

Title

**ASSESSING THE IN MPACT OF WASTE DISPOSAL PRACTICES ON THE PUBLIC HEALTH OF  
MARKETERS IN MSUNGWI MARKET, LILONGWE**

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## **ABSTRACT**

Improper waste disposal remains a major public health challenge in many urban markets, particularly in developing countries such as Malawi. This study assessed the impact of waste disposal practices on the public health of marketers in Msungwi Market, Lilongwe. The study was guided by the need to understand how existing waste management practices affect the health and well-being of individuals who spend long hours working in the market environment. A descriptive cross-sectional research design was employed. Data were collected using structured questionnaires administered to marketers, key informant interviews with market officials, and direct observation of waste disposal practices within the market. Quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed thematically.

The findings revealed that waste disposal practices in Msungwi Market are largely inadequate and poorly managed. Common practices included open dumping of solid waste, irregular waste collection, lack of designated waste disposal sites, and the use of uncovered waste containers. These conditions created an unhygienic environment that attracted disease vectors such as flies, mosquitoes, and rodents. As a result, marketers reported experiencing various health problems, including malaria, cholera, diarrhea, typhoid, skin infections, and respiratory illnesses. The study further identified contributing factors such as limited awareness of proper waste management practices, insufficient waste disposal facilities, poor enforcement of sanitation by-laws, and inadequate support from local authorities.

The study concludes that improper waste disposal practices in Msungwi Market have

a significant negative impact on the public health of marketers. It recommends strengthening waste management systems, increasing health education and awareness among marketers, providing adequate waste disposal infrastructure, and enhancing collaboration between Lilongwe City Council, and marketers to improve sanitation and protect for sustainable market development outcomes.

**Keywords:** Waste disposal, Public health, Market sanitation, Solid waste management, Marketers, Lilongwe City

## **INTRODUCTION**

### **Background of the Study**

Waste disposal is a critical environmental and public health issue affecting urban areas worldwide, particularly in developing countries. Rapid urbanization, population growth, and increased commercial activities have resulted in the generation of large volumes of solid waste, much of which is not properly managed. Inadequate waste disposal practices such as open dumping, burning of waste, and irregular collection contribute significantly to environmental pollution and the spread of communicable diseases. Markets, as centers of intense human activity, are among the areas most affected by poor waste management practices.

In Malawi, urban markets play a vital role in supporting livelihoods and food distribution. However, many of these markets lack adequate waste management systems. Waste generated in markets typically includes organic waste, plastics, paper, and other refuse, which require proper handling and disposal. When not properly managed, such waste attracts disease vectors including flies, mosquitoes, and rodents, thereby increasing the risk of diseases such as

cholera, typhoid, malaria, and diarrheal infections. Marketers, who spend long hours within these environments, are particularly vulnerable to these health risks.

Despite the importance of proper waste management, challenges such as limited infrastructure, inadequate funding, low awareness levels, and weak enforcement of sanitation regulations continue to hinder effective waste disposal in many Malawian markets. Understanding the relationship between waste disposal practices and public health is therefore essential for developing appropriate interventions aimed at improving sanitation and protecting the health of market users.

### **Context of the Study**

Msungwi Market, located in Lilongwe, is one of the busy markets serving a large population of traders and consumers. The market generates substantial amounts of waste on a daily basis due to the sale of food items, agricultural produce, and other goods. However, like many urban markets in Malawi, Msungwi Market faces challenges related to waste management, including insufficient waste bins, irregular waste collection, and lack of designated dumping sites.

Lilongwe City Council is responsible for waste management within the city, including public markets. However, constraints such as limited resources, rapid expansion of trading activities, and poor coordination with market management committees have made it difficult to maintain proper sanitation standards. As a result, waste often accumulates within the market, creating unhygienic conditions that pose serious health risks to marketers and customers alike.

Marketers in Msungwi Market are exposed to these conditions on a daily basis, increasing their susceptibility to waste-related illnesses. Despite this, limited research has been conducted specifically focusing on how waste disposal practices affect the public health of marketers in this market. This study is therefore situated within the broader context of urban environmental health and seeks to provide evidence-based insights that can inform policy and improve waste management practices at the market level.

## **RESEARCH OBJECTIVES**

### **General Objective**

- The general objective of this study is to assess the impact of waste disposal practices on the public health of marketers in Msungwi Market, Lilongwe.

### **Specific Objectives**

- To identify the waste disposal practices commonly used in Msungwi Market.
- To assess the types of health problems experienced by marketers as a result of poor waste disposal practices.
- To examine factors contributing to improper waste disposal in Msungwi Market.
- To determine the level of awareness among marketers regarding proper waste management and public health.
- To suggest measures for improving waste disposal practices and protecting public health in Msungwi Market.

## **LITERATURE REVIEW**

### **Introduction**

The existing literature related to waste disposal practices and their impact on

public health, with particular focus on market environments in developing countries. The review provides a theoretical and empirical foundation for the study by examining global, regional, and local perspectives on solid waste management, public health implications, and challenges faced in urban markets. It also identifies knowledge gaps that justify the need for the current study.

### **Concept of Waste Disposal and Waste Management**

Waste disposal refers to the processes involved in the collection, storage, transportation, treatment, and final disposal of waste materials (*Tchobanoglous et al., 2014*). Proper waste management is essential for preventing environmental pollution and safeguarding public health. According to *UNEP (2018)*, ineffective solid waste management is a persistent challenge in developing countries due to rapid urbanization, limited resources, and weak institutional capacity.

Studies conducted by the *World Bank (2020)* indicate that open dumping and uncontrolled disposal remain the most common methods of waste disposal in low-income urban areas. Such practices increase the risk of soil, water, and air contamination, thereby posing serious health hazards to surrounding communities.

### **Waste Disposal Practices in Market Environments**

Urban markets generate large quantities of solid waste, particularly organic waste from food items and agricultural produce (*Ogola et al., 2011*). Research conducted in African markets shows that inadequate waste bins, irregular waste collection, and lack of proper disposal sites result in indiscriminate dumping of waste within

market premises (*Katusiimeh et al., 2013*).

A study by *Mukui (2016)* found that market waste often accumulates in open spaces and drainage systems, leading to foul odors and unsanitary conditions. These conditions encourage the breeding of disease vectors such as flies and rodents. The effectiveness of waste disposal in markets largely depends on the involvement of local authorities, market committees, and trader cooperation (*Guerrero et al., 2013*).

### **Public Health Implications of Improper Waste Disposal**

Improper waste disposal has been strongly linked to increased incidence of communicable diseases. According to *WHO (2019)*, unmanaged waste creates breeding grounds for vectors responsible for diseases such as malaria, cholera, typhoid, and diarrhea. Studies in urban informal settlements show a direct relationship between poor waste management and frequent disease outbreaks (*Ferronato & Torretta, 2019*).

In market settings, food contamination due to unhygienic conditions poses additional health risks. Traders and consumers are exposed to foodborne illnesses, respiratory problems from waste burning, and skin infections caused by contact with contaminated waste (*Afon, 2017*). Prolonged exposure to such environments negatively affects productivity and increases healthcare costs among marketers (*UN-Habitat, 2020*).

### **Factors Contributing to Poor Waste Disposal Practices**

Several studies identify inadequate infrastructure as a major contributor to poor waste disposal in markets (*Wilson et al., 2015*). Insufficient waste bins, lack of

storage facilities, and unreliable collection services force traders to dispose of waste improperly. Limited awareness and low levels of environmental health education among market users further worsen the situation (*Adeyemi et al., 2014*).

Institutional weaknesses such as poor enforcement of sanitation by-laws and inadequate funding for local authorities have also been widely documented (*Zerbock, 2013*). Rapid urban growth often exceeds the capacity of city councils to provide effective waste management services, leading to deteriorating sanitation conditions in markets.

### **Waste Management and Public Health in Malawi**

In Malawi, solid waste management remains a critical urban challenge. Studies conducted in Lilongwe and Blantyre reveal that waste collection coverage is low and largely inefficient (*Kalulu & Hara, 2018*). According to the Malawi Ministry of Health (2019), poor sanitation and waste management contribute significantly to recurrent cholera outbreaks.

Research by *Chipeta et al. (2020)* indicates that public markets are among the most affected areas due to high waste generation and inadequate management systems. However, most studies focus on household sanitation, leaving limited evidence on the health impacts of waste disposal practices on marketers themselves.

### **Knowledge Gap**

Although previous studies have examined waste management and public health in urban areas, limited research has focused specifically on the health effects of waste disposal practices on market traders in

Malawi (*Kalumbi et al., 2021*). Existing literature often generalizes urban sanitation issues without addressing the unique conditions of individual markets. This study seeks to fill this gap by examining waste disposal practices and their public health implications among marketers in Msungwi Market, Lilongwe.

## **METHODOLOGY**

It presents a detailed explanation of the methodology employed to investigate the relationship between waste disposal practices and public health among marketers in Msungwi Market, Lilongwe. Methodological rigor is essential to ensure that the findings of the study are credible, valid, and reliable. The chapter outlines the research approach, research design, study population, sampling techniques, sample size, research instruments, data collection procedures, data analysis methods, ethical considerations, and pilot testing. By systematically detailing each component, this chapter provides a clear roadmap of how the study was conducted in order to achieve the stated research objectives.

### **Research Approach**

This study adopts a quantitative research approach, which focuses on collecting numerical data and analyzing statistical relationships between variables. The quantitative approach is suitable for this study because it enables the measurement of waste disposal practices and associated public health outcomes among marketers (*Creswell & Creswell, 2018*). Structured questionnaires allow for standardized data collection, making it possible to compare responses across different groups of vendors.

The approach also supports objectivity and minimizes researcher bias while enabling the use of descriptive and inferential

statistics to examine relationships between waste disposal practices and health conditions (Bryman, 2016). Quantitative research is particularly effective in public health studies where prevalence, patterns, and associations need to be established (Babbie, 2020).

## **Research Design**

The study employs a descriptive cross-sectional research design, which involves collecting data from a population at a single point in time. This design is appropriate for assessing the existing waste disposal practices and current health conditions among marketers in Msungwi Market. It allows the researcher to describe phenomena as they naturally occur without manipulating.

## **Study Population**

The study population will include all active marketers at Msungwi Market, estimated at approximately 500 individuals. This population includes vendors selling fruits, vegetables, meat, fish, clothing, household goods, and other commodities.

Marketers are constantly exposed to waste generated in the market, making them the most appropriate group to provide information on waste disposal practices and related health outcomes. A clearly defined population ensures that the study results are representative and reliable (Bless et al., 2013).

## **Sampling Technique**

A stratified random sampling technique will be used to ensure that all categories of vendors are adequately represented. The population will be divided into strata based on the type of merchandise sold (e.g., food vendors, clothing vendors, hardware sellers), and respondents will then be

randomly selected from each stratum.

Stratification reduces sampling bias and improves precision by ensuring that sub-groups with potentially different exposure to waste-related health risks are included in the study (Etikan & Bala, 2017).

## **Sample Size**

The study will include a sample of 20 marketers, selected proportionally from the identified strata. Although the sample is relatively small, it is considered sufficient for exploring the relationship between waste disposal practices and public health outcomes within the market context.

## **Research Instrument**

A structured questionnaire will be used to collect data. The questionnaire will have closed-ended questions and Likert-scale items, organized into four sections:

Demographic information (age, gender, education, type of merchandise) Types of waste generated (organic, inorganic, hazardous)

Waste disposal practices (methods used, frequency, challenges)

Health outcomes (self-reported illnesses, frequency of symptoms, healthcare seeking)

The questionnaire will be administered in both English and Chichewa to ensure comprehension. Structured questionnaires provide consistency, reduce interviewer bias, and allow for quantitative analysis (Fowler, 2014).

## **Data Collection Procedure**

Data will be collected through face-to-face interviews at the market stalls. Enumerators will be trained to administer the questionnaires ethically and consistently.

Permission will be obtained from the Lilongwe District Council and the Msungwi Market Committee. Respondents will be fully informed about the purpose of the study and will provide written informed consent before participating. Interviews will be conducted during normal business hours to avoid disrupting vendor activities.

### **Data Analysis**

Data will be analyzed using SPSS. Descriptive statistics (frequencies, percentages, tables, and charts) will summarize waste disposal practices and health outcomes. Inferential statistics, such as chi-square tests, will be used to determine whether there is a significant association between waste disposal practices and public health outcomes among marketers.

### **Ethical Considerations**

The study will follow ethical guidelines of DMI–St. John the Baptist University, and clearance will be obtained from the university ethics committee. Ethical principles to be observed include:

**Informed consent:** Participants will voluntarily agree to participate after receiving information about the study.

**Confidentiality:** No personal identifiers will be collected; all data will be anonymized and stored securely.

**Right to withdraw:** Participants can withdraw at any time without penalty. All data will be used exclusively for academic purposes (*Resnik, 2018*).

### **Pilot Study**

A pilot study will be conducted with 10 marketers from Tsoka Market, a market with similar characteristics to Msungwi Market. The pilot will test the clarity, structure, and timing of the questionnaire. Data from the pilot will not be included in the final analysis but will be used to refine the instrument before the main study (*Van Teijlingen & Hundley, 2001*).

## **RESULTS**

### **Introduction**

This chapter presents the results of the study on the impact of waste disposal practices on the public health of marketers at Msungwi Market, Lilongwe. Data were collected from 20 respondents using structured questionnaires. The findings are organized into three sections: demographic characteristics, waste disposal practices, and health outcomes. Tables and figures are used to summarize and visualize the data.

### **Demographic Characteristics of Respondents**

The study captured information on respondents' age, gender, education level, and type of merchandise sold. This information provides context for understanding the patterns of waste disposal and health outcomes.

### **Interpretation**

The majority of respondents were male (60%) and aged between 26 and 35 years (40%). Most respondents had completed at least primary education (35%) or secondary education (40%).

Food vendors constituted the largest group (50%), reflecting high exposure to organic waste.

### **Summary of Key Findings**

- The majority of respondents were male, aged 26–35 years, and primarily engaged in food vending.
- Open dumping was the most common waste disposal method (60%), with few using designated bins or burning.
- Diarrhea, respiratory problems, and skin infections were the most frequently reported health issues.
- There appears to be a strong association between unsafe waste disposal methods (especially open dumping) and the prevalence of health problems among marketers.

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## CONCLUSION

The set out to assess the impact of waste disposal practices on the public health of marketers at Msungwi Market, Lilongwe. The findings indicate that waste management practices among market vendors are largely inadequate, with open dumping being the most commonly used method. Only a small proportion of respondents used designated bins or other safer disposal methods. This exposes vendors to hazardous waste, contributing to health problems such as diarrhea, respiratory infections, and skin conditions, which were reported by a significant number of participants.

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