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## ASSESSING THE OF RISK MONITORING ON THE SUSTAINABILITY OF WASH PROJECTS: A CASE STUDY OF LILONGWE WATER BOARD, MALAWI

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### ABSTRACT

This study explored the role of risk monitoring indicators in enhancing the sustainability of Water, Sanitation and Hygiene (WASH) projects at Lilongwe Water Board (LWB) in Malawi. The study sought to examine how risk monitoring influences the sustainability of WASH projects, identify key risk monitoring indicators that support sustainability, and understand how risk monitoring is operationalised within LWB. A qualitative research approach was adopted, employing a cross-sectional case study design. Data were collected through semi-structured interviews and document review involving key informants drawn from management and technical staff at Lilongwe Water Board. Data were analysed using thematic and content analysis techniques. The findings revealed that effective risk monitoring enhances project sustainability by enabling early identification of financial, operational, environmental, and institutional risks. The study further established that continuous monitoring, institutional learning, and proactive decision-making are critical to sustaining WASH projects. The study concludes that strengthening qualitative risk monitoring practices is essential for ensuring long-term sustainability of WASH projects at Lilongwe Water Board.

**KEYWORDS:** Risk Monitoring, WASH Projects, Sustainability, Lilongwe Water Board, Malawi.

### INTRODUCTION

This study investigates the influence of risk monitoring on the sustainability of Water, Sanitation and Hygiene (WASH) projects at Lilongwe Water Board. Sustainability of WASH projects is conceptualised as the dependent variable, while risk monitoring is considered the

independent variable. This conceptual distinction enables an in-depth exploration of how risk identification, assessment, and monitoring contribute to the long-term effectiveness of WASH interventions.

The study focuses on key qualitative dimensions of risk monitoring, including financial risk, operational risk, environmental risk, and institutional risk. These dimensions were selected due to their relevance in shaping project continuity and service reliability. Financial risks relate to funding instability and cost management challenges, while operational risks involve technical failures and maintenance capacity. Environmental and institutional risks include climate-related impacts, governance structures, and policy constraints.

This chapter provides the background and rationale for the study, highlighting persistent sustainability challenges facing WASH projects in urban Malawi. Despite significant investments in WASH infrastructure, many projects fail to deliver sustained services due to weak risk monitoring mechanisms. This study therefore addresses a critical knowledge gap by examining how qualitative risk monitoring practices influence project sustainability within Lilongwe Water Board.

## **Background of the Study**

### **Historical Background**

Risk monitoring has increasingly been recognised as a vital component of project sustainability, particularly within the WASH sector. Historically, WASH projects in developing countries have experienced high failure rates due to inadequate planning, weak institutional capacity, and insufficient monitoring systems. In Malawi, urban water utilities such as Lilongwe Water Board operate in complex environments characterised by rapid urbanisation, climate variability, and financial constraints.

Over time, the emphasis on infrastructure development without corresponding attention to risk monitoring has contributed to service interruptions and system breakdowns. Recent development frameworks now stress the importance of continuous risk monitoring to ensure resilience and long-term service delivery.

## **General Objective of the Study**

To explore the role of risk monitoring in enhancing the sustainability of WASH projects at Lilongwe Water Board.

### **Specific Objectives of the Study**

To explore how risk monitoring influences the sustainability of WASH projects at Lilongwe Water Board.

To identify key risk monitoring indicators that enhance the sustainability of WASH projects.

To examine how risk monitoring is operationalised to ensure sustainable WASH service delivery at Lilongwe Water Board.

### **Literature Review**

#### **Theoretical Review**

This study is grounded in Risk Management Theory and the Project Sustainability Framework. Risk Management Theory emphasises the continuous identification and monitoring of potential threats that may hinder project performance. In WASH projects, qualitative risk monitoring enables institutions to anticipate challenges and implement preventive measures.

Project sustainability literature underscores the importance of institutional capacity, environmental resilience, and stakeholder engagement in sustaining development interventions. Previous qualitative studies have shown that organisations with embedded risk monitoring cultures are better positioned to sustain service delivery over time.

### **Research Methodology**

#### **Research Design**

The study adopted a qualitative case study design focusing on Lilongwe Water Board. This design was appropriate as it enabled an in-depth exploration of risk monitoring practices within a real-life organisational context.

#### **Study Population**

The study population comprised purposively selected key informants from Lilongwe Water Board, including senior management, project managers, engineers, and technical staff involved in WASH project implementation. These participants were selected due to their experience and direct involvement in risk monitoring processes.

#### **Data Collection Methods**

Data were collected using semi-structured interviews and document review. Interviews provided detailed insights into institutional practices, while document analysis enabled triangulation of findings through policy and project reports.

## **Data Analysis**

Data were analysed using thematic and content analysis. Emerging themes were identified, coded, and interpreted in line with the study objectives. This approach facilitated a rich understanding of risk monitoring practices and their influence on project sustainability.

## **FINDINGS AND DISCUSSION**

The findings revealed that risk monitoring at Lilongwe Water Board is largely embedded in routine operational practices rather than formalised frameworks. Participants highlighted financial risks, infrastructure degradation, climate variability, and institutional capacity as key sustainability threats. Continuous monitoring enabled early detection of challenges, informed decision-making, and adaptive responses.

However, the study also found gaps in documentation and standardisation of risk monitoring processes. While informal monitoring practices were effective to some extent, the absence of structured frameworks limited institutional learning and long-term sustainability.

## **RECOMMENDATIONS**

The study recommends that Lilongwe Water Board strengthen formal risk monitoring frameworks by integrating qualitative risk assessment tools into project management processes. Capacity building initiatives should be prioritised to enhance staff competencies in risk identification and monitoring. Additionally, institutionalising regular risk review meetings can improve proactive decision-making and sustainability outcomes.

## **CONCLUSION**

The study concludes that qualitative risk monitoring plays a critical role in enhancing the sustainability of WASH projects at Lilongwe Water Board. Effective identification and monitoring of financial, operational, environmental, and institutional risks enable adaptive management and long-term service delivery. Strengthening qualitative risk monitoring practices is therefore essential for achieving sustainable WASH outcomes in urban Malawi.