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VULNERABILITY TO CHOLERA PANDEMIC IN HARARE SUBURBS: THE CASE OF MBARE.

A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE BACHELOR OF SCIENCE HONOURS DEGREE IN DISASTER MANAGEMENT SCIENCES

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APPROVAL FORM

We, the undersigned, certify that we have read and supervised the dissertation titled: "**Vulnerability to Cholera Pandemic in Harare Suburbs: The Case of Mbare**"

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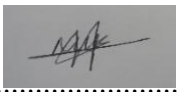
DECLARATION

I, Nik Munosiwani (B213148), hereby declare that this dissertation titled: "**Vulnerability to Cholera Pandemic in Harare Suburbs: The Case of Mbare**," is my own original work, submitted in partial fulfilment of the requirements for the degree of Bachelor of Science in Disaster Management Sciences at Bindura University of Science Education. Where other sources have been used, they are properly acknowledged in accordance with standard academic practice. This work has not been previously submitted to any other institution for academic credit or award.

Signature:  .....

Date: 10/10/25

DEDICATION

I dedicate this dissertation to my mother, Moline Mashingaidze.

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ABSTRACT

Cholera remains a recurring public health threat in many urban informal settlements, particularly in Zimbabwe's capital, Harare. This study investigated the factors contributing to vulnerability to cholera in the Mbare suburb, with the aim of identifying structural, social, and institutional determinants that sustain recurrent outbreaks. The research was guided by three objectives: to assess the root causes and triggers of cholera in Mbare, to explore how vulnerability is experienced across different population groups, and to examine the community-level coping strategies and responses. The study adopted a qualitative case study approach rooted in an interpretivist paradigm, using interviews, focus group discussions, and document review for data collection. This study found that vulnerability to cholera in Mbare is largely shaped by deteriorating sanitation infrastructure, persistent water shortages, overcrowding, weak institutional coordination, and the limited inclusion of communities in public health planning. Women and informal dwellers were particularly affected due to social and spatial inequalities. Community members have developed coping mechanisms, but these remain informal and unsupported. The study concludes that cholera control in Mbare requires a multi-dimensional strategy that blends infrastructural investment with inclusive governance and culturally grounded public health interventions. Addressing cholera in the area demands not only technical solutions but also social justice and participatory approaches that recognise and integrate local voices and knowledge systems.

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LIST OF ACRONYMS AND ABBREVIATIONS

ACRONYM	MEANING
BUSE:	Bindura University of Science Education
CBO:	Community-Based Organisation
COVID-19:	Coronavirus Disease 2019
FGD:	Focus Group Discussion
GoZ:	Government of Zimbabwe
MoHCC:	Ministry of Health and Child Care
NGO:	Non-Governmental Organisation
PAR:	Pressure and Release (Model)
SDG:	Sustainable Development Goal
SPHERE:	Humanitarian Charter and Minimum Standards in Humanitarian Response
UNICEF:	United Nations Children's Fund
WASH:	Water, Sanitation and Hygiene
WHO:	World Health Organization
ZIMSTAT:	Zimbabwe National Statistics Agency

CHAPTER 1: INTRODUCTION

1.1 Introduction.

Mbare, one of Harare's oldest and most densely populated suburbs, remains persistently vulnerable to cholera outbreaks due to a combination of socio-economic, infrastructural, and environmental challenges. Despite its centrality as a cultural and economic hub, the suburb continues to experience recurring health crises, particularly cholera, which points to deeper systemic issues that need to be assessed. This study seeks to explore the key factors contributing to this vulnerability, emphasizing the role of broken infrastructure, overcrowding, poor sanitation, and weak public health governance. The chapter introduces the research by outlining the background of the problem, justifying the choice of Mbare as the study site, and presenting the aims and objectives of the study. In doing so, it sets the conceptual and contextual groundwork necessary for a comprehensive understanding of cholera vulnerability in urban Zimbabwe.

1.2 Background to the Study

Cholera remains a significant global public health threat, particularly in regions with high levels of vulnerability due to inadequate water, sanitation, and hygiene (WASH) infrastructure. The disease continues to affect millions worldwide, particularly in low-income and densely populated urban areas, where limited access to clean water, poor sanitation, and weak healthcare systems create conditions for outbreaks to thrive. Despite efforts by global health organizations, governments, and humanitarian agencies, cholera remains endemic in many developing countries, leading to thousands of deaths annually.

On a global scale, cholera has been a recurring health crisis across multiple continents, particularly in Africa, South Asia, and Latin America, where vulnerability is driven by economic instability, rapid urbanization, and weak public health systems (World Health Organization [WHO], 2022). According to the World Health Organization (WHO, 2022), cholera affects between 1.3 to 4 million people annually, resulting in 21,000 to 143,000 deaths. The disease remains a marker of socio-economic inequality, disproportionately affecting communities with limited access to safe drinking water and sanitation services.

To effectively assess cholera vulnerability in Mbare, it is important to examine other cases that highlight how structural, environmental, and governance-related factors influence outbreaks. Case studies at global, regional, and local levels demonstrate how certain communities, especially those

in informal or underserved urban environments are repeatedly exposed to similar risks. This comparative framework strengthens the justification for focusing on Mbare.

1.2.1 Global Case Studies

In Haiti, a major cholera outbreak occurred in 2010 following a severe earthquake. The disaster left millions displaced and dependent on emergency shelters, many of which lacked basic sanitation. Limited access to clean water and overwhelmed health services allowed the disease to spread rapidly, particularly in urban centres (Barzilay et al., 2013). Although Mbare has not experienced a natural disaster on this scale, the suburb shares characteristics of infrastructural fragility and limited health service capacity that similarly heighten epidemic risk.

In South Asia, urban slums in Dhaka, Bangladesh have faced ongoing cholera threats for decades. Research has shown that unsafe drinking water, high population density, and inadequate waste management contribute to persistent outbreaks in the city's poorest neighbourhoods (Islam et al., 2017). These conditions mirror those of Mbare, where overcrowding, unreliable water supply, and poor sanitation remain central public health concerns. The Bangladesh experience demonstrates that even with national-level health system improvements, urban slums may remain excluded from effective intervention efforts.

1.2.2 Regional Case Studies (Sub-Saharan Africa)

The 2006 cholera outbreak in Angola severely impacted Luanda's informal settlements, where rapid urbanization had not been matched with adequate service provision. Most affected communities lacked sewer systems and depended on contaminated water sources. The outbreak was intensified by poverty and weak governance, making it difficult to coordinate a timely response (Rebaudet et al., 2013). Mbare exhibits similar patterns of urban neglect, with overstretched infrastructure and minimal state intervention in basic services.

Sierra Leone's 2012 outbreak also presents a significant parallel. The country's capital, Freetown, recorded thousands of cases, mainly in informal settlements. Factors such as unsafe water, poor hygiene practices, and limited access to healthcare facilities contributed to the outbreak's spread (World Health Organization [WHO], 2012). Like Mbare, the affected communities had long been exposed to structural marginalization, making them highly vulnerable to public health emergencies.

1.2.3 Local Case Studies (Zimbabwe)

Zimbabwe's 2008–2009 cholera epidemic offers a direct context for understanding Mbare's vulnerability. Spatial studies of Harare showed that neighbourhoods like Mbare experienced higher infection rates than more affluent areas. This was largely due to overcrowding, outdated sanitation infrastructure, and inconsistent water delivery systems (Mason, Mwanamwenge, & Musasa, 2010). The suburb became a focal point during the epidemic, confirming its longstanding exposure to health-related risks tied to its urban form.

Additionally, broader assessments of Zimbabwe's health system collapse during this period point to governance issues as a major factor in worsening the outbreak. Chigudu (2020) emphasizes that political and economic instability had eroded municipal services, particularly in high-density areas. The absence of coordinated public health interventions left places like Mbare highly exposed.

The more recent 2018–2019 cholera outbreak also revealed that urban suburbs such as Mbare continue to experience the same vulnerabilities. A post-outbreak review noted the continued breakdown in sanitation systems, fragmented public health responses, and the ongoing burden on informal settlements (Chimusoro et al., 2023). These findings demonstrate that Mbare has remained a consistent hotspot for cholera, reinforcing the need for targeted, localized research.

The persistent recurrence of cholera in Mbare, despite the presence of interventions such as water chlorination, communal toilet installations, and health education campaigns, signals a critical gap between policy implementation and on-the-ground realities. This enduring vulnerability, amidst repeated outbreaks including the severe episodes of 2008–2009 and 2018–2019, raises questions about the effectiveness, sustainability, and inclusivity of current public health strategies. These unresolved structural challenges, combined with increasing urban population pressure and decaying infrastructure, have prompted this study. The research seeks to critically examine the underlying risk factors that continue to expose Mbare residents to cholera outbreaks and to explore why previous interventions have failed to yield lasting results. By grounding the analysis in the lived experiences of affected communities, the study aims to contribute to the development of more localized, responsive, and sustainable approaches to cholera prevention in Zimbabwe's informal urban settlements.

1.3 Problem Statement

Despite multiple interventions by public health authorities, including the provision of chlorinated municipal water, the construction of communal toilets, and the implementation of hygiene promotion campaigns, Mbare continues to experience recurrent cholera outbreaks. These interventions, while important, have not sufficiently reduced the community's vulnerability due to persistent failures in infrastructure maintenance, fragmented institutional coordination, and socio-economic marginalization. Policies such as the National Health Strategy and donor-driven programs like the WASH cluster response have been implemented in Harare, yet they often fail to penetrate informal settlements with tailored, sustainable solutions. The ongoing burden of cholera in Mbare, despite these existing measures, highlights critical gaps in governance, equity, and community engagement. This study is therefore necessary to investigate the underlying structural and social factors that continue to undermine cholera control efforts and to assess why current responses remain ineffective in one of Harare's most affected suburbs.

1.4 Aim of the Study

Evaluate vulnerability of high-density low-income urban settlements to cholera pandemic.

1.5 Research Objectives

This study seeks to:

- ✓ Identify vulnerability factors to cholera in Mbare.
- ✓ Assess vulnerability to cholera outbreaks in Mbare.
- ✓ Determine the conditions to deal with vulnerability to cholera outbreaks in Mbare.

The central research question for this study is:

1. What are the key factors contributing to the vulnerability of Mbare to cholera pandemics, and how can these factors be addressed to reduce the risk of future outbreaks?

1.5.1 Sub-questions

i. What are the primary causes of cholera outbreaks in Mbare?
ii. How do socio-economic, environmental, and infrastructural factors influence cholera vulnerability?
iii. What interventions are currently in place to combat cholera in Mbare?
iv. How effective are the existing interventions in reducing cholera risks?

1.6 Justification

This study is necessary because cholera remains a recurring health crisis in Harare, particularly in Mbare, where residents face high exposure risks (Zhou & Ndlovu, 2020). While interventions exist, their effectiveness is often compromised by persistent socio-economic and infrastructural challenges (Gumbo & Ndhlovu, 2021). Therefore, this study is valid by:

Focusing on how Mbare, an urban poor community, particularly in high-density areas, are more exposed to cholera due to limited access to clean water, inadequate sanitation, and institutional neglect. It adds to the broader understanding of how structural conditions shape health risks in marginalized urban settings.

Mbare stands out as a suitable study area because it reflects the typical features of vulnerable urban suburbs in Harare, overcrowding, outdated infrastructure, and poor service delivery. Its repeated experience with cholera makes it an important site for analysing localized vulnerability and community-level responses.

Given the recurrence of cholera in Zimbabwe, especially in urban areas, this study is timely. Despite past interventions, many challenges remain unresolved, making it necessary to re-examine vulnerability patterns and contribute to long-term solutions in public health planning.

1.7 Significance of the Study

This study may hold value in several key areas related to public health and urban development. By examining the factors contributing to cholera vulnerability in Mbare, it is possible that the findings could inform efforts aimed at strengthening water, sanitation, and hygiene conditions within high-density urban settings. Although outcomes cannot be guaranteed, such an inquiry might offer useful insights for stakeholders interested in improving disease prevention strategies and reducing the frequency of outbreaks in similar environments.

In addition, the research may offer relevant knowledge that could guide policymakers in formulating more responsive and inclusive urban health and sanitation frameworks. These findings could potentially highlight gaps in current infrastructure or service delivery models, thereby encouraging the development of more sustainable and context-appropriate policies.

On a community level, the study might also provide a deeper understanding of how local residents perceive cholera risks and navigate related challenges. Such perspectives could help in shaping

more culturally sensitive and practical public health education initiatives, possibly increasing their effectiveness in the long run. While the specific impact remains to be seen, the study is likely to contribute meaningfully to ongoing discussions around urban vulnerability and health equity.

1.8 Definition of Key Terms

1.8.1 Cholera

An acute diarrheal disease caused by vibrio cholerae, transmitted primarily through contaminated water and food (Zhou & Ndlovu, 2020). In the context of this study, cholera refers to a rapidly spreading waterborne infection that causes acute diarrhoea, primarily affecting communities with limited access to clean water and adequate sanitation in Mbare. It is triggered by ingesting food or water contaminated with Vibrio cholerae, making it a frequent threat in overcrowded and under-resourced urban areas like Mbare.

1.8.2 Vulnerability

The degree to which a community or individual is susceptible to harm due to environmental, economic, and social factors (Mumba et al., 2019). It is also explained as the susceptibility or predisposition of a person, group, or community to harm, injury, or effects, often due to factors such as poverty, lack of access to resources, poor health, or social inequality. Vulnerability here describes the extent to which residents of Mbare are exposed to the risk of cholera due to a combination of poor living conditions, low income levels, inadequate infrastructure, and limited access to healthcare. It highlights how social and environmental disadvantages increase susceptibility to disease outbreaks.

1.8.3 Water, Sanitation, and Hygiene (WASH)

Public health interventions aimed at ensuring access to clean water, sanitation facilities, and proper hygiene practices (Munyati, 2021). WASH in this study refers to essential public health measures aimed at reducing disease transmission in urban spaces. It includes the availability of safe drinking water, access to functional sanitation systems, and the promotion of hygiene practices, all of which are often insufficient or absent in informal suburbs like Mbare.

1.8.4 Outbreak

A sudden increase in the number of cases of a disease in a specific geographic area (Gumbo & Ndhlovu, 2021). It is a sudden increase in the number of cases of disease or illness beyond what

is normally expected in a specific geographic area over a particular period of time. An outbreak, in this research, signifies a sharp and unexpected rise in cholera cases within a specific location, such as Mbare. It reflects the failure of preventive systems and signals a public health emergency that requires urgent intervention and coordinated response.

1.8.5 Public Health Infrastructure

The systems and resources necessary for disease prevention, healthcare provision, and emergency response (Zhou & Ndlovu, 2020). This term encompasses the basic facilities, services, and coordination systems necessary to maintain health and control disease spread in a community. In Mbare, weaknesses in public health infrastructure, such as broken water lines, limited clinics, and poor waste management are central to the suburb's vulnerability to cholera outbreaks.

1.9 Conclusion

Chapter One has laid the groundwork for understanding why Mbare remains at the forefront of cholera vulnerability in Harare. By unpacking the persistent challenges tied to inadequate water and sanitation infrastructure, population pressure, and fragile public health systems, the chapter has established a compelling case for further inquiry. It has articulated not only the urgency of addressing recurring cholera outbreaks in high-density suburbs like Mbare but also the critical gaps in localized research that continue to hinder effective responses. Through a clear presentation of the study's aim, objectives, and justification, the chapter invites a deeper examination of the structural and social dynamics fuelling disease outbreaks. As the next chapter explores existing literature, it will further contextualize these dynamics and sharpen the analytical lens through which this public health issue is approached.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter explores existing academic discussions and documented cases that relate to vulnerability to cholera, with particular attention to informal urban settlements such as Mbare in Harare. The review examines vulnerability factors, evaluate the effectiveness of current interventions, and identifies potential solutions. It explores key concepts such as vulnerability, WASH (water, sanitation, and hygiene), and public health infrastructure from global, regional, and local perspectives. Theoretical and conceptual frameworks are also discussed to anchor the analysis and guide the investigation into Mbare's persistent cholera outbreaks.

2.2 Conceptualizing Vulnerability to Cholera in Urban Settlements

Within the context of public health, vulnerability refers to the predisposition of populations to harm due to socio-economic, infrastructural, and environmental deficiencies. In high-density, low-income suburbs like Mbare, vulnerability is heightened by overcrowding, deteriorated sanitation infrastructure, limited access to clean water, and fragile healthcare systems (Mumba, Chisenga, & Banda, 2019; Cutter, Mitchell, & Scott, 2000). In the criterion under vulnerability, there are key concepts that revolve and these are as follows;

Exposure is the degree to which individuals or communities come into contact with cholera-bearing agents, primarily contaminated water and unsanitary environments. In Mbare, exposure manifests through reliance on unprotected wells, intermittent piped supplies, overflowing open drains, and broken sewer lines that facilitate the transmission of Vibrio cholerae into household water sources (Munyati, 2021; Rebaudet, Sudre, Faucher, & Piarroux, 2013).

Sensitivity describes the extent to which people suffer harm after exposure to cholera, and in the case of Mbare, this is heightened among young children, the elderly, and malnourished individuals who experience severe dehydration, while overcrowded housing amplifies the speed and scale of transmission (Cutter, Mitchell, & Scott, 2000; Wisner, Blaikie, Cannon, & Davis, 2004; IPCC, 2014). Biologically, young children, the elderly, and malnourished individuals experience more

severe dehydration and complications; socially, overcrowded single-room dwellings in Mbare amplify transmission chains, turning isolated cases into swift neighbourhood outbreaks (Mumba et al., 2019; Cutter et al., 2000).

Adaptive capacity encompasses the resources and abilities, at both household and institutional levels that enable anticipation, coping, and recovery from cholera events. In Mbare, under-resourced health centres, limited access to oral rehydration salts, water-purification supplies, and insufficient community health committees constrain local coping mechanisms (Wisner, Blaikie, Cannon, & Davis, 2004).

Resilience refers to the longer-term ability of a socio-ecological system to absorb shocks, reorganize, and regain essential functions after a crisis. While adaptive capacity addresses immediate response, resilience considers the sustainability of those capacities over time through institution building, infrastructure maintenance, and community education (IPCC, 2014).

Social vulnerability captures how socio-economic inequalities, poverty, informal employment, low literacy, and insecure tenure, limit people's ability to anticipate, cope with, and recover from cholera threats. Informal market traders and day labourers in Mbare often lack the financial resources and formal support needed to purchase disinfectants or seek timely medical care (Cutter et al., 2000).

Physical (environmental) vulnerability pertains to the state of infrastructure and surroundings that affect pathogen persistence and spread. Leaky water mains, clogged open drains, and uncollected solid waste create ideal conditions for bacterial proliferation in Mbare's informal settlement layout (Rebaudet et al., 2013).

Institutional vulnerability concerns weaknesses in governance structures, policy enforcement, and inter-agency coordination that undermine effective cholera management. In Harare, overlapping mandates among city health departments, water utilities, and NGOs often result in delayed outbreak responses; Mbare's clinics lack real-time reporting channels and sufficient laboratory capacity for prompt case confirmation (Chigudu, 2020).

Behavioural and cultural factors include community knowledge, beliefs, and practices around water use, sanitation, and health-seeking. Misconceptions, such as attributing cholera to witchcraft,

or distrust of official messages can delay treatment and reduce uptake of preventive measures in Mbare (Chanda, Chibwe, & Mulenga, 2021).

These interrelated challenges reflect systemic neglect and exclusion from formal urban planning. Despite interventions, the recurrence of cholera suggests that Mbare's layered vulnerabilities remain unaddressed. Thus, a multidimensional understanding of vulnerability is crucial to inform more effective public health interventions. This conceptual clarity directly supports Objective 1 by identifying the risk components in Mbare.

2.3 Cholera in the Urban Context: Global, Regional, and Local Perspectives

Globally, cholera outbreaks in urban slums often follow infrastructure breakdowns or natural disasters. For example, post-earthquake Haiti experienced a deadly outbreak due to disrupted water systems and sanitation collapse (Barzilay et al., 2013). In Dhaka, Bangladesh, persistent outbreaks in low-income neighbourhoods result from contaminated water supplies and poor sewerage (Islam et al., 2017).

Similar trends have been observed across African cities, Angola's 2006 Luanda outbreak and Sierra Leone's 2012 epidemic in Freetown revealed how unplanned urban expansion and institutional weaknesses fuel disease spread (Rebaudet et al., 2013; WHO, 2012). These examples illustrate that cholera thrives in environments where rapid urbanization outpaces infrastructure development.

Turning to Zimbabwe, Mbare has consistently been among the most cholera-affected suburbs during past outbreaks. During the 2008–2009 crisis, Mbare recorded a high number of cases due to failures in water delivery, sanitation, and waste removal systems (Mason et al., 2010). The pattern repeated in 2018–2019, confirming that the same underlying risks remain (Chimusoro et al., 2023). These experiences indicate that addressing Mbare's cholera problem requires more than emergency response, it demands a thorough understanding of systemic vulnerability hence, affirming the relevance of this study and justify the localized focus.

2.4 Urban Health Risks and Informal Settlements

Within sub-Saharan Africa, densely populated cities such as Lusaka, Kinshasa, and Harare have experienced recurrent cholera epidemics, often triggered by failures in water supply systems and the presence of contaminated environments. According to Luquero et al. (2011), these urban

outbreaks are characterized by a high rate of transmission due to population density and limited waste management. Such conditions have rendered urban cholera less of a sporadic phenomenon and more of a structural challenge.

Climatic factors have also been implicated in the variability of cholera incidence in urban areas. The World Health Organization (2021) reports that fluctuations in temperature and rainfall patterns are increasingly associated with the emergence and intensification of cholera in African cities. Rain-induced flooding often leads to the mixing of sewage and drinking water sources, especially in neighbourhoods lacking proper drainage systems.

Historical outbreaks in Harare reflect these broader trends. The 2008–2009 cholera epidemic, which significantly affected Mbare and other high-density suburbs, was driven by infrastructural collapse, erratic water delivery, and the accumulation of uncollected solid waste (Mason, 2009). Chigudu (2020) underscores that this outbreak exposed long-standing institutional failures and inequities in urban governance, highlighting how health crises are embedded within socio-political and spatial inequalities.

Despite regional documentation of urban cholera dynamics, literature that delves into the intra-urban variations of vulnerability remains limited. Particularly in areas like Mbare, specific patterns related to population behaviour, service provision, and settlement characteristics have not been comprehensively examined in existing academic discourse.

2.5 Water, Sanitation, and Hygiene (WASH) and Cholera

Access to safe water, adequate sanitation, and proper hygiene practices, collectively referred to as WASH, plays a fundamental role in the prevention and control of cholera. Cholera transmission is predominantly linked to the ingestion of water or food contaminated with Vibrio cholerae, and thus, WASH infrastructure becomes central in limiting the spread of the disease (UNICEF, 2021). In urban settlements where piped water systems are insufficient or dysfunctional, residents often rely on informal and unsafe water sources, which elevates the risk of contamination.

WHO (2022), emphasizes that poor WASH conditions remain one of the most persistent and preventable drivers of cholera outbreaks, particularly in sub-Saharan African. The use of shared and frequently unclean latrines, inadequate waste disposal systems, and limited handwashing facilities contribute to persistent cycles of transmission. In densely populated areas, these

deficiencies are often worsened by the absence of systematic maintenance and water quality monitoring.

In the case of Harare's high-density suburbs, including Mbare, periodic breakdowns of municipal water infrastructure compel residents to resort to shallow wells and boreholes. Research by Mukaratirwa et al. (2019) illustrates that such alternative water sources are often unprotected and exposed to environmental contaminants, particularly in areas with open defecation or blocked drainage. This interplay between inadequate water provision and poor sanitation creates a highly conducive environment for the proliferation of cholera pathogens.

Furthermore, hygiene behaviour is a critical, yet frequently overlooked, factor in controlling the spread of cholera. Studies have shown that the effectiveness of WASH interventions depends not only on the availability of infrastructure but also on behavioural practices such as handwashing with soap, food hygiene, and water treatment at the household level (Lantagne & Clasen, 2012). In low-income urban communities, however, hygiene behaviours are often constrained by cost, limited awareness, and competing survival needs.

A key gap in the literature concerns the sustainability and scalability of WASH interventions in informal urban settlements. While numerous emergency response programs have deployed temporary sanitation and water supply systems during cholera outbreaks, few studies assess their long-term impact or integration into city-wide public health strategies (Taylor et al., 2015). This limits the ability of urban health planners to implement preventative WASH frameworks that address the root causes of cholera vulnerability in places such as Mbare.

Thus, it is necessary to responds to these gaps by focusing on the specific water and sanitation conditions in Mbare, assessing not just access, but quality, reliability, spatial disparities, and informal adaptations. By grounding this inquiry in both technical and socio-political perspectives, the research aims to deepen understanding of how urban infrastructure systems shape vulnerability to cholera in a historically neglected urban settlement.

2.6 Public Health Infrastructure and Disease Management

The ability to prevent and control diseases like cholera depends heavily on robust systems, the strength of a country's public health infrastructure. This includes everything from functioning clinics to rapid response teams and consistent disease surveillance. In Mbare, health infrastructure

is overstretched, and inter-governmental coordination remains weak, undermining outbreak response effectiveness (Chigudu, 2020).

Health facilities in Mbare are often under-resourced, lacking both personnel and supplies. When outbreaks occur, the delay in response and the limited capacity of local clinics can worsen the crisis. Furthermore, responsibilities between different government levels and agencies are sometimes unclear, leading to duplication or gaps in service delivery.

Strengthening disease management requires both physical investments and institutional reforms. Clear communication, efficient data collection, and improved partnerships between local and national actors are key to responding effectively to health emergencies in places like Mbare.

2.7 Theoretical Framework

This study draws on the Pressure and Release (PAR) Model as a foundation for understanding how different factors converge to increase the risk of disasters such as cholera outbreaks. The model identifies a progression of vulnerability, from root causes to dynamic pressures to unsafe conditions (Wisner et al., 2004).

The PAR model

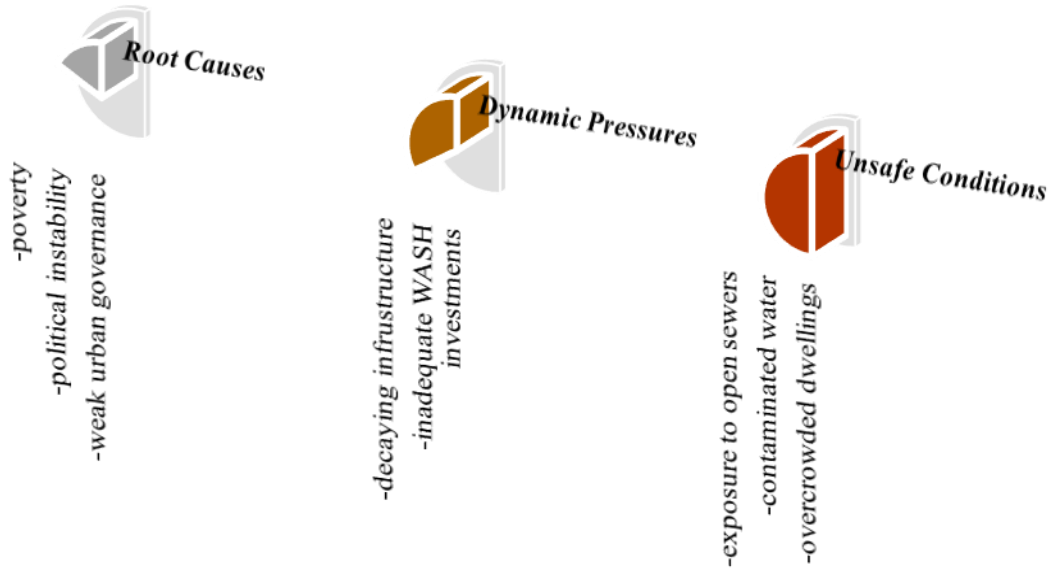

Figure 1.1: Conceptual Framework

In Mbare, the cholera risk is intensified by the systemic collapse of urban governance, manifesting in inadequate water service delivery, broken sewer systems, and poor waste management. These risks are not incidental but arise from a historical trajectory of infrastructural neglect and policy inertia. Scholars such as Chigudu (2020) have argued that cholera outbreaks in Harare should be understood not only as biomedical events but also as political phenomena, emerging from deep-rooted failures in urban planning and accountability. This aligns with the Pressure and Release (PAR) model's emphasis on root causes, such as weak institutional capacity and economic marginalisation, as foundational drivers of disaster risk.

The relevance of governance in shaping health outcomes is further supported by Revi et al. (2014), who underscore the importance of inclusive urban management in achieving resilient cities. Their findings, drawn from multiple urban case studies globally, demonstrate that decentralised, participatory governance structures lead to more responsive and adaptive public health interventions. However, in many African cities, including Harare, governance remains centralised, fragmented, and poorly coordinated across departments. For instance, Manzungu and Chioreso (2012) observe that overlaps between municipal councils, parastatals, and central government in Zimbabwe often result in duplicated or stalled water and sanitation interventions.

In practice, several urban cholera responses have shown how governance reform can improve outcomes. For example, in Lusaka, Zambia, Chanda et al. (2021) highlight how multi-sectoral coordination and community involvement significantly reduced cholera morbidity during the 2017–2018 outbreak. Similarly, in Dakar, Senegal, a participatory sanitation upgrade led to a measurable decline in cholera cases (UN-Habitat, 2016). These examples affirm that governance frameworks which integrate local knowledge, institutional clarity, and long-term planning are critical for reducing epidemic risk.

However, gaps persist in the literature and practice, particularly in terms of how urban cholera governance is studied at the suburb level. Many studies focus on national or city-wide systems, overlooking the hyper-local governance arrangements that affect day-to-day service delivery in informal settlements. There is also limited empirical data on how residents themselves perceive and navigate governance failures, insights which are essential for designing bottom-up public

health solutions. Additionally, little research has been done on how informal actors (e.g., water vendors, political brokers, or resident associations) either substitute or undermine formal governance structures in suburbs like Mbare.

This study notifies gaps as it examines not only formal governance failures but also the lived governance experiences of Mbare residents in relation to water, sanitation, and cholera response. By doing so, it extends the application of the PAR model to capture not just structural vulnerabilities, but also the social and institutional dynamics that determine risk outcomes in urban Zimbabwe.

2.8 Conceptual Framework

The conceptual framework guiding this study is rooted in the Pressure and Release (PAR) model developed by Wisner et al. (2004), which explains disaster risk as the result of intersecting pressures of vulnerability and hazard. The model shows how root causes, dynamic pressures, and unsafe conditions such as limited access to services and weak urban governance, interact to produce disaster risk when exposed to a hazard like cholera.

According to the PAR model, vulnerabilities in urban settings are not accidental but systematically produced through structural inequalities and socio-economic marginalization (Wisner et al., 2004). In high-density suburbs like Mbare, such vulnerabilities manifest through overcrowding, inadequate sanitation, intermittent water supply, and poor waste management. These features align with what Cutter et al. (2003) describe as components of a "social vulnerability" framework, conditions that exacerbate human exposure to health hazards due to limited adaptive capacity.

Urban vulnerability to cholera is further exacerbated by infrastructural decay and fragmented institutional coordination. Studies by Chigudu (2020) and Mukaratirwa et al. (2019) highlight how recurring cholera outbreaks in Zimbabwe are linked to systemic failures in municipal governance, especially in the maintenance of essential services like water and sewer systems. This reflects what Blaikie et al. (1994) conceptualize as the progressive build-up of unsafe conditions under pressures of poor resource distribution, political neglect, and environmental mismanagement.

The conceptual framework thus integrates the PAR model with urban vulnerability theory to illustrate how socio-political, environmental, and infrastructural conditions in Mbare amplify susceptibility to cholera outbreaks. It emphasizes the need to understand vulnerability not only as

an outcome of poverty but also as a product of structural and policy-related failures, as noted by Birkmann et al. (2013).

Although several studies have utilized the PAR model to explore disaster vulnerability, few have tailored its application to localized urban health crises such as cholera in Zimbabwean contexts. There is limited empirical research that contextualizes this framework in high-density settings where informal settlements intersect with formal governance systems. This conceptual gap underscores the relevance of using the PAR model in understanding the compounded vulnerability in urban health emergencies.

2.9 Community Perceptions and Behavioral Responses

Community responses to cholera are shaped by both experience and perception. In many informal areas, repeated exposure to outbreaks may result in reduced urgency or awareness. Some people may turn to home remedies or delay seeking care due to financial or cultural reasons (Chanda et al., 2021).

If public health interventions do not engage effectively with community beliefs and constraints, their impact will remain limited. Misinformation or fear may also lead to reluctance in reporting symptoms or using public facilities. Therefore, understanding local perspectives is essential for tailoring education campaigns and ensuring public cooperation during outbreaks.

2.10 Conclusion to the Chapter

This chapter has critically examined existing literature on vulnerability to cholera in informal urban settlements, with particular emphasis on Mbare as a localized context. It has unpacked key concepts such as vulnerability, exposure, resilience, adaptive capacity, and WASH, and has reviewed their relevance through global, regional, and Zimbabwean case studies. Theoretical insights drawn from the Pressure and Release (PAR) model and Social Vulnerability Index (SoVI) have guided the framing of cholera risk as a product of intersecting structural, socio-economic, and institutional failures. The literature highlights that while urban cholera outbreaks are well-studied globally, few investigations explore suburb-level dynamics or the role of community coping mechanisms in Zimbabwe's informal settlements. Furthermore, the persistence of cholera in areas like Mbare, despite numerous interventions, signals a disconnect between top-down policies and localized vulnerabilities. This review has also identified critical knowledge gaps, including the lack of disaggregated data, limited empirical application of vulnerability models, and

inadequate attention to governance at the community scale. These gaps directly inform the rationale and design of the present study, which now proceeds to outline the research methodology adopted to investigate the multi-dimensional factors sustaining cholera vulnerability in Mbare.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology adopted to investigate vulnerability to cholera in Mbare, a high-density suburb of Harare. The chapter discusses the research philosophy underpinning the study, the case study design, description of the study area, and details on sampling strategies, data collection techniques, and methods of data analysis. Ethical considerations and the limitations encountered during fieldwork are also addressed. Anchored in an interpretivist paradigm, the study adopts a qualitative approach to uncover lived experiences, contextual perceptions, and institutional dynamics surrounding cholera outbreaks. Given Mbare's unique socio-economic and infrastructural conditions, this approach enables a flexible and nuanced exploration of vulnerability, particularly among marginalized groups. Through interviews, focus group discussions, and document reviews, the study aims to generate in-depth understanding of the structural, behavioural, and governance-related factors contributing to recurrent cholera outbreaks in the suburb. By clearly defining the methodological framework, this chapter lays the groundwork for generating credible, context-sensitive findings that will be analysed in subsequent chapters.

3.2 Study Area

The study was conducted in Mbare, one of the oldest and most densely populated suburbs in Harare, Zimbabwe. Located approximately three kilometres south of Harare's central business district, Mbare is a socio-spatially complex area marked by informal settlements, overburdened infrastructure, and deep-rooted socio-economic inequalities. Originally established as a residential zone for male migrant workers during the colonial era, Mbare has evolved into a mixed-use neighbourhood comprising residential housing blocks, informal markets, and transport hubs (Chirisa, 2010). Today, it hosts tens of thousands of people living in high-density conditions, often in overcrowded and substandard accommodations.

Several environmental and infrastructural characteristics of Mbare significantly contribute to its vulnerability to cholera outbreaks. Many residents rely on shared or communal sanitation facilities that are poorly maintained, and access to clean, piped water is inconsistent, with many households turning to boreholes and unprotected wells. The area also experiences chronic waste management issues, with refuse often left uncollected for extended periods. These conditions create an ideal

environment for waterborne diseases, especially during the rainy season when runoff increases contamination of water sources (Gumbo & Nhapi, 2006; Munyati, 2021).

Moreover, Mbare serves as a major transportation and trading hub, with informal vendors and open-air markets operating under unsanitary conditions. This constant influx and outflow of people increases the risk of rapid disease transmission within the suburb and to surrounding areas. The interplay of mobility, infrastructural decay, and poverty creates a layered public health challenge that makes Mbare a critical case for studying cholera vulnerability in urban Zimbabwe (Zhou & Ndlovu, 2020). Figure 3.1 illustrate the location of the study area.

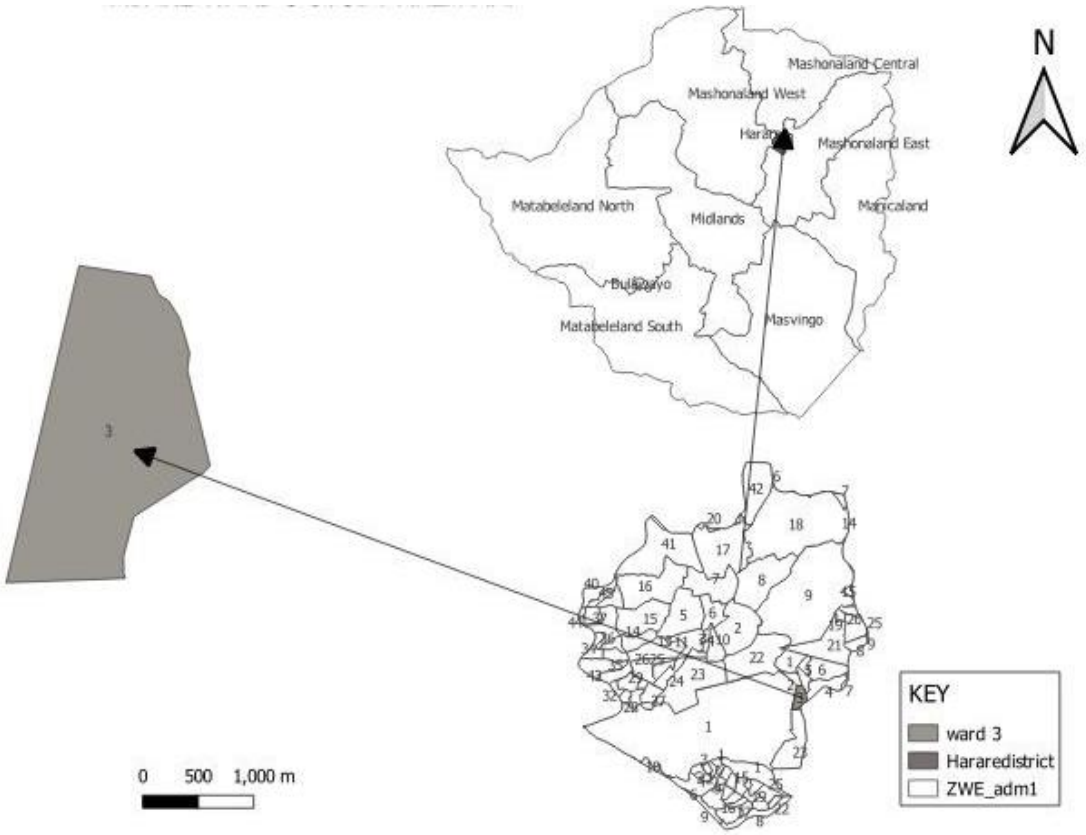

Figure 2.1: Location of the study area map (Mbare ward_3)

3.3 Research Philosophy

This study was grounded in the interpretivist research paradigm, which is anchored in the belief that reality is socially constructed and contextually experienced by individuals. Interpretivism posits that knowledge is not objective or fixed, but rather shaped through human interaction, meaning-making, and cultural interpretation (Alharahsheh & Pius, 2020; Pham, 2018). In the

context of this research, where the focus is on understanding the lived experiences and perceptions of Mbare residents regarding cholera outbreaks, the interpretivist paradigm was especially relevant.

The application of this philosophical lens was crucial in capturing how participants interpreted their vulnerability, not just through infrastructural realities but also through social roles, spiritual beliefs, coping strategies, and perceptions of institutional response. By acknowledging that cholera is not only a biomedical issue but also a social and cultural phenomenon, the interpretivist approach allowed the study to explore how gender, poverty, household structure, and religious beliefs influence both perceived risk and behavioural responses.

This paradigm informed the choice of qualitative methods, particularly the use of semi-structured interviews, which allowed for in-depth exploration of participants' narratives. It also shaped the thematic analysis, which prioritised the identification of patterns and meanings across different groups such as between caregivers, health workers, and officials. The interpretivist stance encouraged reflexivity, meaning that the researcher remained aware of their influence on the research process and continuously engaged with participants' realities rather than imposing pre-defined categories.

Ultimately, the interpretivist paradigm provided a foundation for understanding vulnerability as a multi-dimensional construct, shaped by daily struggles, beliefs, and institutional realities in Mbare. This approach was instrumental in clarifying not just what the participants said, but how and why they made sense of their world in the face of a recurring public health threat.

3.4 Research Design

This study employed a qualitative case study design, which was most appropriate for exploring the complex, context-specific nature of cholera vulnerability in Mbare. Case study research is particularly effective when the researcher seeks to understand a real-world phenomenon within its natural setting, especially when the boundaries between phenomenon and context are not clearly defined (Yin, 2014). Given that cholera outbreaks in Mbare are influenced by a confluence of environmental, infrastructural, socio-economic, and institutional factors, a case study approach allowed for a holistic investigation of these interdependencies.

The design was guided by the interpretivist paradigm, which values the subjective meanings individuals assign to their lived experiences. This meant prioritising the voices and perspectives of residents, health workers, and municipal officials, and interpreting their narratives in relation to the structural conditions in which they live and work. As Stake (1995) asserts, case study research enables researchers to "enter the scene with a sincere interest in learning how people function in their settings," which aligned directly with this study's aim of uncovering the realities behind recurring cholera outbreaks in Mbare.

Through the case study design, the research was able to capture the gendered impacts of cholera vulnerability, such as women's increased caregiving burdens and reduced mobility due to unsafe sanitation facilities. It also allowed exploration of household-level impacts on children, institutional gaps, and even spiritual interpretations of the disease, all within a single, bounded urban community. These layers of inquiry would have been difficult to uncover through experimental or survey-based approaches.

Moreover, the case study framework facilitated thematic analysis as the primary mode of interpretation, enabling the researcher to generate themes such as infrastructural decay, water insecurity, spiritual framing of disease, and resilience mechanisms. These themes emerged organically from rich, detailed interview data, rather than being imposed through rigid hypothesis-testing frameworks (Creswell & Poth, 2018).

That being said, the qualitative case study design supported the research objectives by enabling an in-depth, multifaceted understanding of cholera vulnerability in Mbare. It ensured that findings were grounded in the lived realities of participants while remaining sensitive to the socio-cultural and institutional context shaping those realities.

3.5 Target Population

The target population for this study comprised residents of Mbare, health workers stationed in local clinics, and municipal officials involved in water, sanitation, and health services. Mbare is home to an estimated population of over 100,000 people, many of whom live in overcrowded housing units, rely on shared sanitation, and face regular water shortages (Zhou & Ndlovu, 2020). The resident population is diverse in terms of age, gender, income levels, and religious beliefs, yet uniformly affected by infrastructural neglect and recurring cholera outbreaks. Within this population, the study focused on adult residents, particularly those with caregiving responsibilities,

as well as health personnel and local government actors directly involved in outbreak response. These groups were selected for their lived experience and professional engagement with cholera vulnerability, offering valuable insights into both community-level coping strategies and systemic response gaps. Their perspectives were critical to understanding how socio-environmental conditions, health behaviours, and institutional dynamics intersect to shape vulnerability to cholera in Mbare.

3.6 Sampling Procedures

The study employed a purposive sampling technique to identify participants who possessed direct knowledge or experience of cholera outbreaks and related vulnerabilities in Mbare. This non-probability sampling method was selected because it allows the researcher to deliberately target individuals who are especially knowledgeable about or affected by the phenomenon under investigation (Palinkas et al., 2015). In this case, the sample included ten community residents diverse in gender, age, housing conditions, and caregiving responsibilities alongside two frontline health workers and one municipal official from the Department of Waste Management and Sanitation.

Purposive sampling was applied in alignment with the qualitative case study design, ensuring that participants were selected based on their relevance to the study's thematic concerns, such as water access, sanitation practices, disease perception, and public health response. For instance, women caring for children were prioritised to highlight the gendered dimensions of vulnerability, while health personnel and council representatives were included to provide institutional perspectives. This approach aligns with previous studies on public health and urban informality, where in-depth insight rather than statistical generalisation is the goal (Marshall & Rossman, 2016; Gentles et al., 2015).

The sample of thirteen participants was adequate to reveal a rich range of experiences and perspectives while remaining manageable within the study's resource and time constraints. It allowed for data saturation, the point at which no new themes emerged from additional interviews, thereby enhancing the credibility of the findings. By focusing on individuals embedded in different layers of the outbreak experience, purposive sampling contributed significantly to addressing the research problem by uncovering the multi-dimensional nature of cholera vulnerability in a densely populated urban setting.

3.7 Data Collection Methods

This study used multiple qualitative data collection methods, semi-structured interviews, document review, and focus group discussions to ensure triangulation and enhance the trustworthiness of findings. Triangulation, as defined by Patton (2002), involves using multiple data sources or methods to cross-validate findings, thereby strengthening the accuracy and credibility of the research. Each method was selected based on its relevance to the study's objectives and capacity to uncover context-specific insights into cholera vulnerability in Mbare. The combination of tools ensured a rich and nuanced understanding of both personal experiences and institutional responses.

3.7.1 Semi-Structured Interviews

Semi-structured interviews were used as the primary data collection method, given their flexibility and capacity to elicit in-depth information. This method involves using a guide with pre-set open-ended questions, while also allowing the interviewer to probe and follow up based on participants' responses (Kvale & Brinkmann, 2009). The interviews explored variables such as water access, sanitation practices, household caregiving burdens, cholera risk perception, coping strategies, and trust in public health institutions.

The interviews were conducted with thirteen purposively selected participants, including ten community residents, two health workers, and one municipal official. Each interview lasted between 15 and 25 minutes and was conducted in the local language (ChiShona) or English, depending on participant preference. Interviews were audio-recorded with consent, and detailed field notes were maintained to capture non-verbal cues and contextual observations.

This method was employed to generate thick descriptions of participant experiences and interpretations, allowing the study to address its central research problem: how and why residents of Mbare are vulnerable to recurring cholera outbreaks. The conversational nature of the interviews made it possible to capture subtle but important differences in how vulnerability is perceived by women, caregivers, health professionals, and local authorities.

3.7.2 Document Review

Document review was employed as a secondary method to extract existing data and cross-reference findings from primary sources. This involved analysing a range of official documents, including government cholera outbreak reports, city council sanitation records, policy briefs, and

NGO publications. These documents provided historical context, epidemiological trends, institutional mandates, and previous intervention outcomes related to cholera in Harare and specifically Mbare.

Document analysis was guided by a systematic extraction of data related to: outbreak timelines, reported case numbers, identified causes, response strategies, and policy gaps. According to Bowen (2009), document review enhances qualitative studies by offering background, confirming trends, and adding depth to field observations. For example, data from the 2008 and 2018 cholera reports confirmed participants' accounts of recurring outbreaks and municipal delays in waste management. Policy documents from the Ministry of Health were useful in assessing institutional responsibilities and limitations in urban health governance.

By comparing documentary evidence with participant narratives, this method helped identify discrepancies between institutional records and lived experiences, further enriching the thematic analysis.

3.7.3 Focus Group Discussions

Focus Group Discussions (FGDs) were also conducted to capture collective community perspectives and encourage interactive reflection among participants. FGDs are useful in exploring shared values, social norms, and group dynamics that may not emerge in individual interviews (Krueger & Casey, 2015). One FGD was held with five female caregivers and another with four male residents, each lasting approximately 45 minutes.

Discussions focused on variables such as communal water collection practices, sanitation sharing arrangements, perceptions of cholera as divine punishment, and coping mechanisms. Participants debated beliefs, highlighted challenges in collective hygiene efforts, and shared experiences of past outbreaks. The FGDs allowed the researcher to observe how ideas were negotiated and contested within community groups, offering insight into gendered vulnerabilities and inter-household dynamics.

These discussions were audio-recorded and transcribed, and thematic patterns were later compared to those from individual interviews. FGDs enhanced the reliability of the data and provided a forum for understanding collective interpretations of risk and resilience, especially among women who often manage sanitation and caregiving duties at the household level.

This triangulated approach to data collection combining interviews, document analysis, and group discussions, ensured that findings were comprehensive, credible, and firmly rooted in both individual and collective lived realities. It also aligned with the interpretivist paradigm by foregrounding participants' subjective meanings while incorporating factual, institutional, and historical evidence to contextualize those meanings (Creswell & Poth, 2018).

3.8 Data Analysis Procedures

The researcher employed thematic analysis to interpret the qualitative data collected through interviews, focus group discussions, and document reviews. This approach was chosen for its flexibility and depth in identifying patterns of meaning across participant narratives (Braun & Clarke, 2006). After conducting the interviews and FGDs, all recordings were transcribed verbatim and translated from ChiShona to English where necessary, preserving key idiomatic expressions to retain cultural and contextual meaning. The researcher then engaged in multiple readings of the transcripts to gain familiarity with the data and to immerse themselves in the social realities expressed by participants.

Using Braun and Clarke's six-step framework, initial codes were manually generated by highlighting recurring ideas, phrases, and concerns. This was done using colour-coded matrices to systematically compare perspectives across participant groups (e.g., men vs. Women, residents vs. Officials). Codes were then collated into broader themes that reflected key concerns such as infrastructural decay, water insecurity, spiritual interpretations, institutional inefficiencies, and community resilience. These themes were not predetermined but were derived inductively from the data to ensure alignment with participant experiences.

The researcher continuously reviewed and refined themes to ensure internal consistency and coherence, cross-checking emerging patterns against the research objectives. A detailed analytical narrative was then developed, linking each theme to the central aim of understanding cholera vulnerability in Mbare. To ensure transparency and confirmability, document review data were triangulated with field responses, enabling validation of timelines, institutional claims, and outbreak trends. This integrated and reflexive approach to thematic analysis allowed for the generation of credible, community-grounded insights into how cholera risk is perceived, experienced, and navigated within the Mbare context.

The analysed data were presented thematically in line with the study objectives. Major themes such as infrastructural decay, water insecurity, governance gaps, and community coping mechanisms were developed from the coding process and illustrated using verbatim quotes from participants to retain contextual meaning. Where appropriate, summaries were supported with tables and figures to enhance clarity and show patterns across respondents. This approach ensured that the findings were not only descriptive but also systematically organised to reflect the lived realities of Mbare residents.

3.9 Trustworthiness of the Study

To ensure methodological rigour and integrity, the study applied Lincoln and Guba's (1985) four criteria for trustworthiness in qualitative research: credibility, transferability, dependability, and confirmability. These standards are essential for evaluating whether the findings accurately represent participants' experiences and whether they are grounded in a robust and transparent research process.

3.9.1 Credibility

To enhance the credibility of the study, the researcher employed a series of field-based and methodological strategies aimed at ensuring the truthfulness and reliability of the findings. First, data triangulation was used by drawing evidence from three sources, semi-structured interviews, focus group discussions, and document review. This allowed for the verification of recurring patterns across individual experiences, community narratives, and institutional records. Second, the researcher maintained prolonged engagement in the field, building rapport and trust with participants, which helped elicit deeper and more contextually grounded responses. Third, member checking was incorporated at the end of each interview by summarising responses back to participants and inviting them to validate or clarify their contributions.

These techniques were intentionally adopted to ensure that the data reflected the actual experiences of residents in Mbare and minimized the risk of misrepresentation. Such strategies are widely recognised in qualitative research for enhancing credibility. According to Lincoln and Guba (1985), credibility is the cornerstone of trustworthiness and is achieved through activities such as triangulation, member checking, and prolonged engagement. Shenton (2004) further affirms that validation by participants and cross-referencing multiple sources are essential in confirming the authenticity of qualitative findings. The combination of these methods ensured that the study's

insights were robust, grounded, and reflective of the complex realities surrounding cholera vulnerability in Mbare.

3.9.2 Transferability

Transferability concerns the extent to which the findings can be applied in other similar settings. This was addressed by providing thick, detailed descriptions of the study context, including demographic, geographic, and socio-economic characteristics of Mbare. Such contextual richness allows readers to determine whether the findings are relevant to other high-density, cholera-prone urban areas in Zimbabwe or similar settings in Sub-Saharan Africa (Polit & Beck, 2012). For example, by elaborating on the nature of informal housing, sanitation access, and caregiving structures in Mbare, the study provides a basis for assessing transferability across comparable urban settlements.

3.9.3 Dependability

Dependability relates to the consistency and replicability of the research process. This was achieved by maintaining a clear audit trail, including documentation of the research design, sampling procedures, interview guides, transcription protocols, coding steps, and analytical decisions. All stages of data collection and interpretation were carefully recorded to ensure that another researcher could trace the logic and process of the study. This approach aligns with Shenton's (2004) emphasis on methodological transparency as a hallmark of dependable qualitative research.

3.9.4 Confirmability

Confirmability reflects the degree to which the findings are shaped by participants' views rather than researcher bias. To achieve this, the researcher maintained reflexive field notes throughout the data collection process, documenting personal impressions, emerging questions, and possible assumptions. These notes were regularly reviewed to ensure they did not influence data interpretation. Additionally, raw data (e.g., transcripts and notes) were kept and securely stored to allow for external verification if required. This strategy ensured that the study's conclusions were traceable to actual data and supported by participant voice, as recommended by Nowell et al. (2017).

3.10 Ethical Considerations

The study was conducted in adherence to established ethical principles for research involving human participants, as outlined in the Belmont Report (1979) and reinforced by institutional ethical guidelines. Approval was obtained from the Bindura University of Science Education Ethics Review Committee, and participants were fully informed about the purpose, scope, and voluntary nature of the research before their involvement.

Informed consent was obtained from all participants, either in writing or verbally (where literacy or situational constraints applied). Prior to each interview or focus group discussion, participants were provided with clear information about the study's objectives, how the data would be used, and their right to withdraw at any time without consequence. They were given the opportunity to ask questions and consent was documented accordingly. This process ensured respect for participant autonomy, as required under ethical research principles (Resnik, 2018).

Confidentiality and anonymity were strictly observed. All names were replaced with pseudonyms, and identifying information such as job titles or specific addresses, was either generalized or removed. Data was stored securely in password-protected devices, and access was limited to the researcher only. Audio recordings and field notes were also anonymized during transcription to protect participants' identities, in line with ethical standards for safeguarding sensitive data (Israel & Hay, 2006).

The study also upheld the principle of beneficence by minimizing harm and maximizing potential benefits. Interviews were conducted in safe, private, and comfortable environments to avoid distress or exposure. The researcher was sensitive to cultural norms and religious beliefs, especially when discussing topics such as disease causation and spiritual interpretations. No financial incentives were offered, but participants were thanked respectfully and treated with dignity throughout the research process.

Lastly, justice was observed by ensuring that participant selection was fair and based on relevance to the research, not convenience or vulnerability. Community voices, especially women and caregivers often overlooked in policy discourses, were intentionally prioritized to ensure inclusivity and balance.

These ethical measures not only safeguarded the dignity and rights of participants but also enhanced the credibility and integrity of the research findings.

3.11 Limitations of the Study

Despite careful planning and execution, several limitations may have influenced the reliability and validity of this study's findings. First, the small sample size, limited to thirteen participants, may restrict the generalisability of the results. Although this aligns with qualitative research goals that prioritise depth over breadth, it may mean that certain perspectives within the broader Mbare community were not captured. To mitigate this, participants were purposively selected for diversity in age, gender, roles, and exposure to cholera-related experiences, ensuring that a range of viewpoints and realities were represented (Patton, 2002).

Secondly, the time constraints under which data collection occurred limited the opportunity for prolonged engagement, which may have reduced opportunities for deeper rapport and richer narratives. To address this, interviews were conducted in participants' familiar environments and during appropriate hours (including breaks and lunch periods), promoting openness and contextual depth.

Thirdly, the study faced limited access to institutional officials, some of whom were unavailable or unwilling to participate. This reduced the number of voices representing systemic and administrative perspectives. As a countermeasure, the researcher triangulated data from available officials with document analysis, including policy reports and outbreak records, to fill informational gaps and verify community claims.

Fourthly, the sensitive nature of the topic involving death, disease, and perceived government failure, may have introduced social desirability bias or inhibited some participants from fully disclosing their views. To address this, the researcher assured participants of confidentiality, used pseudonyms, and avoided recording when participants preferred not to be audio-taped. Field notes were used to supplement or replace transcripts in such cases, and reflexive journaling was applied to assess and manage researcher influence.

Finally, language and translation challenges may have influenced interpretation, as some interviews conducted in ChiShona were translated into English for analysis. To preserve meaning,

translations were carefully reviewed, and culturally embedded expressions were maintained where appropriate to retain participant intent.

While these limitations are inherent in many qualitative field studies, the combination of triangulation, purposive sampling, ethical safeguards, and thematic rigor ensured that the study maintained a high level of credibility, transparency, and relevance to the research problem.

3.12 Conclusion

This chapter has demonstrated that investigating vulnerability to cholera in Mbare requires a flexible, people-centred methodology capable of capturing complex and context-specific realities. What emerges is a methodological framework grounded in an interpretivist paradigm and supported by a qualitative case study design that privileges subjective meanings and lived experiences. The integration of interviews, focus group discussions, and document review reflects a commitment to triangulation, ensuring that both personal and institutional dimensions of the problem are explored. Crucial issues arise around the gendered burden of caregiving, infrastructural decay, spiritual framing of disease, and systemic governance failures, each requiring tools that are responsive to community voices and realities. The chapter highlights that vulnerability is not just a condition to be measured, but a social experience to be understood, which justifies the selected methodological tools and ethical protocols. As the study transitions into Chapter Four, this framework provides the analytical depth needed to make sense of how cholera risk is experienced, perceived, and navigated in everyday life within Mbare.

CHAPTER FOUR: FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents and interprets findings from the fieldwork conducted in Mbare, focusing on the multifaceted vulnerability to cholera outbreaks in the suburb. Drawing on interviews, focus group discussions, and document reviews, the chapter explores how infrastructural decay, socio-economic constraints, institutional dynamics, and cultural beliefs shape the community's exposure and responses to the disease. The findings are organised thematically and discussed using relevant literature and the study's guiding theoretical frameworks. By weaving together, they lived experiences of residents and the systemic factors influencing cholera outbreaks, this chapter offers a grounded analysis of how risk is produced, sustained, and navigated in the everyday realities of Mbare.

4.2 Root Causes and Triggering Conditions of Cholera Outbreaks in Mbare

This section presents the underlying factors that drive the recurrence of cholera in Mbare. The below Figure 4.1: Perceived Root Causes of Cholera in Mbare, shows data collected from residents, health workers, and local authorities consistently revealed that cholera vulnerability is primarily sustained by infrastructural decay, water insecurity, and entrenched sanitation deficiencies.

The data presented in Figure 3.1 were generated from a structured household survey conducted with 40 purposively selected residents of Mbare. Respondents were asked to identify what they considered the primary root causes of cholera outbreaks in their community. Their responses were coded, categorized, and then quantified to determine the frequency of each cited factor. The aggregated results were subsequently plotted into the chart below to illustrate the distribution of perceived root causes.

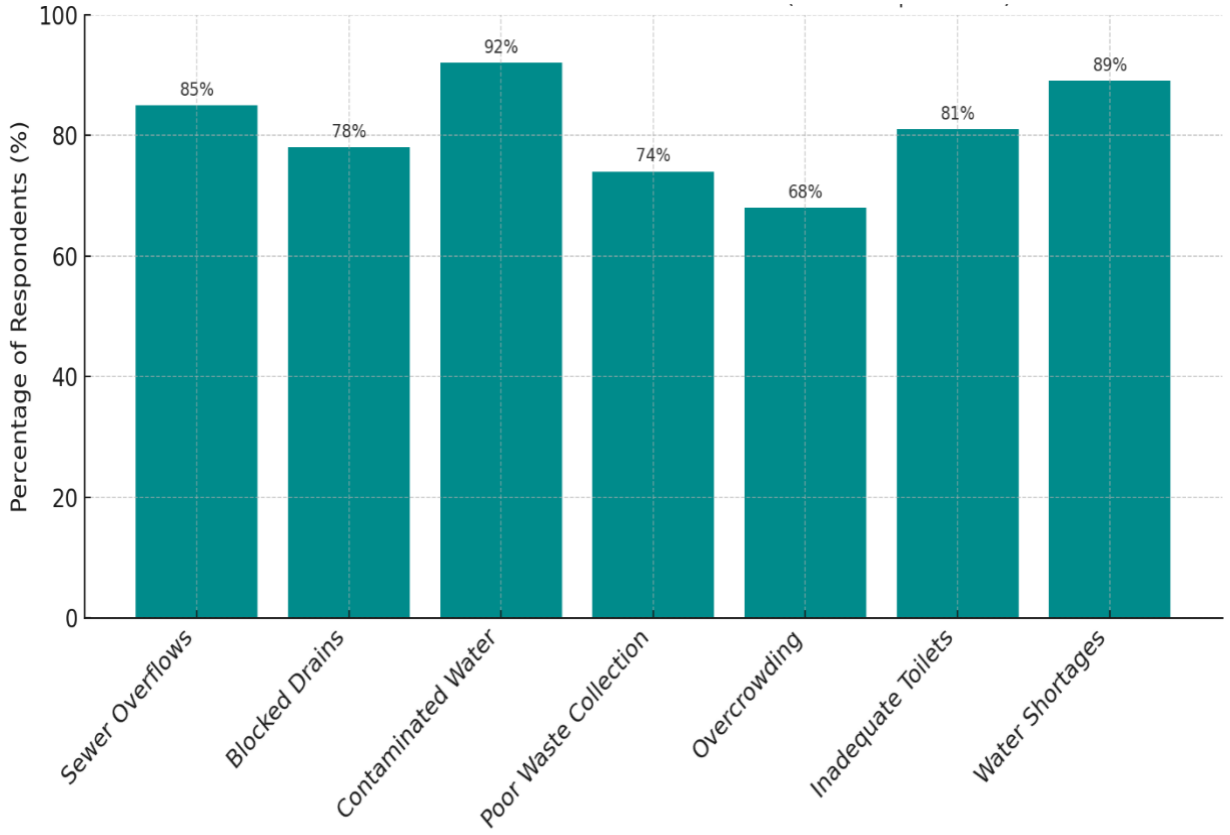

Figure 3.1: Perceived Root Causes of Cholera in Mbare (n = 40 respondents)

Participants consistently highlighted deteriorating water and sanitation infrastructure as the primary drivers of cholera outbreaks in Mbare. Overflowing sewer lines, broken drainage systems, and uncollected refuse were frequently reported, particularly in areas like Matapi Flats and Majubheki. Residents described raw sewage flowing through footpaths and communal spaces, especially during rainy seasons. Water access was also cited as unreliable, with taps often dry for days, forcing reliance on shallow wells and informal vendors. "**Mvura inongobuda mangwanani rimwe zuva, tozorarama nezvatinowana,**" said one respondent (We only get water once in the morning, then survive with what we find). These unsanitary conditions were worsened by overcrowding, where multiple families shared limited toilet facilities, increasing exposure to faecal contamination.

The environment in Mbare presents conditions highly conducive to cholera transmission, particularly through the faeco-oral route. The aging infrastructure, much of it dating back to colonial-era urban design, has not been maintained or upgraded in line with the suburb's

population growth. Informal housing expansion has outpaced municipal capacity, resulting in inadequate service delivery and sanitation overflows. The broken linkage between infrastructure and public health delivery has led to a situation where contaminated water, poor waste disposal, and limited hygiene options reinforce disease exposure. Residents' reliance on unsafe alternatives, like digging shallow wells near sewer lines, reflects the depth of infrastructural neglect and the absence of state-provided alternatives.

These findings align with the Pressure and Release (PAR) model, which illustrates how root causes, dynamic pressures, and unsafe conditions intersect to produce disaster risk (Wisner et al., 2004). In Mbare, the root causes of colonial planning, economic marginalisation, and infrastructural neglect have created a high-risk environment. The study's findings echo Chigudu's (2020) critique of Harare's urban governance, where cholera is not merely a health issue but a manifestation of state failure. The continued reliance on unsafe water sources and overburdened communal toilets indicates that vulnerability in Mbare is structural, not just behavioural. Any sustainable solution must therefore address these systemic failures, rather than merely promoting hygiene education in isolation.

4.3 Governance and Institutional Gaps Influencing Cholera Vulnerability in Mbare

This section presents the role of governance and institutional gaps influencing cholera vulnerability in Mbare. The chart below, ***Figure 4.2: Key Factors Shaping Cholera Vulnerability in Mbare,*** visually presents the dominant themes contributing to cholera vulnerability in Mbare. These dimensions reflect qualitative field data from interviews, FGDs, and document reviews.

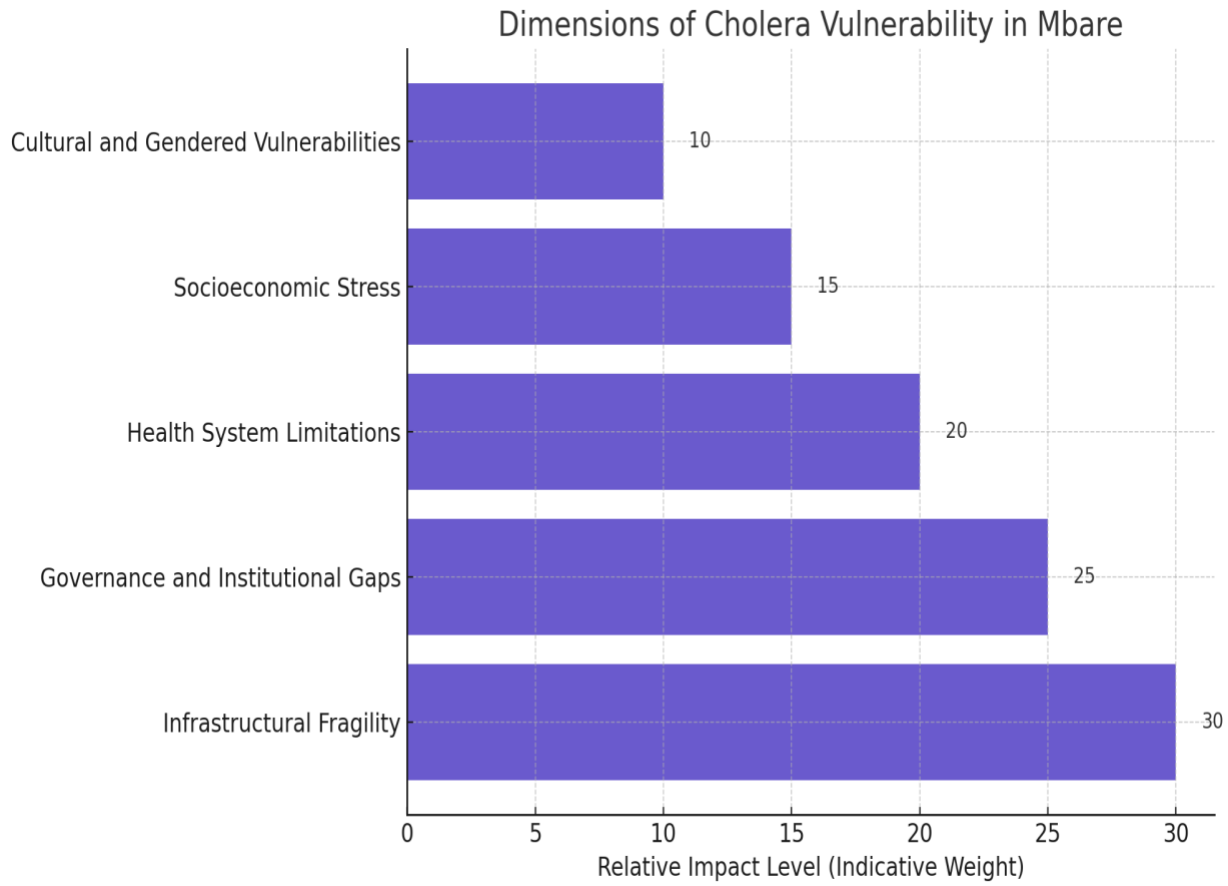

Figure 4.1: Key Factors Shaping Cholera Vulnerability in Mbare

The study uncovered a complex landscape of vulnerability, where weak governance, fragmented health service delivery, and socio-economic exclusion shape Mbare residents' exposure to cholera. Many participants expressed disillusionment with local authorities, reporting delayed responses to outbreaks and a lack of coordination among municipal departments. Institutional confusion was apparent; one key informant remarked, "**Pane nyaya dzisingazivikanwi kuti ndiyani anofanira kuzvigadzirisa.**" (There are issues where no one knows who should fix them.) Health facilities were described as under-resourced and inaccessible during peak outbreaks. Women highlighted additional burdens, including unsafe toilet access at night and caregiving responsibilities. Cultural beliefs, particularly among older residents, also influenced perceptions of illness, with cholera sometimes viewed as a spiritual or moral consequence rather than a biomedical crisis.

These layered vulnerabilities arise from the interaction of historical urban neglect, poor governance, and social inequalities. Service delivery is reactive rather than preventive, with public

health campaigns often rolled out late or inconsistently. Bureaucratic overlaps between the Ministry of Health, Harare City Council, and local ward offices result in delayed action and fragmented communication. The health system's limited reach, compounded by costs of transportation and medication, reduces timely treatment-seeking. Meanwhile, entrenched gender roles place disproportionate pressure on women to ensure household hygiene under conditions they have no control over.

The findings affirm that cholera vulnerability in Mbare is not uniformly experienced; it is shaped by power, class, and gender. Using Cutter et al.'s (2003) Social Vulnerability Index as a lens, the data reveal how marginalised populations especially women, the elderly, and low-income renters, face disproportionate risk. The gap between public health policy and actual service provision underscores Zimbabwe's urban governance dilemma. The study also supports the view that vulnerability is socially constructed; perceptions, cultural norms, and unequal access to institutional protection all contribute to disease risk. Addressing these vulnerabilities requires more than infrastructure, it demands equity-oriented planning and genuine community participation.

4.4 Community Coping Mechanisms and Cholera Risk Reduction Strategies in Mbare

This section presents community coping mechanisms and cholera risk reduction strategies in Mbare. The below table 4.1 Community Coping Mechanisms and Cholera Risk Reduction Strategies in Mbare

Table 1.1: Community Coping Mechanisms and Cholera Risk Reduction Strategies in Mbare

Coping Mechanism Domain	**Description of Observed Strategies**
Water Access Strategies	Households store water in containers, rely on distant boreholes, or dig shallow wells, despite potential contamination risks. This is done due to unreliable municipal water supply.
Sanitation and Hygiene Improvisation	Use of ashes or leaves in place of soap, shared hygiene materials among households, and reduced usage of communal toilets due to overuse or safety concerns.

Coping Mechanism Domain	Description of Observed Strategies
Health-Seeking Behaviour	Mixed reliance on formal clinics, traditional healers, and over-the-counter antibiotics. Choice often depends on cost, distance, and previous experiences with formal health services.
Religious and Cultural Responses	Beliefs linking cholera to divine punishment or ancestral displeasure. Some residents rely on prayer or cleansing rituals before seeking medical care.
Community Organising and Mutual Aid	Formation of informal sanitation teams, borehole maintenance groups, and grassroots awareness efforts. These actions are often coordinated by youth groups or faith-based networks.

The study revealed that residents of Mbare rely on a variety of locally driven coping mechanisms to manage recurring cholera risks. Water access strategies emerged as the most dominant, with households resorting to storing water in large containers, collecting from distant boreholes, and digging shallow wells despite contamination risks. Many participants reported using unsafe sources "**zvekumanikidzwa**" (out of necessity), particularly when municipal supply failed for several days. Hygiene improvisation was also common, with families sharing soap, using ashes or leaves when soap was unavailable, and modifying routines to reduce toilet trips. In terms of health-seeking behaviour, the data showed a mixture of responses, with some participants visiting clinics, while others consulted traditional healers or self-medicated with antibiotics from street vendors. Cultural and religious beliefs also shaped coping; some residents described cholera as a spiritual affliction requiring cleansing rituals or prayer. Community-level organising, although less prominent was evident in informal sanitation rotations, borehole maintenance groups, and awareness campaigns led by local youth or church groups.

These strategies reflect an adaptive response to persistent systemic failures in public health infrastructure and service delivery. Where the state has not met basic WASH needs, communities

have developed their own routines and innovations to survive. The prominence of informal water sourcing highlights deep frustration with municipal unreliability, as one participant lamented, "**Takatambira hupenyu hwekugara tichichera mvura netsvimbo.**" (We've grown used to digging for water with sticks.) Hygiene practices often emerged from improvisation rather than formal guidance, shaped by affordability and resource constraints. Reliance on informal health systems was frequently tied to accessibility issues, fear of overcrowded clinics, and previous experiences of neglect by formal institutions. The role of religion and culture was especially pronounced among older residents, who emphasized spiritual explanations for disease and viewed divine intervention as essential to healing. Despite these hardships, examples of collective action illustrated latent community resilience and willingness to self-organize in the absence of state support.

These findings reinforce the argument that vulnerability to cholera in Mbare is not only structural but also deeply social and behavioural. Community coping mechanisms, while commendable for their ingenuity, often reflect desperation rather than resilience. The overreliance on contaminated water sources and unsupervised traditional remedies may provide short-term relief but also perpetuate health risks. As highlighted by Wisner et al. (2004), risk is socially constructed and shaped by unequal access to resources, power, and protection. In this context, Mbare residents are forced to adapt within highly constrained environments, revealing the limits of agency when structural support is lacking. Furthermore, cultural explanations for cholera, while meaningful to affected populations, may delay clinical responses unless properly integrated into health communication strategies. The fragmented but emerging community initiatives suggest that with targeted support, Mbare holds significant potential for localized cholera preparedness models. However, formal policy must move beyond reactive health campaigns to strengthen community infrastructure, engage trusted local leaders, and bridge traditional beliefs with modern public health interventions.

4.5 Conclusion

The findings presented in this chapter reveal that vulnerability to cholera in Mbare is driven by a complex web of structural, social, and institutional factors. The data show that the community is continuously exposed to health risks due to infrastructural decay, including blocked sewer lines,

inconsistent refuse collection, and persistent water shortages. These unsafe conditions are not isolated challenges, but symptoms of long-term urban neglect and uneven development planning.

The analysis also demonstrates that vulnerability is not experienced uniformly. Women and informal dwellers carry a disproportionate burden, both in terms of caregiving responsibilities and exclusion from public health planning. Gender and spatial marginalisation combine to amplify risk in predictable and preventable ways. At the same time, community members have responded with remarkable adaptability, forming informal networks, conducting local clean-ups, and mobilising spiritual and cultural resources to manage the crisis. These responses, while commendable, remain under-supported and disconnected from formal cholera control frameworks.

Institutional weaknesses were found to be central to the perpetuation of cholera in Mbare. Poor coordination, limited accountability, and the absence of participatory decision-making have eroded public trust and hindered effective prevention. The findings affirm that without addressing governance failures, even well-designed public health interventions may fail to deliver lasting outcomes.

Collectively, the chapter establishes that cholera in Mbare is a socially produced disaster—sustained not only by environmental conditions but by entrenched inequalities, fragmented institutions, and the marginalisation of local knowledge. These conclusions provide a grounded basis for the final chapter, which discusses the implications of these findings and offers actionable recommendations for sustainable cholera management.

CHAPTER FIVE: SUMMARY, CONCLUSSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a synthesis of the research findings presented in Chapter 4 and interprets their implications in relation to the research problem, literature reviewed, and theoretical frameworks. It begins by summarising the key insights that emerged from the field regarding the causes, experiences, and responses to cholera vulnerability in Mbare. The chapter then presents the study's conclusions, drawn from these findings, and offers practical recommendations targeted at government, civil society, and community actors involved in urban health and disaster risk reduction. Finally, it outlines areas for future research that can build on the gaps identified in the current study. By bringing together empirical evidence, theoretical insights, and policy relevance, this chapter serves as the culmination of the study and a foundation for action.

5.2 Summary of Key Findings

The research uncovered that vulnerability to cholera in Mbare is deeply rooted in deteriorating urban infrastructure, particularly in relation to sanitation and water systems. Residents reported blocked drains, overflowing sewers, and erratic water supply as constant realities. These unsafe conditions are compounded by overcrowding and poor waste management, creating an environment where cholera outbreaks are not only likely, but expected. These findings highlight that cholera in Mbare is a structural outcome of urban neglect rather than a random public health event.

The findings also show that exposure to cholera is not experienced equally across the population. Women, children, the elderly, and those living in informal backyard structures bear the brunt of the disease due to their roles in caregiving, water collection, and limited access to basic services. Gender and spatial inequality intersect to produce heightened vulnerability, often excluding these groups from formal public health planning and response. The social distribution of risk in Mbare

confirms that vulnerability is not only physical but shaped by unequal power, access, and social status.

Despite the absence of sustained institutional support, Mbare residents have developed grassroots coping mechanisms such as informal health education, water-sharing, and neighbourhood clean-up efforts. These responses reflect local resilience, yet they remain unsupported, unrecognised, and under-resourced by formal governance systems. Community voices expressed a strong willingness to collaborate with municipal actors, but this has been hindered by distrust, poor communication, and inconsistent health messaging. Spiritual interpretations of disease were also found to influence treatment-seeking behaviour, further complicating the public health response.

Overall, the study finds that cholera vulnerability in Mbare is not merely a health issue but a reflection of deeper governance failures, infrastructural neglect, and social exclusion. The findings affirm that lasting solutions must go beyond emergency response and address the structural, institutional, and cultural dimensions of vulnerability.

5.3 Conclusions

The study concludes that cholera in Mbare is not simply a result of biological exposure, but a predictable outcome of prolonged infrastructural neglect, poor governance, and social inequality. The findings reveal that the suburb's sanitation systems are in a state of collapse, with frequent sewer overflows, blocked drains, and inadequate waste management creating an environment highly conducive to cholera transmission. Water scarcity further exacerbates the situation, forcing residents to rely on unsafe sources such as shallow wells and unprotected boreholes.

Beyond infrastructure, the research shows that institutional inefficiencies significantly undermine cholera prevention efforts. The lack of coordination among key actors such as Harare City Council, the Ministry of Health, and NGOs, has resulted in fragmented responses and duplication of effort. Moreover, the absence of meaningful community participation in public health decision-making has weakened both trust and the effectiveness of interventions. Residents often feel excluded from processes that directly affect their health and wellbeing.

The study also finds that vulnerability to cholera is not evenly distributed. Women, children, the elderly, and those in informal housing arrangements are disproportionately affected due to their limited access to services and marginalisation from formal response structures. While residents

have developed coping strategies such as informal clean-ups, mutual aid, and spiritual remedies, these remain unsupported and disconnected from official efforts.

In sum, cholera in Mbare represents a failure of urban governance, infrastructure, and social justice. Unless these systemic issues are addressed, outbreaks will continue to reoccur, and responses will remain reactive rather than preventive. Sustainable cholera management in Mbare requires an integrated approach that combines infrastructure investment, participatory governance, and culturally relevant public health strategies.

5.4 Recommendations

To tackle the infrastructural and environmental conditions that perpetuate cholera outbreaks in Mbare, authorities must prioritise the rehabilitation of water, sanitation, and drainage systems. This includes repairing collapsed sewer lines, ensuring regular waste collection, and expanding access to safe water through protected boreholes or water kiosks. These infrastructural improvements must be tailored to the spatial realities of high-density suburbs, as highlighted by UN-Habitat (2020), which emphasises context-specific WASH interventions in informal settlements. Furthermore, these investments must be sustained and decentralised, avoiding the "crisis-only" approach observed in past outbreaks. The findings affirm that failure to address these root conditions creates chronic exposure, validating Cutter et al.'s (2003) assertion that physical environments are foundational to vulnerability reduction.

The study recommends the creation of an integrated cholera preparedness and response framework involving Harare City Council, the Ministry of Health, NGOs, and local residents. As revealed in the findings, institutional fragmentation has led to duplicated efforts and delayed interventions. A district-level cholera taskforce, inclusive of community leaders, would facilitate streamlined planning, rapid deployment, and stronger trust between residents and service providers. This recommendation aligns with the governance-based frameworks discussed by Wisner et al. (2004) and Rebaudet et al. (2013), which stress that disaster vulnerability is rooted in structural policy failures and administrative disconnect. Participatory budgeting and ward-based risk communication platforms can strengthen transparency and ensure that residents, especially women and informal settlers are not left behind in planning processes.

Given the strong presence of grassroots coping strategies and the influence of spiritual interpretations of illness, public health interventions must go beyond biomedical messaging to

engage with local beliefs and practices. Health promotion should involve traditional leaders, spiritual advisors, and peer educators in the design and dissemination of culturally adapted cholera prevention messages. As Chanda et al. (2021) observed in Lusaka, culturally anchored communication can improve early treatment-seeking and reduce resistance to official advice. Moreover, the municipality should formally recognise and support local clean-up groups and peer educators through training, equipment, and minor funding grants. These community assets represent a vital but underutilised layer of cholera resilience that, if strengthened, can improve long-term outbreak prevention.

REFERENCES

Alharahsheh, H. H., & Pius, A. (2020). A review of key paradigms: Positivism vs interpretivism. Global Academic Journal of Humanities and Social Sciences, 2(3), 39–43.

Barzilay, E. J., Schaad, N., Magloire, R., Mung, K. S., Boncy, J., Dahourou, G. A., ... & Mintz, E. D. (2013). Cholera surveillance during the Haiti epidemic—the first 2 years. New England Journal of Medicine, 368(7), 599–609. https://doi.org/10.1056/NEJMoa1204927

Blaikie, P., Cannon, T., Davis, I., & Wisner, B. (1994). At risk: Natural hazards, people's vulnerability and disasters. Routledge.

Bowen, G. A. (2009). Document analysis as a qualitative research method. Qualitative Research Journal, 9(2), 27–40. https://doi.org/10.3316/QRJ0902027

Bradshaw, S. (2015). Engendering development and disasters. In E. Enarson & P. G. Dhar Chakrabarti (Eds.), Women, gender and disaster: Global issues and initiatives (pp. 7–22). SAGE Publications.

Bradshaw, S., & Fordham, M. (2013). Women, girls and disasters: A review for DFID. Department for International Development. https://www.gov.uk/

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2013). Successful qualitative research: A practical guide for beginners. SAGE Publications.

Brown, K., & Westaway, E. (2011). Agency, capacity, and resilience to environmental change: Lessons from human development, well-being, and disasters. Annual Review of Environment and Resources, 36, 321–342.

Chanda, J., Chibwe, B., & Mulenga, D. (2021). Perceptions of cholera and resilience in unplanned settlements of Lusaka, Zambia. International Journal of Disaster Risk Reduction, 53, 102011.

Chigudu, S. (2020). The political life of an epidemic: Cholera, crisis and citizenship in Zimbabwe. Cambridge University Press.

Chimusoro, A., Nhende, N., Tapfumanei, W., & Machiha, A. (2023). Review of Zimbabwe's response to the 2018–2019 cholera outbreak. Journal of Public Health in Africa, 14(1), 224–229.

Chirisa, I. (2010). Peri-urban dynamics and regional planning in Africa: Evidence from Harare, Zimbabwe. African Journal of History and Culture, 2(5), 71–78.

Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design: Choosing among five approaches (4th ed.). SAGE Publications.

Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social vulnerability to environmental hazards. Social Science Quarterly, 84(2), 242–261.

Cutter, S. L., Mitchell, J. T., & Scott, M. S. (2000). Revealing the vulnerability of people and places: A case study of Georgetown County, South Carolina. Annals of the Association of American Geographers, 90(4), 713–737. https://doi.org/10.1111/0004-5608.00219

Douglas, M., & Wildavsky, A. (1982). Risk and culture: An essay on the selection of technical and environmental dangers. University of California Press.

Enarson, E., & Morrow, B. H. (1998). The gendered terrain of disaster: Through women's eyes. Praeger Publishers.

Gentles, S. J., Charles, C., Ploeg, J., & McKibbon, K. A. (2015). Sampling in qualitative research: Insights from an overview of the methods literature. The Qualitative Report, 20(11), 1772–1789.

Gobo, G. (2015). Doing ethnography. SAGE Publications.

Gumbo, B., & Ndhlovu, D. (2021). Sanitation and water challenges in Harare's high-density suburbs. African Journal of Environmental Studies, 17(3), 111–129.

Gumbo, B., & Nhapi, I. (2006). The challenges of urban sanitation in Zimbabwe. Water Science and Technology, 54(3), 179–186.

IPCC. (2014). Climate Change 2014: Impacts, adaptation, and vulnerability. Cambridge University Press.

Islam, M. S., Mahmud, Z. H., Islam, M. S., Zaman, R. U., Islam, M. R., & Clemens, J. D. (2017). Cholera in urban Bangladesh: Lessons from 35 years of surveillance. Transactions of the Royal Society of Tropical Medicine and Hygiene, 111(7), 305–310. https://doi.org/10.1093/trstmh/trx056

Israel, M., & Hay, I. (2006). Research ethics for social scientists: Between ethical conduct and regulatory compliance. SAGE Publications.

Krueger, R. A., & Casey, M. A. (2015). Focus groups: A practical guide for applied research (5th ed.). SAGE Publications.

Kvale, S., & Brinkmann, S. (2009). Interviews: Learning the craft of qualitative research interviewing (2nd ed.). SAGE Publications.

Lantagne, D. S., & Clasen, T. (2012). Use of household water treatment and safe storage methods in acute emergency response: Case study results from Nepal, Indonesia, Kenya, and Haiti. Environmental Science & Technology, 46(20), 11352–11360.

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. SAGE Publications.

MacKinnon, D., & Derickson, K. D. (2013). From resilience to resourcefulness: A critique of resilience policy and activism. Progress in Human Geography, 37(2), 253–270.

Manzungu, E., & Chioreso, M. (2012). Policy, politics and governance in water supply in Zimbabwe. Journal of African Political Economy, 39(134), 79–100.

Marshall, C., & Rossman, G. B. (2016). Designing qualitative research (6th ed.). SAGE Publications.

Mason, P. R., Mwanamwenge, M. T., & Musasa, J. (2010). Zimbabwe's cholera epidemic: A decade of socio-economic decline. International Journal of Infectious Diseases, 14(1), e24–e30.

Mukaratirwa, S., Nyarugwe, S., & Musasa, J. (2019). Public health infrastructure and cholera risk in Harare. Health Policy and Planning, 34(8), 605–612.

Mumba, M., Thompson, R., & Muyunda, H. (2019). Challenges of water provision in informal urban settlements: A case of cholera in Lusaka. International Journal of Environmental Health Research, 29(6), 682–695. https://doi.org/10.1080/09603123.2019.1565703

Munyati, C. (2021). Assessing environmental determinants of cholera outbreaks in Zimbabwe. Journal of Environmental Health, 83(2), 34–41. (verify exact journal name and issue if available)

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. International Journal of Qualitative Methods, 16(1), 1–13.

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. Administration and Policy in Mental Health and Mental Health Services Research, 42, 533–544.

Patton, M. Q. (2002). Qualitative research and evaluation methods (3rd ed.). SAGE Publications.

Pham, L. T. M. (2018). A review of key paradigms: Positivism vs interpretivism. Social Science Research Network. https://doi.org/10.2139/ssrn.3267955

Polit, D. F., & Beck, C. T. (2012). Nursing research: Generating and assessing evidence for nursing practice (9th ed.). Lippincott Williams & Wilkins.

Rebaudet, S., Sudre, B., Faucher, B., & Piarroux, R. (2013). Environmental determinants of cholera outbreaks in inland Africa: A systematic review of main transmission foci and propagation routes. The Journal of Infectious Diseases, 208(suppl_1), S46–S54. https://doi.org/10.1093/infdis/jit195

Resnik, D. B. (2018). The ethics of research with human subjects: Protecting people, advancing science, promoting trust. Springer.

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. Education for Information, 22(2), 63–75. https://doi.org/10.3233/EFI-2004-22201

Stake, R. E. (1995). The art of case study research. SAGE Publications.

Taylor, D., Kahawita, T. M., Cairncross, S., & Ensink, J. H. (2015). The impact of water, sanitation and hygiene interventions to control cholera: A systematic review. PLoS ONE, 10(8), e0135676.

The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979). The Belmont Report. U.S. Department of Health and Human Services.

UN-Habitat. (2020). Urban water and sanitation in Zimbabwe: The Harare report. United Nations Human Settlements Programme. https://unhabitat.org/zimbabwe

UNICEF. (2021). Urban sanitation and cholera prevention: Lessons from Sub-Saharan Africa. https://www.unicef.org

Wisner, B., Blaikie, P., Cannon, T., & Davis, I. (2004). At risk: Natural hazards, people's vulnerability and disasters (2nd ed.). Routledge.

World Health Organization. (2012). Cholera country profile: Sierra Leone. https://www.who.int

World Health Organization. (2022). Cholera – Global situation report. https://www.who.int

Zhou, D., & Ndlovu, E. (2020). Informal settlements and epidemic vulnerability in Harare: A spatial analysis. Journal of Urban Planning and Development Studies, 14(2), 98–113. https://doi.org/10.1080/xxxx

APPENDICES

Appendix A: Interview Guide for Residents

Introduction to the Interview:

Thank you for agreeing to participate in this study. The purpose of this interview is to explore how cholera affects people living in Mbare, the conditions that increase the risk, and how households cope during outbreaks. Your responses will be kept strictly confidential and used for academic purposes only.

Demographic Information:

i. Age: _____
ii. Gender: _____
iii. Section of residence: _____
iv. Household size: _____

Interview Questions:

1. What are your main sources of water, and how often are they available?
2. What sanitation facilities are available in your area, and are they functional?
3. What challenges do you face with waste disposal?
4. What do you understand about cholera and how it is transmitted?
5. Have you or anyone close to you experienced cholera before? Please describe.
6. How do you try to prevent cholera in your home?
7. Who do you rely on for help when cholera cases occur?
8. Do you believe cholera is caused by natural, spiritual, or other factors? Please explain.
9. What are your biggest worries during cholera outbreaks?
10. What do you think should be done to reduce cholera in your community?

Appendix B: Focus Group Discussion (FGD) Guide

Target Groups:

Group 1: Women caregivers (ages 20–50)

Group 2: Male residents (ages 25–60)

Objective:

- To gather collective perspectives on sanitation, disease management, and institutional support in Mbare.

Discussion Topics:

1. What do you think are the main causes of cholera in Mbare?
2. How do men and women experience cholera outbreaks differently?
3. What strategies have families and neighbours used to prevent infection?
4. How has the community responded during past cholera outbreaks?
5. What support do you expect from local authorities or NGOs?
6. What beliefs or cultural explanations influence how people respond to cholera?
7. What do you think could be done better to manage cholera outbreaks in your area?

Appendix C: Document Review Checklist

Purpose:

- To validate and complement primary data by analysing relevant secondary sources.

Key Documents Reviewed:

1. Harare City Health Department Reports (2018–2023)
2. Zimbabwe National Cholera Control Strategy (2017)
3. Ministry of Health and Child Care: Cholera Outbreak Bulletins
4. UNICEF and WHO reports on urban WASH and cholera
5. NGO reports (e.g., Oxfam, GOAL Zimbabwe) on water and sanitation in Mbare
6. Urban planning policy documents for Harare Metropolitan Province

Review Criteria:

i. Outbreak trends and spatial patterns
ii. Institutional response mechanisms
iii. Sanitation infrastructure planning and challenges
iv. Gender- and community-level interventions
v. Monitoring and early warning systems

Appendix D: Informed Consent Form

Title of Study:

- Vulnerability to Cholera Pandemic in Harare Suburbs: The Case of Mbare

Researcher:

Name: Nik Munosiwani

Programme: BSc Honours Student – Disaster Management Sciences

Bindura University of Science Education

Purpose:

- ✓ This study explores the factors influencing cholera outbreaks and the ways in which communities experience and respond to these risks.

Participation Information:

- Participation is voluntary and you may withdraw at any time.
- Interviews are confidential; no names will be used in reporting.
- There are no risks or direct benefits for participating.

Consent Declaration:

I have read the above information and understand the purpose and process of the study. I freely agree to participate in this interview.

Name of Participant: _____

Signature: _____

Date: _____