

**Enforcement and Compliance on Waste Management Practices in Kapchorwa Municipality Markets, Uganda**

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**Abstract**

The study examined the effect of enforcement and compliance on waste management practices in Kapchorwa municipality markets, Uganda. A mixed-methods approach (qualitative and quantitative) was used. Qualitative approach was used to interview the municipal officials, waste management agencies, and market leaders while quantitative approach was used to survey information from the traders and customers to assess satisfaction with waste services. The study population comprised of 263 market traders/customers in markets and 6 market leaders, municipal officials, and waste management agencies. In this study, the researcher used questionnaire survey and interview guide for the data collection. To test the reliability of the questionnaire as a research instrument, a test-retest technique was employed in which questionnaire was administered to a group of market traders and customers in markets outside Kapchorwa municipality but with similar characteristics. The result of reliability of the questionnaire was established with the use of test-retest reliability with a value of 0.82. validity was determined through face and content validity with a CVI value of 0.76. The findings revealed that there was a moderate positive significant relationship between enforcement and compliance, and waste management practices. It was recommended that enforcement and compliance should continuously improve waste management practices especially in markets since it was found to be moderate predictor, and has a positive relationship with waste management practices in Kapchorwa municipality markets, Uganda.

Keywords: Enforcement, Compliance, Waste Management, Municipality, Market

**Introduction**

Globally, municipal markets generate significant amounts of solid waste including organic, plastic, and hazardous materials (Medina, 2007). Effective waste disposal regulations and service delivery are crucial for maintaining public health, environmental sustainability, and urban cleanliness (Guerrero et al., 2013).

However, many municipalities face challenges in enforcing waste management policies and ensuring efficient service delivery in markets (United Nation Habitat, 2010).

In Indian, Municipalities enact bylaws and policies to standardize waste collection, segregation, and disposal. These regulations are often shaped by national environmental policies (e.g., the **Solid** Waste Management Rules, 2016 in India) and international best practices (United Nation Environment Program, 2015).

In Africa, waste disposal was largely unregulated, market waste (organic) refuse, animal remains, and packaging) was often discarded haphazardly in streets or nearby water bodies (Medina 2007; Zurbrugg et al.,2012). Informal collectors played a role in recycling materials like bones, metals, and textiles (Wilson et al.,2006; Medina,2007). Accumulated

waste led to bad odors, pest infestations, and disease outbreaks (Zurbrugg et al.,2012) prompting early municipal interventions.

In Uganda waste disposal is a big challenge to most cities and Urban areas. Studies by Uganda Bureau of Statistics indicate that only 40% of market waste is properly collected, while the rest is either burned or disposed of in open areas (Uganda Bureau of Statistics, 2020). This situation exacerbates pollution and attracts disease.

In Kapchorwa Municipality, waste management situation is problematic as a result of infrastructure deficiencies, weak enforcement of the existing policies and topographical challenges leading to poor waste management practices (National Environmental Management Act,2019).

This study seeks to examine the existing waste disposal regulations practices, enforcement and compliance levels, and service delivery mechanisms in markets within Kapchorwa municipality, Uganda. The findings will contribute to policy recommendations for improving waste management in municipal markets.

This study was guided by institutional theory. Institutional theory holds that institutions influence behaviors by providing rules, and shared beliefs that guide and constraint actions within societies and organizations (Scott 2014).

It posits that organizations and governments operate within a framework of formal and informal rules that shape behavior (DiMaggio & Powell, 1983). Waste disposal regulations in markets are often influenced by institutional norms, rules legal frameworks (Ostrom1990), and compliance mechanisms.

### **Statement of the Problem**

Effective waste management is critical for maintaining public health, environmental sustainability, and urban cleanliness (Kaza *et al.*, 2018). Markets such as Kapchorwa Central Market and smaller trading centers face challenges in waste collection, disposal, and compliance with environmental policies, leading to poor sanitation and environmental degradation (Kampala Capital City Authority Act, 2020). Studies indicate that only 40% of market waste is properly collected, while the rest is either burned or disposed of in open areas (Uganda Bureau of Statistics, 2020). This situation exacerbates pollution, attracts disease vectors, and undermines urban administrative efforts to achieve Sustainable Development Goal (SDG) 11 focus on making cities and human settlements inclusive, safe, resilient and sustainable. (United Nations, 2020). While national waste management policies exist, there is limited research on their implementation at the municipal level, particularly in market settings within Kapchorwa. Factors such as inadequate funding, weak enforcement, low public awareness, and insufficient infrastructure contribute to inefficiencies in waste service delivery (World Bank, 2022). A deeper understanding of these challenges is necessary to recommend policy adjustments and improve waste management practices. The study therefore aims to assess the relationship between waste disposal regulation practices and service delivery in markets within Kapchorwa municipality, Uganda.

**Objective**

The main objective was to examine the effect of enforcement and compliance on waste management practices in Kapchorwa municipality markets, Uganda.

**Hypothesis**

There is no significant effect of enforcement and compliance on waste management practices in Kapchorwa municipality markets, Uganda.

**METHODOLOGY**

The study utilized a descriptive survey design of market traders, customers, market leaders, municipal officials, and waste management agencies in Kapchorwa municipality, Uganda. Descriptive survey design was the research design involved in either identifying the characteristics of an observed phenomenon or exploring possible correlations among two or more phenomena.

A mixed-methods approach (qualitative and quantitative) was used. Qualitative approach was used to interview the municipal officials, waste management agencies, and market leaders while quantitative approach was used to survey information from the traders and customers to assess satisfaction with waste services.

The reason for selecting markets in Kapchorwa municipality, Uganda for the study is due to its proximity to the researcher’s home area. The sample for the study was drawn from market traders, customers, market leaders, municipal officials, and waste management agencies. Since the accuracy of the sample depended mostly on the sampling frame, the researcher ensured a high degree of correlation between the sampling frame and the sample population.

The sample size is a key factor in studies designed to make inferences about the population from a sample. The sample size was practically determined by the expense of gathering data and the need to have sufficient statistical power (Morgan, 2021).

The population of the study consists of all market traders, customers, market leaders, municipal officials, and waste management agencies in Kapchorwa municipality, Uganda. A total of 767 market traders and customers were targeted for the study.

**DATA ANALYSIS AND RESULTS**

**Deceptive Statistics**

**Table 1: Frequency of inspection**

Table 4.6: Frequency of inspection

Responses	SA		A		N		D		SD		TOTAL	
	5		4		3		2		1			
	F	%	F	%	F	%	F	%	F	%	F	%

The market is inspected regularly by the local authorities.	102	43	88	37	28	12	14	6	5	2	237	100
The frequency of inspection is adequate to ensure cleanness and safety.	76	32	113	48	19	8	24	10	5	2	237	100
Local authorities carry out inspections at consistent intervals.	59	25	104	44	42	18	21	9	10	4	237	100
Current waste disposal inspection frequency is sufficient.	59	41	114	45	19	6	33	8	12	5	237	100
Frequency inspections help improve waste management practices in the markets.	95	40	97	41	10	4	21	9	14	6	237	100
The current inspection schedule is effective in addressing hygiene issues.	76	25	104	44	17	18	21	9	19	8	237	100
Inspections are often skipped in the market.	76	32	112	48	19	8	24	10	5	2	237	100
Increased inspections frequency would improve compliance among vendors.	90	38	100	42	26	11	14	6	7	3	237	100
Local authorities regularly monitor enforcement of penalties for improper waste disposal.	59	25	104	44	42	18	21	9	11	5	237	100
I am satisfied with how often inspection are carried out in this market.	76	32	113	48	19	8	24	10	5	2	237	100

**Source: Field Data (2025)**

From the table 1, shows that the response on the item “The market is inspected regularly by the local authorities” the data shows that 43% of the respondents expressed strong agreement, 37% agreed with the statement, 12% were neutral

and 6% disagreed, 2% strongly disagreed which means a large proportion of the respondents are in agreement with the statement.

Another item asked was that “The frequency of inspection is adequate to ensure cleanness and safety” findings showed that 76 respondents with 32% strongly agreed, (48) of the respondents agreed with the statement, 8% were neutral and 10% disagreed while 5(2%) strongly disagreed.

Respondents were further presented with item that “Local authorities carry out inspections at consistent intervals”, and responses revealed that 25% of the respondents strongly agreed with the statement, 44% agreed, 18% were neutral and only 9 disagreed and 4% strongly disagreed. This indicate that Local authorities carry out inspections at consistent intervals.

On the item that “Current waste disposal inspection frequency is sufficient”. Findings reveal that 25% of the respondents strongly agreed with the statement, 48% agreed, 8% were neutral and 14% disagreed while 5% strongly agreed.

The response on the item “Frequency inspections help improve waste management practices in the markets”. The results indicate that 40% of the respondents strongly agreed with the statement, 41% agreed, 4% neutral and 9% disagreed and 6% strongly disagreed. This implies that Frequency inspections help improve waste management practices in the markets.

The response on the item “The current inspection schedule is effective in addressing hygiene issues” shows that 32% o/f the respondents strongly agreed, 44% agreed with the statement, 7% were neutral and 9% disagreed while 8% strongly disagreed.

The response on the item “Inspections are often skipped in the market” findings indicate that (76)32% of the respondents strongly agreed with the statement, (112) 48% agreed, 8% were neutral, 10% disagreed while 2% of the respondents expressed a strong disagreement with the statement. This implied that inspections are often skipped in the markets.

On the item that “Increased inspections frequency would improve compliance among vendors” the findings revealed that a substantial (90)38% of the respondents strongly agree with the statement, (100) 42% agreed, 11% were neutral, and 6% disagreed while 3% strongly disagreed with the statement, this implied that frequency of inspections would improve compliance among vendors.

The respondents were further presented with another item “Local authorities regularly monitor enforcement of penalties for improper waste disposal” findings from the respondents indicated 25% strongly agreed, most respondents 44% agreed with the statement, 18% were neutral while 9% disagreed and 5% strongly disagreed with the statement.

The response on the item “I am satisfied with how often inspection are carried out in this market” the results indicated that 32% of the respondents strongly agreed with the statement,48% agreed 8% maintained neutrality,10% disagreed and the least number of the respondents strongly disagreed with the statement. Overall findings indicated that current inspection schedule is effective in maintaining hygiene.

**Table 2: Mean Score Analysis for Frequency of inspection**

Responses	N	Minimum	Maximum	Mean	Std. Deviation
The market is inspected regularly by the local authorities.	237	1	7	1.17	.379
The frequency of inspection is adequate to ensure cleanness and safety.	237	1	7	1.26	.439
Local authorities carry out inspections at consistent intervals.	237	1	7	1.31	.464
Current waste disposal inspection frequency is sufficient.	237	1	7	1.22	.415
Frequency inspections help improve waste management practices in the markets.	237	1	7	1.39	.489
The current inspection schedule is effective in addressing hygiene issues.	237	1	7	1.31	.467
Inspections are often skipped in the market.	237	1	7	1.41	.491
Increased inspections frequency would improve compliance among vendors.	237	1	7	1.17	.379
Local authorities regularly monitor enforcement of penalties for improper waste disposal.	237	1	7	1.26	.439
I am satisfied with how often inspection are carried out in this market.	237	1	7	1.31	.464

The study findings in table 2 on the market is inspected regularly by the local authorities using mean, the respondents agreed that the market is not inspected regularly by the local authorities with very low mean=1.17 and Std=0.379. Current waste disposal inspection frequency is sufficient mean=1.22 and Std=.415

The frequency of inspection is adequate to ensure cleanness and safety with mean=1.26 and Std=.439. Local authorities carry out inspections at consistent intervals with mean=1.31 and Std=.464 and Frequency inspections help improve waste management practices in the markets (mean=1.39 and Std=.489). The current inspection schedule is effective in addressing hygiene issues (mean=1.31 and Std=.467).

Inspections are often skipped in the market (mean=1.41 and Std=.491). increased inspection frequency would improve compliance among vendors (mean=1.17 and Std=.379). Local authorities regularly monitor enforcement penalties for improper waste disposal with mean=(1.26 and Std=.439). I am satisfied with how often inspection are carried out in this market. with mean=(1.31 and Std=.464)

The standard deviation represented the variation of responses from the mean with the highest variation being .491 an indication that the variations in responses were acceptable since the standard deviations were less than 1.

**INFERENCEAL ANALYSIS**

**Table 3: Shows the Correlation coefficient between enforcement and compliance; and waste management practices**

Correlations		Enforcement and compliance	Waste management practices
<b>Enforcement and compliance</b>	Pearson Correlation	1	.580**
	Sig. (2-tailed)		.0001
	N	237	237
<b>Waste management practices</b>	Pearson Correlation	.580**	1
	Sig. (2-tailed)	.0001	
	N	237	237

\*\* . Correlation is significant at the 0.01 level (2-tailed)

According to table 3, Pearson correlation of enforcement and compliance; and waste management practices, results revealed the significance positive responses relation between enforcement and compliance; and waste management practices that is 0.580\*\* significant at 0.01 level of a two tailed test with 237 degrees of freedom. This implies that there is a moderate positive significant relationship between enforcement and compliance; and waste management practices.

**QUALITATIVE ANALYSIS**

*From the interviews on the above items, it was clearly confirmed by one of the key respondents that*

*“The municipality needs to prioritize the cleaning regularly, community members should be involved in the cleaning, local leadership should partake in anything that concerns waste management, there should be a creation of bye laws and ordinances governing the waste management. Similarly, stakeholders’ engagement is good in a way that waste management becomes a responsibility for all not only to the health workers in Kapchorwa municipality. Waste in the markets in Kapchorwa municipality is collected frequently enough to prevent accumulation. However, the current schedules of waste collection should be tailored to meet the needs of the markets in Kapchorwa municipality. Increasing the frequency of waste collection would increase cleanliness”.*

### **DISCUSSION OF THE FINDING**

The research findings revealed that relative to all other others assertions about enforcement and compliance on waste management practices in Kapchorwa municipality markets, Uganda, there was a significant difference in the views of the respondents sampled. Various countries have established legal frameworks to regulate waste disposal in markets. These regulations often mandate proper waste segregation, recycling, and disposal methods to minimize environmental pollution (Europeancommission,2008) waste Framework Directive (2008/98/EC) The European parliament’s directive on waste emphasizes waste prevention, recycling, and safe disposal. Markets are required to separate biodegradable waste for composting and ensure hazardous waste is treated appropriately (European Parliament, 2008).

Many cities have introduced market-specific waste policies to address the unique challenges of high organic waste generation. Kenya’s Sustainable Waste Management Act (2022) Kenya’s legislation mandates market waste separation, composting, and penalties for non-compliance (National Environmental Management Act, 2022). India’s Solid Waste Management Rules (2016). Under these rules, markets must segregate waste into decomposable, indecomposable, and hazardous categories.

Local cities are responsible for enforcing compliance (Ministry of Environment, Forest and climate Change, 2016). Despite existing regulations, enforcement remains a challenge due to: Lack of awareness among market vendors (United Nation Environment Program, 2019), insufficient funding for waste management infrastructure (World Bank, 2020), and Weak monitoring and penalty systems (Hoornweg & Bhada-Tata, 2012).

### **CONCLUSION**

From the study finding, it was established that; Pearson correlation results revealed the significance positive responses relation between enforcement and compliance; and waste management practices that is 0.580\*\* significant at 0.01 level of a two tailed test with 237 degrees of freedom. This implies that there is a moderate positive significant relationship between enforcement and compliance; and waste management practices.

## **RECOMMENDATION**

The researcher found out that enforcement and compliance should continuously improve waste management practices especially in markets since it was found to be moderate predictor, and has a positive relationship with waste management practices in Kapchorwa municipality markets, Uganda.

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