentially lead to oversaturation in certain product categories, creating competitive pressures for traders.

Additionally, while the drainage systems have been improved, ensuring their long-term effectiveness and preventing potential flooding or sanitation issues during heavy rains remains an ongoing challenge. The market administration must also balance the need for affordable rental rates with the necessity of generating sufficient income to maintain and further improve the facility.

4.2 Summary of key findings and recommendations

The historical investments in the fresh food markets in Lusaka city have yielded varying degrees of success and failure, as evidenced by the experiences of the different markets examined. A comparative analysis reveals several patterns that can inform future market development strategies.

One notable pattern is the importance of addressing basic infrastructure and service needs. The construction of ablution blocks, as seen in Katambalala, Chainda, and Mandevu markets, has generally been successful in improving sanitation and hygiene standards for traders and customers. This underscores the significance of providing essential facilities that cater to the immediate needs of market users. In contrast, investments that fail to address critical operational challenges, such as unreliable water and power supply, have struggled to achieve their intended impact. The challenges faced by Mandevu Market, where the lack of reliable water and electricity hindered the functionality of the newly constructed ablution block, highlight the need for a more holistic approach to market development.

Investments that introduce innovative solutions, such as the cold storage facilities in Katambalala Market, may offer significant benefits for farmers and traders. These initiatives could potentially reduce post-harvest losses, extend the shelf life of perishable goods, and improve the economic viability of local food systems. However, the potential exclusion of smaller traders due to storage fees and lack of knowledge suggests the importance of ensuring equitable access to these facilities.

The level of stakeholder engagement and community ownership also emerges as a critical factor in the success or failure of market investments. Projects that involve market management, traders and local authorities in the decision-making process, as seen in Chainda Market's borehole and genset projects, tend to have better implementation and long-term sustainability. Conversely, initiatives with limited community involvement, such as the challenges faced in Mtendere Market, highlight the need for a more participatory approach to market development.

Effective project planning, monitoring, and documentation also play a crucial role in the success of market investments. The lack of comprehensive information and records regarding some projects, as observed in Michael Chilufya Sata and Mandevu markets, hinders the ability to fully assess the impact and learn from past experiences. Strengthening data management and evaluation practices can help inform future interventions and ensure the optimal utilization of resources.

A key finding relates to the management of investments in these markets. The analysis revealed varying approaches to fund management and procurement processes across different projects. In some cases, funds were managed directly by the funders, as seen in the European Union’s project at Chilenje Market. In others, like the borehole project at Chainda Market, the city council or market committees were involved in financial oversight. The effectiveness of these different management structures significantly impacted project outcomes. Projects where there was clear accountability and transparent management of funds by stakeholders including the market committees, such as in Chainda Market's borehole project, tended to be more successful. Conversely, instances of mismanagement or lack of clear financial oversight, as observed in the initial stages of the Chilenje Market development, often led to project delays or failures. The contrast between the successful community-driven initiatives at Katambalala Market and the challenges faced in fund management at Mandevu Market further illustrates this point.

Another important insight is the role of trader training in market development initiatives. While many investments focused on physical infrastructure, there were instances of valuable non-infrastructure investments, particularly in trader education. For example, the European Union project at Chilenje Market included plans for financial literacy training for marketers. Such initiatives, when successfully implemented, can significantly enhance the overall market ecosystem by improving traders' business skills and financial management capabilities. However, the analysis also revealed that these softer aspects of market development were sometimes overlooked or not fully realised, as seen in the case of Chilenje Market where planned loan extensions to marketers did not materialise.

These findings underscore the need for a comprehensive approach to market investments that addresses both physical infrastructure and human capital development. Future market development strategies should prioritise stakeholder engagement, transparent fund management, and a balance between hard and soft infrastructure investments to ensure sustainable and impactful outcomes.

4.2.1 Recommendations on future investments

Based on the insights gained from the analysis, several recommendations for future investments in the fresh food markets in Lusaka City are proposed:

- **Prioritise investments in essential infrastructure and services:** Focus on improving water supply, sanitation, and hygiene facilities to enhance overall market functionality and create a safer environment for all users.
- **Foster community engagement and collaboration:** Involve all relevant stakeholders, including market management, traders and local authorities in decision-making processes to build a sense of ownership and ensure project sustainability. A participatory approach will increase the likelihood of successful implementation.
- **Emphasise strategic planning, monitoring, and documentation**: Develop detailed project plans and evaluation frameworks to guide implementation and ensure best practices are followed. Maintaining comprehensive records of investments and their outcomes is crucial for informed decision-making and continuous improvement.
- **Implement robust risk-mitigation strategies:** Diversify funding sources and explore public-private partnerships to create sustainable financial models that support long-term maintenance, operations, and potential expansion.
- **Invest in human capital development:** Prioritise training programmes for traders, market management and staff to enhance their skills in financial literacy, business management and market operations. This will contribute to the overall efficiency and profitability of the markets.

- **Adopt a holistic approach to market development:** Ensure that investments address not only physical infrastructure but also consider the broader ecosystem of the market, including supply chain management, waste management and integration with local economic development plans; and,
- **Leverage technology for market operations:** Explore the implementation of digital solutions for record-keeping, financial transactions and inventory management to improve transparency and efficiency in market operations.

A note on quality control

It is crucial to select high-calibre contractors and service providers to ensure the successful execution of these projects. Substandard workmanship, as s-kj

Table 22 below provides a summary of key investments that could be considered in the fresh foods markets in Lusaka City.

Table 21: *Proposed investments in the fresh food markets in Lusaka City*

Identified challenges	Proposed investments and interventions	Potential stakeholders
Inadequate water supply and sanitation	Installation of boreholes, water storage systems, and modern sanitation facilities	Local City Council, Ministry of Water Development, NGOs specialising in WASH
Unreliable power supply	Investment in solar power systems or backup generators	ZESCO, Ministry of Energy, private energy companies
Poor waste management	Establishment of integrated waste management systems, including recycling initiatives	Local City Council, Environmental Management Agency, waste management companies
Limited cold storage facilities	Construction of community cold storage units with equitable access models	Ministry of Agriculture, private investors, cooperatives
Lack of trader education and financial literacy	Development of comprehensive training programs in business management and financial literacy	Ministry of Commerce, financial institutions, NGOs focused on economic empowerment
Inadequate market information systems	Implementation of digital platforms for price information and market trends	Ministry of Agriculture, tech companies, trader associations
Poor drainage and flood management	Construction of improved drainage systems and flood mitigation infrastructure	Local City Council, Ministry of Infrastructure, engineering firms
Limited access to financial services	Establishment of microfinance programs or savings and credit cooperatives within markets	Financial institutions, microfinance organisations, Ministry of Finance

Source: Hydrangea Enterprise Limited

These recommendations aim to address the specific gaps identified in the analysis and provide a roadmap for more effective and sustainable investments in the fresh food markets in Lusaka City. By focusing on these areas and involving a diverse range of stakeholders, future investments can better meet the needs of traders, customers, and the broader community, while also addressing the challenges faced in previous initiatives.

5
CONCLUSION

The assessment of Lusaka’s fresh food markets reveals a complex and dynamic landscape, characterised by varying levels of infrastructure, governance and economic performance. While some markets demonstrate the potential for high economic returns, efficient management and resilience, others struggle with poor infrastructure, inadequate governance and vulnerability to climate and health risks.

One of the key findings is the **disparity** between markets in terms of their **investment readiness.** Markets with strong governance structures and diversified revenue streams, such as Katambalala and Kaunda Square, show promise for future investments and growth. Conversely, markets with poor governance, infrastructure deficiencies and limited financial management practices, such as Bauleni and Chawama Central, face significant challenges in sustaining long-term operations and attracting new investment.

The analysis also highlights the **critical need for targeted investments in market infrastructure**, particularly in areas such as sanitation, waste management, cold storage and food safety. Improvements in these areas are essential for improving consumer's access to nutritious foods, reducing losses, improving market efficiency and increasing the resilience of markets to climate shocks and other risks. Moreover, enhancing governance structures and ensuring better financial transparency will be crucial for markets to capitalise on their economic potential.

Historical investments have provided valuable lessons, with successful markets benefiting from well-maintained infrastructure and robust governance frameworks. However, the presence of several underutilised or failed projects underscores the importance of **aligning investments with market needs**, addressing governance challenges and fostering local ownership and management capacity.

Moving forward, policymakers, market authorities and investors must collaborate to address these challenges and unlock the full potential of Lusaka City’s fresh food markets. Strategic investments, combined with strengthened governance and infrastructure, will not only improve market performance but also contribute to healthier food environments, economic growth and enhanced livelihoods for thousands of traders and consumers.

In conclusion, Lusaka City’s fresh food markets hold significant promise as economic hubs and drivers of food system transformation. By addressing the identified challenges and building on existing strengths, these markets can become more resilient, inclusive, and efficient, serving as a foundation for sustainable urban food systems and economic development.

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APPENDICES

Appendix A: Methodological approach for conducting the Market Investment Readiness Index (MIRI) in Lusaka City

Testing the index involved conducting detailed assessments of six (6) selected fresh food markets in Lusaka City, namely, Kaunda Square, Mtendere, Mandevu, Bauleni Katambalala, Chainda and Chilenje markets. These six (6) markets were selected during Task 1 of the assessment, Market Mapping. This process helped to identify strengths and weaknesses in current market structures and operations, providing valuable insights that informed the refining of the index. The goal was to develop a comprehensive and practical tool that local governments and stakeholders can use to enhance the effectiveness and impact of investments in urban food markets.

Sampling Procedure and Design

HYEL employed a purposive sampling approach to select six (6) markets, namely, Kaunda Square, Mtendere, Mandevu, Katambalala, Chainda and Chilenje markets for testing and refining the Market Investment Readiness Index. These markets were chosen from an initial pool of 43 markets identified during the scoping phase. The selection criteria ensured a diverse representation of market types, sizes, and locations within Lusaka City, allowing for a comprehensive assessment of the index's applicability across various market contexts.

Data Collection Methods

HYEL utilised a mixed methods approach to gather comprehensive data from the 6 (markets) selected markets. This approach combined qualitative and quantitative techniques to ensure a thorough understanding of each market's investment readiness. The data collection process involved primarily One-on-One Interviews with market executive leaders to assess investment readiness and specific market needs.

Observations

HYEL began the data collection process with structured observations at each of the five markets. These observations focused on assessing the market environment, infrastructure, and operations. HYEL researchers systematically documented visible factors contributing to investment readiness, such as the condition of market facilities, organisation of vendor spaces, and apparent hygiene practices.

In-depth Interviews

HYEL conducted in-depth, One-on-One Interviews with key stakeholders at each market. These interviews were conducted with market executive leaders and focused on providing them with the knowledge and tools to enhance their market's investment readiness and attract potential investors. The interviews took place at various locations within each market, including market offices, council offices, and executive offices. The interview protocol was designed to assess individual readiness and specific market needs. These semi-structured interviews explored aspects of market governance, financial management, infrastructure needs, and future development plans. HYEL's approach was tailored to elicit detailed insights into the complex dynamics of each market's operations and potential for investment.

Quantitative Survey

To complement the qualitative data from interviews and observations, HYEL incorporated quantitative elements into their assessment. This included gathering numerical data on various indicators of investment readiness, such as current revenue streams, operational metrics, and quantifiable infrastructure needs. The quantitative data collection was integrated into the One-on-One Interviews and structured observations, ensuring a comprehensive evaluation of each market's investment potential.

Methodological approach for the assessment of the market economics

A mixed methods approach was used to gather comprehensive data from the six (6) selected markets. This approach combined qualitative and quantitative techniques to ensure a thorough understanding of each market's economic performance. The data collection process involved primarily One-on-One interviews and Key Informant Interviews (KIIs) with market management and market traders, as well as other stakeholders.

<u>Semi-structured Interviews</u>

HYEL conducted comprehensive one-on-one interviews with key stakeholders and various traders at Chainda, Bauleni Katambalala, Kaunda Square, Mandevu, Mtendere and Chilenje markets. The engagements with the market executive leaders aimed at gaining insights into market economics, and they mostly took place in the offices of the market managers. In contrast, interviews with traders were conducted at their trading stands, ensuring convenience for the participants as well as making observations on the packaging, trade volumes and customer traffic.

The interview protocol was meticulously designed to assess various dynamics within market economics. These semi-structured interviews delved into critical topics such as market ownership and operational dynamics, income and expenditure, and market profitability. The discussions with traders specifically focused on analysing turnover rates, managing losses and wastage, and understanding operational costs. This tailored approach aimed to elicit detailed insights into the complex economic operations of each market, fostering a deeper understanding of the factors influencing their performance.

Data Analysis

The analytical framework used to comprehensively analyse the economic data, included assessing the revenue streams, cost structures and profitability of the markets, and a separate analysis for selected fresh food traders working in each of the six (6) markets.

The economic data analysis was conducted using Microsoft Excel and leveraged the Cost-Volume-Profit (CVP) model. The CVP model help to analyse the cost behaviour, and the resultant data visualisations, such as charts, helped to illustrate key insights into the financial performance.

Methodological approach for assessing historical investments in selected markets in Lusaka City

To investigate the historical market investments in the fresh foods markets Lusaka City, a multi-pronged approach was employed. Firstly, a thorough desk review was conducted to gather relevant information from existing reports, project documents, and academic literature, as well as insights provided by the stakeholders that were engaged during Task 1 to Task 3 of the Assessment of the Fresh Foods Markets in Lusaka City. This helped establish an initial understanding of the various investment initiatives that have been undertaken in the city's fresh food markets over the years.

Building on this foundation, a series of semi-structured interviews were conducted with key stakeholders, including market management, local government officials, representatives from non-governmental organisations and selected market traders as well as private sector entities, such as Ndkay Enterprises Limited. These interviews provided valuable insights into the decision-making processes, project implementation challenges, and outcomes of the different investment initiatives. The engagements further sought to establish the motivations behind the investments, the funding sources, the intended objectives, and the actual impact on market operations and the local fresh food systems in Lusaka City. Please see Annex 2 for the key questions asked during the stakeholder engagements.

In addition to the interviews, the research team also undertook site visits to the markets in Lusaka City, namely, Chilenje, Bauleni Katambalala, Chainda, Micheal Chilufya Sata (BH), Mtendere, and Mandevu markets. These on-site observations allowed the research team to assess the current infrastructure, operational conditions, and any visible outcomes of past investments. The research leveraged the visits to the markets to document the market's physical features, interviewed traders and customers, and examined the available records and documentation related to the investment projects.

To complement the qualitative data gathered through interviews and site visits, the research team also sought to obtain quantitative information, such as the scale of investments, and project budgets. This data was sourced from project reports, market management records, and relevant government or donor agencies.

The information collected through the desk review, stakeholder interviews, site visits, and data gathering was then systematically analysed to identify patterns, trends, and key insights. Close attention was paid to establishing the successes and failures of the different investment initiatives, as well as the underlying factors that contributed to their outcomes. This analysis informed the development of the research report, which provides a comprehensive overview of the historical market investments in Lusaka City and their impacts on the city's food system.

Throughout the research process, the research team maintained a collaborative approach, engaging with the ICLEI Africa project team to ensure alignment with the overall project objectives and to incorporate their feedback and guidance into the study's design and implementation.

Appendix B: In-depth overview of 43 Lusaka City markets

Chelstone Market: Chelstone Market has been in operation for 48 years and accommodates approximately 5,700 traders, close to its capacity of 6,000. This high occupancy rate of 95% signifies a well-utilised market space. The market serves about 5,000 consumers, establishing a one-to-one trader-to-consumer ratio, which may imply a balanced demand-supply dynamic. The estimated monthly value of produce moving through Chelstone Market is ZMW 50, 000. This figure suggests moderate economic activity, reflecting the market's vital role in the local economy.

City Market: The assessment of City Market includes sections of BH Market and New Soweto Market. City Market has been operational for over 27 years, and displays a remarkable overcapacity issue, with 15,000 traders against a capacity of 5,000, resulting in a 300% occupancy rate. The high consumer turnout of 30, 000 enhances the trader-to-consumer ratio to 1:2, indicating robust demand. The market handles a substantial estimated monthly produce value of ZMW 200, 000, 000, highlighting its critical economic significance and the high volume of transactions taking place.

Luburma Market: Luburma Market, with 57 years of operation, has a lower trader count of 2,000 against a capacity of 3,000, resulting in a 67% utilisation rate. It serves approximately 10,000 consumers, creating a trader-to-consumer ratio of 1:5. The estimated monthly value of produce for Luburma Market is ZMW 300, 000, highlighting its critical economic significance and the high volume of transactions taking place. This data reflects a potential underutilisation of market capacity, with room for growth in trader participation.

Chachacha Market: Operating for 48 years, Chachacha Market accommodates 1,146 traders with a capacity of 2,250, resulting in a 51% occupancy rate. It serves 1, 500 consumers, maintaining a balanced 1:1 trader-to-consumer ratio. The estimated monthly value of produce here is ZMW 500, 000, highlighting its critical economic significance and the high volume of transactions taking place, yet the moderate utilisation suggests steady, if not significant, market activity.

Chilenje Market: Chilenje Market has been operational for fifty-four (54) years, with 1, 200 traders out of a 2,000 capacity, a 60% utilisation rate. It uniquely serves a large consumer base of 90,000, leading to a high trader-to-consumer ratio of 1:75. This disproportion suggests either high efficiency or potentially overwhelming demand on traders, indicating a significant economic role within the local market structure.

Kabuma Market: Kabuma Market, in operation for seven (7) years, shows 1,500 traders against a capacity of 2,000, marking a 75% occupancy rate. Serving 7, 000 consumers, it has a trader-to-consumer ratio of 1:5. The market sees an estimated monthly produce value of ZMW 750,000, indicating substantial economic activity, reflecting its growing significance in the market ecosystem.

Matero Market: With fifty-four (54) years of operation, Matero Market houses 1, 000 traders within a 2, 000 trader capacity facility, leading to a 50% utilisation rate. It serves about 5, 000 consumers, resulting in a 1:5 trader-to-consumer ratio. The monthly produce value is estimated at ZMW 50,000, indicating moderate economic activity, highlighting the market's stability and potential for increased trader participation.

Kabwata Main Market: Kabwata Main Market, operational for 50 years, has 1, 600 traders close to its 1 800 capacity, leading to an 89% utilisation rate. It serves 3, 000 consumers, with a 1:2 trader-to-consumer ratio. The estimated monthly value of produce is ZMW 817,500, highlighting significant economic activity and high market efficiency, emphasising its importance within the local trading community.

Soweto Market: Soweto Market, operational for sixty (60) years since 1964 has 1,300 traders within a capacity of 1,500, resulting in an 87% utilisation rate. Serving 19,500 consumers, it has a high trader-to-consumer ratio of 1:15. The market's economic significance is underscored by its high utilisation and substantial consumer base, despite the lack of specific monthly produce value data.

Mandevu Market: Mandevu Market, operational for forty-four (44) years, has 700 traders within a 1, 200 trader capacity, leading to a 58% occupancy rate. It serves 7,000 consumers, creating a trader-to-consumer ratio of 1:10. The estimated monthly value of produce is ZMW 1,000,000, reflecting high economic activity and the market's considerable role in the local economy.

Buseko Market: Buseko Market, operational for forty-four 44 years, accommodates 700 traders out of a capacity of 1,000, resulting in a 70% utilisation rate. The market serves 2,000 consumers, leading to a trader-to-consumer ratio of 1.3. The estimated monthly value of produce moving through Buseko is ZMW 200,000, reflecting moderate economic activity. This suggests that the market plays a significant role in the local economy, with room for further trader engagement to maximise its capacity.

Tigwilizane Market: Tigwilizane Market has been operating for (40) years, with 500 traders within a capacity of 1, 000, marking a 50% utilisation rate. It serves 1,000 consumers, maintaining a trader-to-consumer ratio of 1:2 The market has an estimated monthly produce value of ZMW 350,000, indicating steady economic activity. The data points to a balanced yet underutilised market, highlighting potential for growth in trader participation and economic output.

Mtendere Market: Mtendere Market, with fifty-one (51) years of operation, houses 300 traders against a capacity of 800, resulting in a 38% utilisation rate. It serves 800 consumers, creating a trader-to-consumer ratio of 1:3. The absence of data on the monthly value of produce suggests an area for further investigation, yet the low utilisation rate indicates significant potential for increased market activity and trader engagement.

Railside Market: Railside Market has been operational for thirty-four (34) years and accommodates 300 traders within a capacity of 800, leading to a 38% utilisation rate. It serves about 200 consumers, establishing a 1:1 trader-to-consumer ratio. The lack of data on the monthly value of produce underscores the need for further economic assessment, though the low occupancy rate suggests room for substantial growth and development within the market.

Chawama Central Market: Chawama Central Market, with fifty (50) years of operation, has 500 traders within a capacity of 700, resulting in a 71% utilisation rate. It serves

1,000 consumers, maintaining a trader-to-consumer ratio of 1:2. The estimated monthly value of produce is ZMW 1,000,000, indicating high economic activity and the market's considerable role in the local economy. This reflects a well-utilised market space with significant economic impact.

Mtendere Kazimayi Market: Mtendere Kazimayi Market has been operating for 14 years, accommodating 650 traders out of a capacity of 670, leading to a 97% utilisation rate. It serves 2,000 consumers, creating a trader-to-consumer ratio of 1:3. The market's estimated monthly produce value is ZMW 15,000. The high utilisation rate and substantial consumer base emphasise the market's efficiency and vital role in the local economy.

Chazanga Market: Chazanga Market, which has been operational for 54 years, has 450 traders within a capacity of 600, resulting in a 75% utilisation rate. It serves about 1,000 consumers, maintaining a trader-to-consumer ratio of 1:2. The market's estimated monthly value of produce is ZMW 180, 000. The moderate utilisation rate indicates steady market activity with room for growth.

Kaunda Square Market: Kaunda Square Market has been in operation for 50 years, with 350 traders within a capacity of 600, leading to a 58% utilisation rate. It serves 150 consumers, establishing a low trader-to-consumer ratio of 1:4. The estimated monthly value of produce is ZMW 300,000, indicating moderate economic activity. The data points to an underutilised market with potential for increased consumer engagement and economic output.

Bauleni Katambalala Market: Bauleni Katambala Market has been operational for forty-nine (49) years, accommodating 250 traders out of a capacity of 500, resulting in a 50% utilisation rate. The market serves 2, 500 consumers, creating a trader-to-consumer ratio of 1:10. The monthly value of produce for the market is ZMW 50, 000. The low occupancy rate highlights significant potential for growth in trader participation and market activity.

Chainda Market: Chainda Market, with fifty (50) years of operation, houses 350 traders within a capacity of 500, leading to a 70% utilisation rate. It serves about 1,000 consumers, maintaining a trader-to-consumer ratio of 1:3. The estimated monthly value of produce is ZMW 13, 000, reflecting modest economic activity. The data indicates a moderately utilised market with potential for increased economic impact through enhanced trader and consumer engagement.

Chipata Katambalala Market: Chipata Katambala Market has been in operation for twenty-six (26) years, accommodating 300 traders within a capacity of 450, leading to a 67% utilisation rate. It serves approximately 500 consumers, resulting in a trader-to-consumer ratio of about 1:2. The estimated monthly value of produce is ZMW 1, 000, 000, reflecting significant economic activity. The data indicates a well-utilised market with strong economic impact, suggesting it plays a crucial role in the local economy.

Chipata Main Market: Chipata Main Market, operational for forty-four (44) years, houses 300 traders within a capacity of 400, resulting in a 75% utilisation rate. It serves about 600 consumers, maintaining a trader-to-consumer ratio of 1:2. The estimated monthly value of produce is ZMW 80,000, indicating moderate economic activity. This data suggests a relatively well-utilised market space with room for growth in both trader engagement and economic output.

Lumumba Roadside Market: Lumumba Roadside Market has been operating for Twenty-Six (26) years, with 100 traders against a capacity of 400, resulting in a low utilisation rate of 25%. It serves 300 consumers, creating a trader-to-consumer ratio of 1:3. The estimated monthly value of produce is ZMW 10,720, indicating lower economic activity. This data reflects significant underutilization of the market's capacity, highlighting a potential area for development and increased market activity.

Kabwata Site and Service Market: Kabwata Site and Service Market has been operational for Nineteen (19) years, with 200 traders within a capacity of 325, leading to a 62% utilisation rate. It serves 100 consumers, resulting in a one-to-one trader-to-consumer ratio. The estimated monthly value of produce is ZMW 50,000, suggesting moderate economic activity. This data points to a moderately utilised market with potential for increased trader participation and consumer engagement.

Northmead Market: Northmead Market, operational for Fifty (50) years, accommodates 300 traders, matching its capacity, leading to a 100% utilisation rate. Data on the number of consumers and the monthly value of produce is not provided, suggesting an area for further investigation. However, the high occupancy rate indicates a well-utilised market space with potential for significant economic activity.

Chiparamba Market: Chiparamba Market has been operating for Thirty-Four 34 years, with 120 traders within a capacity of 250, resulting in a 48% utilisation rate. It serves about 1,000 consumers, leading to a trader-to-consumer ratio of 1:8. The estimated monthly value of produce is ZMW 1,600,000, indicating substantial economic activity. This data reflects a well-utilised market with significant economic impact, highlighting its vital role in the local economy.

Bwafano Market: Bwafano Market has been operating for fifty-five 55 years, the market accommodates 90 traders within a capacity of 200, resulting in a 45% utilisation rate. It serves about 350 consumers, maintaining a trader-to-consumer ratio of 1:4. The estimated monthly value of produce is ZMW 80,000, indicating moderate economic activity. This suggests a moderately utilised market with room for growth in trader participation and economic output.

David Kaunda Market: David Kaunda Market has been operational for forty (40) years, housing 200 traders, matching its capacity, leading to a 100% utilisation rate. Data on the number of consumers is not provided, indicating a need for further investigation. The estimated monthly value of produce is ZMW 19, 400, reflecting modest economic activity. The high occupancy rate suggests a well-utilised market space with potential for increased economic impact.

John Howard Market: John Howard Market, with Twenty-Seven (27) years of operation, accommodates 70 traders within a capacity of 200, resulting in a 35% utilisation rate. It serves about 100 consumers, creating a 1:1 trader-to-consumer ratio. Data on the monthly value of produce is not provided, indicating a need for further economic assessment. The low occupancy rate highlights significant potential for growth in trader participation and market activity.

Kamwala South (ZIPAS) Market: Kamwala South (ZIPAS) Market has been operating for Twenty-Two (22) years, with 100 traders within a capacity of 200, leading to a 50% utilisation rate. It serves 1,000 consumers, maintaining a high trader-to-consumer ratio of 1:10. The estimated monthly value of produce is ZMW 45,000,000, reflecting substantial economic activity. This data indicates a well-utilised market with a significant economic impact, underscoring its importance within the local economy.

Munyaule Market: Munyaule Market, operational for Five (5) years, houses 160 traders within a capacity of 195, resulting in an 82% utilisation rate. It serves about 1,000 consumers, creating a trader-to-consumer ratio of 1:6. The estimated monthly value of produce is ZMW 94,100, indicating significant economic activity. This data reflects a well-utilised market with substantial economic impact, emphasising its growing role in the market ecosystem.

Libala Market: Libala Market has been in operation for 19 years, accommodating 124 traders out of a capacity of 173, resulting in a 72% utilisation rate. The number of consumer services by the market is around 800 and the monthly value of produce is about ZMW 30, 000. The moderate occupancy rate suggests a well-utilised market with potential for increased trader engagement and economic activity.

Nyumba Yanga Market: Nyumba Yanga Market has been operational for 14 years, with 150 traders out of a capacity of 160, leading to a 94% utilisation rate. It serves 150 consumers, maintaining a 1:1 trader-to-consumer ratio. The estimated monthly value of produce is ZMW 7, 200, reflecting modest economic activity. The high occupancy rate indicates a well-utilised market space with potential for increased economic impact through enhanced consumer engagement.

Chingwere Market: Chingwere Market, operational for 28 years, accommodates 157 traders within a capacity of 157, resulting in a 100% utilisation rate. It serves about 500 consumers, creating a trader-to-consumer ratio of 1:3. The estimated monthly value of produce is ZMW 14, 160, indicating moderate economic activity. The high occupancy rate suggests a well-utilised market space with significant potential for economic impact.

Chitukuko Market: Chitukuko Market has been in operation for 54 years, housing 85 traders within a capacity of 150, leading to a 57% utilisation rate. It serves about 200 consumers, maintaining a trader-to-consumer ratio of 1:2. The estimated monthly value of produce is ZMW 120, 000, reflecting significant economic activity. This data indicates a moderately utilised market with room for growth in trader participation and economic output.

Sikota Wina Market: Sikota Wina Market has been operational for 20 years, accommodating 50 traders out of a capacity of 100, resulting in a 50% utilisation rate. It serves about 200 consumers, maintaining a trader-to-consumer ratio of 1:4. The estimated monthly value of produce is ZMW 250, 000, indicating substantial economic activity. This data suggests a moderately utilised market with potential for increased trader engagement and economic output.

Long Acres Market: Long Acres Market has been operational for 46 years, housing 80 traders out of a capacity of 85, leading to a 94% utilisation rate. The number of consumers serviced by the market is around 300 consumers. The estimated monthly value of produce is ZMW 33, 920, reflecting modest economic activity. The high occupancy rate suggests a well-utilised market space with potential for increased economic impact.

Woodlands Market: Woodlands Market, operational for 46 years, accommodates 37 traders within a capacity of 40, resulting in a 93% utilisation rate. Data on the number of consumers and the monthly value of produce is not provided, indicating a need for further economic assessment. The high occupancy rate suggests a well-utilised market space with potential for significant economic impact.

Sekelela Market: Sekelela Market has been operational for 39 years since 1985, the market has a trader capacity of about 400 but is currently encompassing about 350 traders. The estimated monthly trader engagement stands at not less than 500 consumers maintaining a trader-to-consumer ratio of 1:1. This suggests a market space with potential to expand to make immense economic impact.

Chawama Main Market: Chawama Market, with 42 years of operation, has 300 traders within a capacity of 500, resulting in a 60% utilisation rate. It serves 1, 000 consumers, maintaining a trader-to-consumer ratio of 1:3. The estimated monthly value of produce is ZMW 850, 000, indicating high economic activity and the market's considerable role in the local economy. This reflects an averagely well-utilised market space.

Lilanda Market: Lilanda Market, with 54 years of operation, has 1, 000 traders within a market that can accommodate a capacity of 2, 000, resulting in a 50% utilisation rate. It serves 5,000 consumers, maintaining a trader-to-consumer ratio of 1:5. The estimated monthly value of produce is ZMW 50, 000. The low occupancy rate suggests an under-utilised market space with potential for expansion to make significant economic impact.

Appendix C: State of sanitation at selected Lusaka City markets

Market	General cleanliness			Hygiene practices		Facilities		Food safety		Score
	Market premises clean and well-maintained	No visible signs of dirt, debris, or pests	Cleaning roster displayed somewhere	Market staff following proper hygiene practices (e.g., wearing gloves, hairnets)	There is a protocol for handling fresh foods to avoid contamination	Adequate handwashing stations for staff and customers	Restrooms clean and well-stocked with hygiene supplies	Food inspected for quality and safety	Signs or certificates indicating compliance with health and safety regulations	
Mtendere	1	1	1	1	1	1	1	1	0	89%
Lumumba roadside	1	1	0	1	1	0	1	1	1	78%
Nyumba Yanga	1	1	1	1	1	0	1	0	`1	78%
Chelstone	1	0	0	1	1	1	0	1	1	67%
Chainda	1	0	0	1	1	0	1	1	0	56%
Luburma	1	1	0	0	1	0	1	0	1	56%
Bauleni Katambalala	1	0	0	0	1	0	1	1	0	44%
Chipata Main	1	1	0	0	0	0	1	1	0	44%
Libala	1	1	0	0	0	1	1	0	0	44%
Chachacha	1	0	0	1	0	0	0	0	1	33%
Chaisa	0	0	0	0	0	0	1	1	1	33%
Chilenje	1	1	1	0	0	0	0	0	0	33%
Kabwata	1	1	0	0	0	0	1	0	0	33%
Mtendere Kazimayi Market	0	1	0	0	0	0	1	1	0	33%

Munyaule	1	1	0	0	0	0	1	0	0	33%
Bwafano	1	0	0	0	0	0	1	0	0	22%
Chiparamba	1	1	0	0	0	0	0	0	0	22%
Chawama	1	1	0	0	0	0	0	0	0	22%
Chazanga	0	0	1	0	0	1	0	0	0	22%
Chingwere	1	0	0	0	0	0	1	0	0	22%
City Market	1	0	0	0	0	0	1	0	0	22%
David Kaunda	1	0	0	0	0	0	0	1	0	22%
Kalingalinga	0	0	0	0	0	1	1	0	0	22%
Kaunda Square	0	0	1	0	0	0	0	1	0	22%
Long acres	1	0	0	0	0	1	0	0	0	22%
Matero	0	1	0	0	0	0	0	1	0	22%
Northmead	1	0	0	0	0	0	1	0	0	22%
Woodlands	1	0	0	0	0	0	1	0	0	22%
Chitukuko	1	0	0	0	0	0	0	0	0	11%
John Howard	1	0	0	0	0	0	0	0	0	11%
Kabwata Site & Service	0	0	1	0	0	0	0	0	0	11%
Soweto	0	0	0	0	0	0	0	1	0	11%
Buseko	0	0	0	0	0	0	0	0	0	0%
Chawama Central	0	0	0	0	0	0	0	0	0	0%
Chipata Katambalala	0	0	0	0	0	0	0	0	0	0%
Kabuma	0	0	0	0	0	0	0	0	0	0%

Kamwala South (ZIPAS)	0	0	0	0	0	0	0	0	0	0%
Mandevu	0	0	0	0	0	0	0	0	0	0%
Railside	0	0	0	0	0	0	0	0	0	0%
Sekelela	0	0	0	0	0	0	0	0	0	0%
Sikota Wina	0	0	0	0	0	0	0	0	0	0%
Tigwilizane	0	0	0	0	0	0	0	0	0	0%
Total	**24**	**13**	**6**	**6**	**7**	**6**	**18**	**12**	**6**	**26%**
% With positive scores	**57%**	**31%**	**14%**	**14%**	**17%**	**14%**	**43%**	**29%**	**14%**	
Average Score										

Source: Hydrangea Enterprise Limited

The scores were ranked and coded using Green-Yellow-Red conditional analysis with green indicating high performing markets while red those ranked lowly. Yellowish colours were indicative of averagely ranked scores.

Appendix D: State of waste management at selected Lusaka City Markets

Market	Waste Disposal		Recycling and Composting		Waste Segregation		Odour and Pest Control		
	Enough waste bins available throughout the market	Waste bins regularly emptied and maintained	Facilities for recycling and composting	Facilities utilised by market vendors and customers	Waste properly segregated (organic, recyclable, non-recyclable)	Clear instructions or signage for waste segregation	No unpleasant odour around waste disposal areas	Measures in place to control pests (rats, flies) around waste areas	Score
Long acres	1	1	1	1	1	1	0	1	88%
Libala	1	1	0	0	0	0	1	1	50%
Mtendere	1	1	0	0	1	0	1	0	50%

Chawama	0	1	0	0	0	0	1	1	38%
David Kaunda	1	1	0	0	0	0	1	0	38%
Chiparamba	0	1	0	0	0	0	1	0	25%
Chelstone	0	1	0	0	0	0	0	1	25%
Chipata Main	1	1	0	0	0	0	0	0	25%
City Market	1	1	0	0	0	0	0	0	25%
Kalingalinga	0	1	0	0	0	0	1	0	25%
Lumumba roadside	0	1	0	0	0	0	0	1	25%
Mandevu	1	1	0	0	0	0	0	0	25%
Nyumba Yanga	0	0	1	1	0	0	0	0	25%
Soweto	0	1	0	0	0	0	1	0	25%
Woodlands	1	1	0	0	0	0	0	0	25%
Bauleni Katambalala	0	1	0	0	0	0	0	0	13%
Bwafano	0	0	0	0	0	0	1	0	13%
Chachacha	0	1	0	0	0	0	0	0	13%
Chainda	0	0	0	0	0	0	1	0	13%
Chaisa	0	0	0	0	0	0	1	0	13%
Chawama Central	0	0	0	0	0	0	1	0	13%
Chazanga	0	1	0	0	0	0	0	0	13%
Chingwere	0	1	0	0	0	0	0	0	13%
Chipata Katambalala	0	0	0	0	0	0	1	0	13%
Chitukuko	0	0	0	0	0	0	1	0	13%
Kabwata	0	0	0	0	0	0	1	0	13%

Luburma	0	1	0	0	0	0	0	0	13%
Matero	0	0	0	0	0	0	0	1	13%
Mtendere Kazimayi Market	0	1	0	0	0	0	0	0	13%
Munyaule	0	0	0	0	0	0	1	0	13%
Northmead	0	0	0	0	0	0	1	0	13%
Railside	0	0	0	0	0	0	0	1	13%
Sikota Wina	1	0	0	0	0	0	0	0	13%
Buseko	0	0	0	0	0	0	0	0	0%
Chilenje	0	0	0	0	0	0	0	0	0%
John Howard	0	0	0	0	0	0	0	0	0%
Kabuma	0	0	0	0	0	0	0	0	0%
Kabwata Site & Service	0	0	0	0	0	0	0	0	0%
Kamwala South (ZIPAS)	0	0	0	0	0	0	0	0	0%
Kaunda Square	0	0	0	0	0	0	0	0	0%
Sekelela	0	0	0	0	0	0	0	0	0%
Tigwilizane	0	0	0	0	0	0	0	0	0%
Total	9	20	2	2	2	1	16	7	18%
% With positive scores	21%	48%	5%	5%	5%	2%	38%	17%	
Average Score									

Source: Hydrangea Enterprise Limited

Appendix E: Overview of drainage and water management in selected Lusaka City markets

	Drainage system		Water management		Maintenance		
Market	**Effective drainage system**	**Drains clean and free from blockages**	**No signs of water pooling or flooding**	**Wastewater managed well in the market**	**No visible signs of leaks or damage to the sewerage infrastructure**	**Sewerage system inspected and maintained often**	**Score**
Chainda	1	1	1	1	1	1	100%
Chitukuko	1	1	1	1	1	1	100%
Mtendere	1	1	1	1	1	1	100%
Chaisa	1	0	1	1	1	1	83%
City Market	1	0	1	1	1	1	83%
Kaunda Square	1	0	1	1	1	1	83%
Libala	1	1	1	0	1	1	83%
Long acres	1	1	1	0	1	1	83%
Lumumba roadside	1	1	1	0	1	1	83%
Woodlands	1	1	1	1	1	0	83%
Chelstone	1	1	1	1	0	0	67%
Chingwere	1	0	0	1	1	1	67%
Munyaule	0	0	1	1	1	1	67%
Northmead	1	1	1	0	1	0	67%
Bauleni Katambalala	1	0	0	0	1	1	50%
Bwafano	1	1	0	0	1	0	50%
Chiparamba	0	0	1	0	1	1	50%
Chilenje	1	0	1	0	1	0	50%
Kabwata	1	0	1	0	1	0	50%

Kalingalinga	0	0	1	1	1	0	50%
Luburma	0	0	1	0	1	1	50%
Matero	1	1	0	1	0	0	50%
Nyumba Yanga	1	0	0	0	1	1	50%
Chachacha	0	0	1	0	1	0	33%
Chawama Central	0	0	0	0	1	1	33%
Chipata Katambalala	0	0	1	0	1	0	33%
Chipata Main	0	0	1	0	1	0	33%
David Kaunda	0	0	0	0	1	1	33%
Kabuma	0	0	1	0	1	0	33%
Kamwala South (ZIPAS)	0	0	1	0	1	0	33%
Sikota Wina	0	0	0	1	1	0	33%
Soweto	0	0	1	0	1	0	33%
Buseko	0	0	1	0	0	0	17%
Chawama	0	0	0	0	1	0	17%
Chazanga	0	0	1	0	0	0	17%
John Howard	0	0	0	1	0	0	17%
Kabwata Site & Service	0	0	0	0	0	1	17%
Mandevu	0	0	1	0	0	0	17%
Mtendere Kazimayi Market	0	0	0	0	1	0	17%
Sekelela	0	0	0	0	0	1	17%
Tigwilizane	0	0	0	0	1	0	17%
Railside	0	0	0	0	0	0	0%
Total	**19**	**11**	**27**	**14**	**33**	**19**	**49%**

% With positive scores	45%	26%	64%	33%	79%	45%	
Average Score							

Source: Hydrangea Enterprise Limited

Appendix F: Market accessibility for the differently abled

Market	Physical accessibility		Signage and assistance		Facilities		Transportation		
	Ramps available for wheelchair access	Pathways wide and clear of obstacles	Clear signage to guide differently abled individuals	Designated staff to assist differently abled customers	Accessible restrooms available	Seating areas for individuals who may need to rest	Market accessible by public transportation for the differently abled	Designated parking spots for those with disabilities	Score
Chainda	0	1	0	1	0	1	1	0	50%
Chelstone	1	1	0	1	0	0	1	0	50%
Chilenje	1	1	0	0	1	0	1	0	50%
City Market	1	1	0	0	0	0	1	1	50%
Lumumba roadside	0	1	0	0	0	1	1	0	38%
Mtendere	0	1	0	0	1	0	1	0	38%
Bwafano	0	0	0	0	1	0	1	0	25%
Chachacha	0	0	0	0	1	0	1	0	25%
Chaisa	0	1	0	0	0	0	1	0	25%
Chingwere	0	0	0	0	1	0	1	0	25%
Chitukuko	1	0	0	0	1	0	0	0	25%
Kamwala South (ZIPAS)	0	1	0	0	0	0	1	0	25%
Kaunda Square	0	0	0	0	1	0	1	0	25%

Libala	0	1	0	0	0	0	1	0	25%
Long acres	0	0	0	0	1	0	1	0	25%
Luburma	0	1	0	0	0	0	1	0	25%
Matero	0	0	0	0	1	0	1	0	25%
Munyaule	0	0	0	0	0	1	1	0	25%
Northmead	0	1	0	0	1	0	0	0	25%
Nyumba Yanga	0	1	0	0	0	1	0	0	25%
Railside	0	0	0	0	1	0	1	0	25%
Sekelela	0	0	1	0	1	0	0	0	25%
Tigwilizane	0	1	0	0	0	0	1	0	25%
Woodlands	0	0	0	0	1	0	1	0	25%
Bauleni Katambalala	0	0	0	0	0	0	1	0	13%
Buseko	0	0	0	0	1	0	0	0	13%
Chiparamba	0	1	0	0	0	0	0	0	13%
Chawama	0	0	0	0	1	0	0	0	13%
Chawama Central	0	0	0	0	1	0	0	0	13%
Chipata Main	0	0	0	0	1	0	0	0	13%
David Kaunda	0	0	0	0	0	0	1	0	13%
John Howard	0	0	0	0	1	0	0	0	13%
Kabwata Site & Service	0	0	0	0	0	0	1	0	13%
Kalingalinga	0	0	0	0	0	0	1	0	13%
Mandevu	0	0	0	0	0	0	1	0	13%
Sikota Wina	0	0	0	0	0	0	1	0	13%
Chazanga	0	0	0	0	0	0	0	0	0%

Chipata Katambalala	0	0	0	0	0	0	0	0	0%
Kabuma	0	0	0	0	0	0	0	0	0%
Kabwata	0	0	0	0	0	0	0	0	0%
Mtendere Kazimayi Market	0	0	0	0	0	0	0	0	0%
Soweto	0	0	0	0	0	0	0	0	0%
Total	**4**	**14**	**1**	**2**	**18**	**4**	**26**	**1**	**21%**
% With positive scores	**10%**	**33%**	**2%**	**5%**	**43%**	**10%**	**62%**	**2%**	
Average Score									

Source: Hydrangea Enterprise Limited

Appendix G: Storage conditions, inventory management, pest control and equipment at selected Lusaka City markets

Market	**Storage conditions**		**Pest control**		**Inventory management**		**Equipment**		
	Storage areas clean and well-organized	**Facility for fresh foods stored (temperature, humidity control)**	**Measures in place to prevent pests in storage areas**	**Storage areas often inspected for pests**	**Systems in place for tracking the shelf life of products**	**Inventory managed to ensure freshness and reduce waste**	**Adequate refrigeration and freezing facilities**	**Storage equipment (shelves, containers) in good condition and regularly maintained**	**Score**
Mtendere	1	1	1	1	0	1	1	1	88%
Chainda	1	1	0	1	1	1	0	1	75%
Bauleni Katambalala	1	0	1	0	0	1	0	1	50%
Lumumba roadside	0	0	1	1	0	1	1	0	50%

Mandevu	1	0	0	0	0	0	1	1	38%
Chaisa	1	0	0	0	0	1	0	0	25%
Mtendere Kazimayi Market	1	1	0	0	0	0	0	0	25%
Woodlands	1	1	0	0	0	0	0	0	25%
Chawama Central	0	1	0	0	0	0	0	0	13%
Chazanga	0	1	0	0	0	0	0	0	13%
Chelstone	0	0	0	0	0	0	0	1	13%
Chipata Main	0	0	1	0	0	0	0	0	13%
Kabwata Site & Service	0	1	0	0	0	0	0	0	13%
Kalingalinga	0	1	0	0	0	0	0	0	13%
Kamwala South (ZIPAS)	0	1	0	0	0	0	0	0	13%
Libala	0	0	0	0	0	0	0	1	13%
Long acres	0	1	0	0	0	0	0	0	13%
Luburma	0	0	0	0	0	1	0	0	13%
Nyumba Yanga	0	0	0	0	0	1	0	0	13%
Sekelela	1	0	0	0	0	0	0	0	13%
Tigwilizane	0	1	0	0	0	0	0	0	13%
Buseko	0	0	0	0	0	0	0	0	0%
Bwafano	0	0	0	0	0	0	0	0	0%
Chachacha	0	0	0	0	0	0	0	0	0%
Chiparamba	0	0	0	0	0	0	0	0	0%

Chawama	0	0	0	0	0	0	0	0	0%
Chilenje	0	0	0	0	0	0	0	0	0%
Chingwere	0	0	0	0	0	0	0	0	0%
Chipata Katambalala	0	0	0	0	0	0	0	0	0%
Chitukuko	0	0	0	0	0	0	0	0	0%
City Market	0	0	0	0	0	0	0	0	0%
David Kaunda	0	0	0	0	0	0	0	0	0%
John Howard	0	0	0	0	0	0	0	0	0%
Kabuma	0	0	0	0	0	0	0	0	0%
Kabwata	0	0	0	0	0	0	0	0	0%
Kaunda Square	0	0	0	0	0	0	0	0	0%
Matero	0	0	0	0	0	0	0	0	0%
Munyaule	0	0	0	0	0	0	0	0	0%
Northmead	0	0	0	0	0	0	0	0	0%
Railside	0	0	0	0	0	0	0	0	0%
Sikota Wina	0	0	0	0	0	0	0	0	0%
Soweto	0	0	0	0	0	0	0	0	0%
Total	**8**	**11**	**4**	**3**	**1**	**7**	**3**	**6**	**13%**
% With positive scores	**19%**	**26%**	**10%**	**7%**	**2%**	**17%**	**7%**	**14%**	
Average Score									

Source: Hydrangea Enterprise Limited

Appendix H: Selected Lusaka City markets' resilience to climate shocks

Market	Climate shocks	
	Infrastructure can withstand floods, fires, strong winds	Score
Bauleni Katambalala	1	100%
Chachacha	1	100%
Chainda	1	100%
Chaisa	1	100%
Chiparamba	1	100%
Chelstone	1	100%
Chilenje	1	100%
Chingwere	1	100%
Chipata Main	1	100%
Chitukuko	1	100%
City Market	1	100%
David Kaunda	1	100%
John Howard	1	100%
Kabwata	1	100%
Kabwata Site & Service	1	100%
Kamwala South (ZIPAS)	1	100%
Kaunda Square	1	100%
Libala	1	100%
Long acres	1	100%
Luburma	1	100%
Mandevu	1	100%
Mtendere	1	100%
Nyumba Yanga	1	100%
Woodlands	1	100%
Buseko	0	0%
Bwafano	0	0%
Chawama	0	0%
Chawama Central	0	0%
Chazanga	0	0%
Chipata Katambalala	0	0%
Kabuma	0	0%
Kalingalinga	0	0%
Lumumba roadside	0	0%
Matero	0	0%

Mtendere Kazimayi Market	0	0%
Munyaule	0	0%
Northmead	0	0%
Railside	0	0%
Sekelela	0	0%
Sikota Wina	0	0%
Soweto	0	0%
Tigwilizane	0	0%
Total	**24**	**100%**
% With positive scores	**57%**	
Median Score		

Source: Hydrangea Enterprise Limited

Appendix I: Overall scores based on observations of selected Lusaka City markets

Market	Sanitation	Waste Management	Sewerage	Accessibility	Storage	Climate Shocks	Final Score
Mtendere	8	4	6	3	7	1	73%
Chainda	5	1	6	4	6	1	58%
Lumumba roadside	7	2	5	3	4	0	53%
Chelstone	6	2	4	4	1	1	45%
Long acres	2	7	5	2	1	1	45%
Libala	4	4	5	2	1	1	43%
Nyumba Yanga	7	2	3	2	1	1	40%
Bauleni Katambalala	4	1	3	1	4	1	35%
Chaisa	3	1	5	2	2	1	35%
City Market	2	2	5	4	0	1	35%
Woodlands	2	2	5	2	2	1	35%
Luburma	5	1	3	2	1	1	33%
Chilenje	3	0	3	4	0	1	28%
Chipata Main	4	2	2	1	1	1	28%
Chitukuko	1	1	6	2	0	1	28%
Chingwere	2	1	4	2	0	1	25%
Kaunda Square	2	0	5	2	0	1	25%
Munyaule	3	1	4	2	0	0	25%
Chachacha	3	1	2	2	0	1	23%
Chiparamba	2	2	3	1	0	1	23%

David Kaunda	2	3	2	1	0	1	23%
Kalingalinga	2	2	3	1	1	0	23%
Northmead	2	1	4	2	0	0	23%
Bwafano	2	1	3	2	0	0	20%
Kabwata	3	1	3	0	0	1	20%
Mandevu	0	2	1	1	3	1	20%
Matero	2	1	3	2	0	0	20%
Chawama	2	3	1	1	0	0	18%
Mtendere Kazimayi Market	3	1	1	0	2	0	18%
Kamwala South (ZIPAS)	0	0	2	2	1	1	15%
Chawama Central	0	1	2	1	1	0	13%
Chazanga	2	1	1	0	1	0	13%
Kabwata Site & Service	1	0	1	1	1	1	13%
Soweto	1	2	2	0	0	0	13%
John Howard	1	0	1	1	0	1	10%
Sekelela	0	0	1	2	1	0	10%
Sikota Wina	0	1	2	1	0	0	10%
Tigwilizane	0	0	1	2	1	0	10%
Chipata Katambalala	0	1	2	0	0	0	8%
Railside	0	1	0	2	0	0	8%
Buseko	0	0	1	1	0	0	5%
Kabuma	0	0	2	0	0	0	5%
Average	**2**	**1**	**3**	**2**	**1**	**1**	**25%**

Source: Hydrangea Enterprise Limited

Appendix J: Detailed financial data (Traders financial outlook)

Market name	Monthly product acquisition cost	Monthly revenue	Monthly profit	Gross profit margin
Katambalala	12320.00	17200.00	4880.00	40%
Katambalala	80.00	142.86	62.86	79%
Katambalala	280.00	600.00	320.00	114%
Katambalala	6630.00	8690.00	2060.00	31%
Katambalala	3500.00	6100.00	2600.00	74%
Katambalala	1440.00	2293.33	853.33	59%
Katambalala	840.00	1680.00	840.00	100%

Katambalala	12320.00	17200.00	4880.00	40%
Katambalala	8160.00	12840.00	4680.00	57%
Katambalala	10160.00	15960.00	5800.00	57%
Katambalala	3680.00	5520.00	1840.00	50%
Katambalala	32200.00	50640.00	18440.00	57%
Katambalala	2720.00	3000.00	280.00	10%
Katambalala	1000.00	1500.00	500.00	50%
Katambalala	867.00	1175.33	308.33	36%
Katambalala	2980.00	4320.00	1340.00	45%
Katambalala	2560.00	3040.00	480.00	19%
Katambalala	3280.00	4280.00	1000.00	30%
Katambalala	3620.00	4020.00	400.00	11%
Katambalala	32000.00	38000.00	6000.00	19%
Katambalala	260.00	440.00	180.00	69%
Katambalala	54320.00	69920.00	15600.00	29%
Katambalala	1960.00	3020.00	1060.00	54%
Katambalala	36530.00	45260.00	8730.00	24%
Mtendere	4590.00	9300.00	4710.00	103%
Mtendere	125000.00	149000.00	24000.00	19%
Mtendere	11080.00	15600.00	4520.00	41%
Mtendere	4180.00	5860.00	1680.00	40%
Mtendere	12000.00	24000.00	12000.00	100%
Mtendere	18440.00	24540.00	6100.00	33%
Mtendere	32000.00	48000.00	16000.00	50%
Mtendere	7200.00	9600.00	2400.00	33%
Mtendere	750.00	1000.00	250.00	33%
Mtendere	250.00	400.00	150.00	60%
Mtendere	2750.00	10000.00	7250.00	264%
Mtendere	1112.00	1248.00	136.00	12%
Mtendere	39040.00	57840.00	18800.00	48%
Mtendere	26440.00	36520.00	10080.00	38%
Mtendere	34560.00	49480.00	14920.00	43%
Chainda	20800.00	23200.00	2400.00	12%
Chainda	2040.00	2960.00	920.00	45%
Chainda	13980.00	24552.00	10572.00	76%
Chainda	68160.00	85280.00	17120.00	25%
Chainda	2800.00	5600.00	2800.00	100%
Chainda	13400.00	22200.00	8800.00	66%
Chainda	8480.00	12040.00	3560.00	42%
Chainda	2480.00	3080.00	600.00	24%
Chainda	4400.00	6120.00	1720.00	39%
Chainda	131200.00	151520.00	20320.00	15%
Chainda	32000.00	64000.00	32000.00	100%

Chainda	15120.00	19200.00	4080.00	27%
Chainda	1440.00	2120.00	680.00	47%
Chainda	8095.00	11990.00	3895.00	48%
Mandevu	5630.00	6990.00	1360.00	24%
Mandevu	4246.67	12466.67	8220.00	194%
Mandevu	3660.00	5420.00	1760.00	48%
Mandevu B	3360000.00	5880000.00	2520000.00	75%
Mandevu	2220.00	3280.00	1060.00	48%
Mandevu	330.00	520.00	190.00	58%
Mandevu	36833.33	56666.67	19833.33	54%
Mandevu	33600.00	44400.00	10800.00	32%
Mandevu	36000.00	54000.00	18000.00	50%
Mandevu	54315.79	67894.74	13578.95	25%
Mandevu	2280.00	2880.00	600.00	26%
Mandevu	9540.00	11700.00	2160.00	23%
Kaunda Square	2960.00	3910.00	950.00	32%
Kaunda Square	31500.00	45760.00	14260.00	45%
Kaunda Square	29035.71	51500.00	22464.29	77%
Kaunda Square	19240.00	25300.00	6060.00	31%
Kaunda Square	41770.00	46605.00	4835.00	12%
Kaunda Square	24800.00	99200.00	74400.00	300%
Kaunda Square	4060.00	5720.00	1660.00	41%
Kaunda Square	10080.00	12760.00	2680.00	27%
Kaunda Square	11200.00	21000.00	9800.00	88%
Kaunda Square	9146.67	15846.67	6700.00	73%
Kaunda Square	8320.00	12600.00	4280.00	51%
Kaunda Square	15490.00	21600.00	6110.00	39%
Kaunda Square	9363.33	14380.00	5016.67	54%
Kaunda Square	7020.00	16240.00	9220.00	131%

Appendix K: Research questions and stakeholder engagement

Stakeholder engagement for investment readiness assessment

Stakeholder engagement for	Engagement date	Location	Objective	Activity	Number of engagements

investment readiness task Market					
Chainda Market	10/08/2024	Market office	Equip market executive leaders with the knowledge and tools to enhance their market's investment readiness and attract potential investors.	**Market Investment Readiness One-on-One Interview:** Assess individual readiness and specific market needs.	1
Kaunda Square Market	08/08/2024	Market council office	Equip market executive leaders with the knowledge and tools to enhance their market's investment readiness and attract potential investors.	**Market Investment Readiness One-on-One Interview:** Assess individual readiness and specific market needs.	1
Katambalala Market	12/08/2024	Market Executive office	Equip market executive leaders with the knowledge and tools to enhance their market's investment readiness and attract potential investors.	**Market Investment Readiness One-on-One Interview:** Assess individual readiness and specific market needs.	1
Mandevu Market	09/08/2024	Market Executive Office	Equip market executive leaders with the knowledge and tools to	**Market Investment Readiness One-on-One Interview:** Assess individual	1

			enhance their market's investment readiness and attract potential investors.	readiness and specific market needs.	
Mtendere Market	09/08/24/24	Market Executive office	Equip market executive leaders with the knowledge and tools to enhance their market's investment readiness and attract potential investors.	**Market Investment Readiness One-on-One Interview:** Assess individual readiness and specific market needs.	1

Questions for establishing historical investments in fresh food markets

1. Has the market received investments from the Government, NGOs or the Private sector in past years?
   - Name of the funder
   - Start and End date of investment contract
   - Status
   - Planned
   - Stalled/ Delayed
   - Completed
   - Details of investment (infrastructure, services, training, financial services, other)
   - Successes and failures

2. What were the successes of this project?
3. What were the failures of the project?
4. Reasons WHY the project was a success/failure (Include evaluation report where possible)
5. What was the key objective of the investment?
6. What motivated the investors to put their funds into the market? (e.g. strategic location)
7. What was the total amount invested?
8. How were the funds managed throughout the project, in terms of project management, procurement, supervision and quality control and many other facets to ensure success?
9. Who was responsible for managing the resources of the project?
10. What was the reporting structure for the investment project?
11. What challenges were encountered during the implementation of the investment?

12. Was the market executive directly involved in the investment project? (If YES, how many members were involved from the executive and how where they chose?)
13. What systems were established during the project to ensure its success?
14. How has the project benefited the traders and the market as a whole?
15. Who is currently responsible for monitoring the project to ensure its sustainability?
16. From the past experience what is the best and practical ways of making investments in markets?

Appendix L: Overview of the six markets identified for further analysis

BAULENI KATAMBALA MARKET

Bauleni Katambala Market, located in Bauleni Township, has been operational for 49 years. It is owned and managed by a cooperative. The market has a capacity to accommodate 500 traders but currently operates at 50% utilization, with 250 active traders. The market serves about 2 500 consumers, creating a trader-to-consumer ratio of 1:10. The monthly value of produce traded at the market is estimated at ZMW 50 000.

In terms of infrastructure, the market features standard trading stalls and advanced amenities such as cold storage facilities, which are rented out to traders for additional revenue. Electricity and running water are available on-site, and there is a pay-to-use toilet facility for vendors and consumers.

The market faces challenges with low trader participation, which limits its overall activity and growth. However, its infrastructure and cooperative management model present opportunities for scaling up operations and increasing utilization.

Opportunity: The market is strategically located within Bauleni Township, offering access to a mixed-income consumer base. Its hybrid business model, combining retail and storage options, provides traders with diverse revenue opportunities.

KAUNDA SQUARE MARKET

Kaunda Square Market has been operational for 50 years, accommodating 350 traders out of a capacity of 600, resulting in a 58% utilization rate. The market serves 150 consumers, creating a trader-to-consumer ratio of 1:4. The estimated monthly value of produce for the market is ZMW 300,000, indicating moderate economic activity with potential for growth.

Kaunda Square Market is a publicly owned market managed by local authorities. It is a covered facility, providing shelter for traders and their goods. However, waste management is a significant challenge. Garbage collection is irregular, and waste is often left uncollected, leading to hygiene and sanitation issues. There are no facilities for waste separation or recycling, further contributing to poor waste management practices.

Opportunity: As a covered and publicly owned market, Kaunda Square has the foundation for growth and development. Addressing waste collection and introducing proper sanitation and recycling systems could improve the market's environment, attract more traders and consumers, and enhance its economic output.

MTENDERE MAIN MARKET

The Mtendere Market is a cooperative-run market built in 1973. It has about 300 traders and attracts not less than 800 customers. The market is recognised by relevant authorities and serves a wide population of Mtendere residents.

The fresh food section of the market is mainly characterised by open-air stands made from basic wooden infrastructure and a roadside market. Generally, it is a clean market, hygiene and sanitation are highly prioritised by traders and the market leadership. For waste management, traders employ a systematic approach where they pack refuse in sacks throughout the day. Designated waste collectors are responsible for gathering these sacks and disposing of them at the designated dump site before the market closes each day. The local city council supplements these efforts by conducting waste collection operations, though the frequency varies from twice monthly to monthly intervals due to coordination challenges within the local council committee. The market has effective sewerage and a working drainage system, functional toilets, electricity and running water. It lacks a storage facility.

The market has a trading capacity of about 800 traders but only has 300 traders with very few trading in fresh food. Fresh food trader booths are made from basic infrastructure that needs improvement. Furthermore, the market has no market-owned storage facilities, which may be a hindrance to fresh food traders that are forced to find their own cold storage facilities, which are often not sufficient to keep fresh food frozen for a long period of time.

Opportunity: Mtendere Main Market has room for further growth and refurbishment but presents itself as a model market that other markets could learn from. It scored remarkably well overall and could be used as a point of reference for other markets going forward.

MANDEVU MARKET

The Mandevu Market is a cooperative-owned market that has been running for 44 years. The market has about 700 traders with a capacity for 1 200 traders and a monthly consumer base of about 7 000. The market has trading stands with basic covered infrastructure made of brick and roofing sheets and a roadside market. The stands serve as storage facilities throughout the night. The market has access to electricity and water as well as sewage and drainage facilities but they both need improvement. The market lacks a proper system for waste disposal. Currently, waste is collected in sack bags and stored near the restroom facilities, creating unsanitary conditions and generating significant pollution in the vicinity of the sanitation area. This inadequate waste handling practice poses both environmental and health concerns for market users.

The Mandevu market has a fully functional designated trading area for fresh food traders, but the trading infrastructure needs improvement. The market has no proper waste management facility and traces of dirt can be spotted around garbage disposal areas. Additionally, the market only has access to water for three hours per day. Fresh food is usually left exposed and there is no market-owned cold storage facility.

Opportunity: The market has many fresh food vendors, and it is in a densely populated area, which allows more residents to have easy access to fresh food. While Mandevu Market has no communal recycling or waste segregation facility, a few traders have a system in which they collect bottles that are sold to recycling companies. This could be further investigated, developed and enhanced by the market authorities.

CHAINDA MARKET

The Chainda Market has been functional since 1974. It is cooperative owned and has a trading capacity of about 500 traders with 350 traders currently occupying trading spaces.

The market is characterised by both an open-air market and a built-up covered trading infrastructure with roofing for fresh food vendors, which is turned into a storage house for the fresh produce to be kept covered overnight. The market has a functional drainage facility, access to electricity, toilet facilities and a water tank. Chainda Market does not, however, offer cold storage facilities, which disadvantages not only fruit and vegetable traders but also traders selling fresh meat.

The market does not currently have an effective waste management scheme and garbage accumulates around traders' booths. The market maintains a designated dumping area for temporary waste collection, however garbage is only collected about once a week by a private garbage collector as the cooperative cannot afford daily collections. The market does not have an adequate number of waste bins as they cannot afford to purchase more. The market toilet facility is functional but needs improvement.

Opportunity: The market has multiple fresh food traders with a consumer base of about 1 000 and it has not reached its trader capacity, leaving more room for additional fresh food traders. Minor improvements would only elevate access to fresh foods in the surrounding communities.

CHILENJE MARKET

Chilenje Market is a retail market, but there is an increasing level of wholesale trade in the facility. It is one of the larger markets in Lusaka city with a diverse range of products, including fruits, vegetables, poultry and meat products serving a large local population. It provides for daily household food supply including for Chilenje, Chalala, New Kasama, Woodlands and Libala residential areas of Lusaka City.

Chilenje Market has witnessed the addition of various facilities, including the construction of ablution blocks and storage rooms, particularly for poultry traders. Furthermore, the market has a generator to ensure a reliable power supply. While the market has a designated area allocated for waste management that is well-separated from trading activities, the site suffers from inadequate maintenance and infrequent waste collection. This negligence in waste management practices has resulted in the accumulation of refuse, leading to environmental pollution and potential health hazards within the market premises.

Chilenje market has poor drainage infrastructure that leads to waterlogging, creating unsanitary conditions and hindering market operations. In addition, insufficient and unreliable water supply affects market hygiene, product quality and the overall market environment. The lack of proper storage facilities for perishable goods contributes to spoilage and losses, reducing the availability of fresh produce. The existing waste management infrastructure presents an opportunity for improvement through enhanced maintenance protocols and more frequent waste removal. Additionally, potential collaboration with recycling organizations could optimize the use of the facility and contribute to more sustainable waste management practices. Improved waste collection processes and engagement with stakeholders, such as recycling organisations, can help mitigate these issues.

Opportunities: The presence of a generator ensures a reliable and stable power supply, minimising disruptions to market activities. The market management team has demonstrated competence in overseeing market operations.

The market's size offers opportunities for future expansion and easier implementation of improvements. The waste management facility provides proper disposal solutions, promoting cleanliness and hygiene within the market environment.