Exploring Socio-cultural Perspectives and Practices of Small-Scale Grocery Traders Towards Maintenance of Healthy Environment in Ilesa Metropolis Public Markets

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Abstract

This study explored the socio-cultural perspectives and practices of small-scale grocery traders in maintaining a healthy environment in Ilesa metropolis public markets. Using a descriptive survey research design, the study assessed traders' attitudes and perceptions, identified influential socio-cultural factors, and examined the role of environmental health workers. It also developed evidence-based strategies for sustainable waste management in public markets. Out of a population of 1150 grocery traders, a sample of 254 was selected through random sampling technique. Data was collected through a self-structured questionnaire titled 'Public Market Environmental Health and Waste Management Questionnaire (PMEHWMQ)'. The instrument was validated by experts in Guidance and Counseling as well as test and measurement. The reliability of the instrument was also determined using Cronbach's alpha, which resulted in a coefficient of 0.69. Following that, the instrument was personally administered by the researchers to the participants. Data collected was analyzed using frequency distribution, percentages, means, standard deviation, regression coefficient, and regression beta coefficient. The results showed that: maintaining a clean environment was seen as crucial for attracting customers by 92.9% of traders, 90.9% recognized the environmental risks associated with improper waste disposal and a negative relationship was found between traders' experience and their commitment to sustainable practices. It was recommended that regular market cleanliness assessments with feedback to traders, and development of a national waste management policy incorporating innovative technologies should be established.

Keywords: Perspective, Practice, Small-scale grocery traders, Sustainable environment

Introduction

The value of a clean and healthy environment in public markets cannot be overstressed.

Public markets serve as meeting points for economic activity, social interaction, and food distribution. The World Health Organization (WHO) emphasizes the critical importance of environmental protection, citing its significant impact on human health:

(a) environmental factors account for 24% of global disease burden, (b) 23% of all deaths worldwide are attributed to environmental factors (12.6 million annually), and (c) children under 15 are disproportionately affected, with 33% of deaths linked to environmental factors.

The advantages of a healthy environment in public markets on health, economic, social, environmental and market operation benefits are highlighted as follows:

(i) It reduces risk of diseases (e.g., cholera, typhoid, food poisoning), prevents waterborne and vector-borne illnesses, improves air quality and reduces respiratory issues, and enhances food safety, and reduces risk of foodborne illnesses.

(ii) It increases customer patronage and loyalty, improves market reputation and competitiveness, reduces economic losses due to environmental-related illnesses, and gives room for job creation, and income generation through environmental services.

(iii) It enhances community well-being and quality of life, improves social cohesion and community pride, reduces conflict and improves relationships among traders and customers and increases awareness, and education on environmental health.

(iv) It reduces waste generation and pollution, helps in the conservation of natural resources (e.g., water, energy), helps in protection of biodiversity and ecosystem services, and provides mitigation of climate change impacts.

(v) It improves market infrastructure and facilities, enhances trader productivity and efficiency, reduces market closure and downtime due to environmental issues, and increases compliance with regulations and standards.

In Nigeria, proper waste management and disposal among small-scale grocery traders pose a significant challenge. According to Ogundipe, Nwosu, Akinwumi and Eze (2020), small-scale grocery traders refer to individuals or businesses operating with fewer than 10 employees, retailing food and household items in public markets.

Also, Eze, Nwankwo, Okeke and Onyekwere (2020) describes small-scale grocery traders as small, independently owned businesses that sell food and household items in public markets, with daily sales ranging from ₦5,000 to ₦50,000. Small-scale grocery traders dominate Nigeria's retail sector which account for approximately 80% of total retail trade. These traders play a critical role in ensuring environmental sustainability in public markets. However, these markets often struggle with environmental degradation due to inadequate waste management, poor sanitation practices, and limited awareness among traders.

The neglect of environmental health in public markets can pose significant risks to traders, customers, and the broader community. Poor environmental conditions can facilitate the spread of diseases, contaminates food products, and undermines the overall quality of life. Furthermore, environmental degradation can lead to economic losses, reduce customer patronage, and damage to the market's reputation. In a research, Ogundipe et al. (2020) examined waste management practices among traders in Owerri, Nigeria. The results revealed a significant gap between awareness (87.6) and implementation, highlighting inadequate waste management practices. The study's findings further revealed that traders generated an average of 7.5 kilograms of waste daily, primarily consisting of biodegradable and recyclable materials. However, the disposal methods were alarming: 96.7% of traders engaged in open dumping, posing significant health risks. Moreover, 98.2% failed to segregate waste before disposal. A statistically significant relationship was also identified between traders' education levels and their adherence to proper waste management practices.

Ezedike, Onyemelukwe, and Eze (2020) conducted another study on health-seeking behaviour and waste management practices among women in urban markets in Owerri, Nigeria. The results showed that 71.4% of respondents had inadequate knowledge of

waste management, while 58.3% exhibited good health-seeking behavior. The study also found significant relationship between waste management knowledge and health-seeking behaviour, as well as between the type of trading item and motivation to manage waste.

In addition, Adeniran, Oyedele and Alabi (2022) investigated waste management practices and environmental awareness among traders in Lagos markets. The results revealed: (a) traders demonstrated limited knowledge of environmental issues and waste management practices, (b) traders' waste management practices were largely inadequate, with a high reliance on improper disposal method, (c) traders cited inadequate waste management infrastructure as a major challenge to proper waste disposal, and (d) traders who demonstrated higher environmental awareness and knowledge of waste management practices were more likely to engage in proper waste disposal behaviours. The relationship between market experience and environmental management practices among traders has been a subject of interest in recent years. While it is expected that traders with more years of market experience would have a better understanding of environmental issues and adopt more sustainable practices, research has shown a contrasting trend.

Research has consistently shown that traders with more market experience tend to prioritize economic gains over environmental concerns, driven by the need to maintain competitiveness and maximize profits. This can lead to compromised environmental management practices, resulting in unsustainable outcomes such as improper waste disposal, pollution, and neglect of environmental regulations (Akinpelu, Oyedele & Ogunyemi, 2022). Akinpelu et al (2022) in his study on the impact of market experience on environmental awareness and practices among traders in Lagos, Nigeria, found that market experience had a negative impact on the adoption of sustainable

environmental practices, suggesting that longer market experience is associated with lower prioritization of environmental concerns.

This trend is alarming, given traders' critical role in shaping market environmental sustainability. In this context, health workers play a vital role in promoting environmental cleanliness, particularly in markets. Their responsibilities include educating traders and consumers on proper hygiene practices, ensuring proper waste disposal, and monitoring market sanitation.

Studies have demonstrated that health workers' engagement in environmental cleanliness significantly reduces disease transmission risks in market settings. For instance, Ajayi and Oloruntoba (2020) in his own study on environmental health hazards and wellbeing of healthcare workers in Nigerian markets, highlighted the crucial role healthcare workers play in maintaining environmental cleanliness. The findings reveal that unfavorable environmental conditions negatively impact their physical, mental, and social wellbeing.

Given the pivotal role of small-scale grocery traders and market stakeholders in sustaining a healthy market environment, this study seeks to explore the socio-cultural perspectives and practices of small-scale grocery traders regarding environmental maintenance in public markets within Ilesa metropolis.

Research Objectives

The specific research objectives are to:

(i)   assess the attitudes and perceptions of small-scale grocery traders towards maintenance of healthy environment in Ilesa metropolis public markets.

(ii)   identify the socio-cultural factors that influence the adoption of sustainable environmental practices among small-scale grocery traders in Ilesa metropolis public markets.

(iii)   examine the role of environmental health workers on the maintenance of healthy market among small-scale grocery traders in Ilesa metropolis public markets.

(iv)   develop strategies for promoting sustainable environmental waste management among small-scale grocery traders in Ilesa metropolis markets.

Research Questions

The following research questions were raised:

(i)   what are the attitudes and perceptions of small-scale grocery traders in Ilesa metropolis public markets towards maintenance of healthy market environment?

(ii)   what are the socio-cultural factors influencing the adoption of sustainable environmental practices among small-scale grocery traders in Ilesa metropolis public markets?

(iii)   what is the level of involvement of environmental health workers on the maintenance of heathy markets among small-scale grocery traders in Ilesa metropolis public markets?

(iv)   how can sustainable environmental waste management practices be promoted among small-scale grocery traders in public markets within the Ilesa metropolis?

Statement of the problem

The indiscriminate waste disposal, inadequate sanitation, and poor environmental management practices exhibited by small-scale grocery traders in Ilesa metropolis public markets pose significant threats to urban well-being and sustainability. These practices not only jeopardize the health and safety of traders, customers, and the surrounding community but also contribute to the spread of diseases, contamination of

food and water, and environmental degradation. Despite previous research (Ogundipe et al., 2020; Ezedike et al., 2020; Adeniran et al., 2022) highlighting the importance of sustainable waste management practices among market traders, small-scale grocery traders in Ilesa metropolis public markets continue to struggle with environmental degradation.

Addressing environmental health concerns and implementing sustainable practices can have numerous benefits for small-scale grocery traders, including enhanced environmental sustainability and public health, increased customer loyalty and sales, contributions to a thriving local economy, and the creation of a safer and healthier market environment, hence this study.

Methodology

The study employed descriptive survey research design to gather data from small-scale grocery traders in the two public markets namely: Atakunmosa and Sabo of Ilesa Metropolis, Osun State, Nigeria. Using random sampling, 254 small-scale grocery traders were selected from a total population of 1015. Self-structured questionnaire titled 'Public Market Environmental Health and Waste Management Questionnaire (PMEHWMQ)' with two sections A and B were used to collect data from the participants. Section A consisted of bio-data information while section B were questions with a four-point Likert scale Strongly agree (SA), Agree (A), Disagree (D) and Strongly disagree (SD) on environmental healthy practices, socio-cultural influences on environmental behaviour, environmental health workers' involvement in sustainable waste management and strategies for promoting environmentally sustainable practices. The instrument was validated by experts in guidance and counseling as well as test and measurement. The reliability also was done using Cronbach with alpha coefficient of 0.69. Following this, data was collected from the

participants personally by the researchers. Data collected was analyzed using descriptive statistics (frequency distribution, percentages, means, and standard deviation) and inferential statistics (regression analysis, including regression coefficients and beta coefficients).

Data Analysis and Interpretation

The data collected were coded accordingly and subjected to analysis using statistical package SPSS version 21. Test re-test validity test were conducted on items, while an average overall coefficient Cronbach's Alpha was computed as 0.69. Respondents' perceptions were coded and entered, such that the higher the scores the higher the respondents': environmental health perspectives/practices, environmental health sustainability, health workers' involvement in maintaining cleanliness/hygiene and promoting environmentally sustainable practices. Statistical indices: frequency distribution, percentages, regression/beta coefficient analysis, mean and standard deviation analysis were used to illustrate the given objectives and hypothesis in the study, while the result was presented under the following headings.

Table 1: Socio-demographic characteristics of small-scale grocery traders in Ilesa metropolis public market.

		Frequency	Percentage
		N=254	%=100
Sex	Male	79	31.1
	Female	175	68.9
Age group	18-25yrs	62	24.4
	26-35yrs	88	34.6
	36-45yrs	31	12.2
	46-55yrs	39	15.4
	56-65yrs	26	10.2
	66yrs and above	8	3.1
Marital status	Single	104	40.9
	Married	127	50.0
	Divorced	12	4.7
	Widow/Widower	11	4.3

Years of experience	Below 5yrs	88	34.6
	5-10yrs	59	23.2
	11-20yrs	56	22.0
	21-30yrs	27	10.6
	31-40yrs	18	7.1
	41-50yrs	6	2.4
Level of education	Primary	36	14.2
	Secondary	85	33.5
	Diploma Certificate	49	19.3
	Associate Degree	22	8.7
	Bachelor Degree	55	21.7
	Masters Degree	7	2.8
Average sales per day	Below 11,000	41	16.1
	11,000-20,000	50	19.7
	21,000-30,000	72	28.3
	31,000-40,000	36	14.2
	41,000-50,000	20	7.9
	Above 50,000	35	13.8
Name of the market	Atakunmosa	230	90.6
	Sabo	24	9.4
Business types	Traditional / native food	50	19.7
	Fresh Produces	48	18.9
	Processed Foods	28	11.0
	Grains and legumes	30	11.8
	Spices and herbs	18	7.1
	Beverages	77	30.3
	Others	3	1.2

Table 1 presents the socio demographic characteristic of small-scale grocery traders in Ilesa metropolis public market. (68.9%) of the respondents in this study were female, majority (34.6%) were between 26-35 years, most of the respondents were married, majority (34.6%) were new in the market and had not spent up to 5years in the market. As shown in table 1 above, majority (33.5%) were having secondary as their highest level of education, most of the respondents (30.3%) sells beverages related goods, (19.7%) sells traditional/native food, (18.9%) sells fresh produces, (11.8%) sell grains and legumes while (1.2%) sells other edibles.

1st Objective: To assess the attitude and perceptions of small-scale grocery traders towards maintenance of healthy environment in Ilesa metropolis public markets

Table 2: Distribution of attitude and perceptions of small-scale grocery traders towards maintenance of healthy environment in Ilesa metropolis public markets

Item	No	Yes	Average index	
	N(%)	N(%)	Mean	Std dev
Are you aware that improper disposal of waste from your business can cause environmental hazard	23(9.1)	231(90.9)	0.9094	0.2875
Is proper waste disposal essential for a healthy market environment	45(17.7)	209(82.3)	0.8228	0.3825
Are you willing to reduce your use of single-use plastics	43(16.9)	211(83.1)	0.8307	0.3757
Do you think that regular trading in a neat and healthy environment can attract more customers to your business	18(7.1)	236(92.9)	0.9291	0.2571
Do you believe disposing waste into drainages poses a significant health risk.	35(13.8)	219(86.2)	0.8622	0.3453

Table 2 above shows that most of the traders (92.9%) were of the opinion that regular trading in a neat and healthy environment can attract more customers to their businesses. About 90.9% (231 respondents) were very much aware that improper disposal of waste from/in the business area could lead into an environmental hazard. However some percentage 17.7% (45 respondents) disagreed that proper waste disposal was essential for a healthy market environment.

Table 3: Associated factors to attitude and perceptions of small-scale grocery traders towards maintenance of healthy environment in Ilesa metropolis public markets

	Regression Coeff	Std Error	Significant level	95% Conf. Interval		Beta Coeff
				Lower	Upper	
Gender (ref: male)						
Female	-0.013	0.023	0.571	-0.058	0.032	
Age (ref: 18-25yrs)						
26-35yrs	0.037	0.031	0.241	-0.025	0.100	0.104
36-45yrs	-0.011	0.044	0.799	-0.098	0.076	-0.021
46-55yrs	-0.010	0.042	0.809	-0.093	0.073	-0.021
56-65yrs	-0.013	0.050	0.789	-0.113	0.086	-0.024
66yrs and above	0.078	0.078	0.324	-0.078	0.236	0.080
Marital Status (ref: single)						
Married	0.002	0.027	0.921	-0.051	0.057	0.008
Divorced	0.101	0.053	0.058	-0.003	0.206	0.125
Widow/Widower	0.041	0.065	0.528	-0.087	0.169	0.049
Years in the market (ref: below 5yrs)						
5-10yrs	0.018	0.027	0.509	-0.036	0.073	0.045
11-20yrs	0.058	0.031	0.067	-0.004	0.121	0.142
21-30yrs	0.032	0.038	0.402	-0.043	0.108	0.058
31-40yrs	-0.037	0.049	0.449	-0.135	0.060	-0.056
41-50yrs	0.162	0.071	0.025	0.020	0.303	0.143

Dependents variable: Attitude and perceptions of small-scale grocery traders towards maintenance of healthy environment

Table 4: Associated factors to attitude and perceptions of small-scale grocery traders towards maintenance of healthy environment in Ilesa metropolis public markets (cont)

	Regression Coeff	Std Error	Significant level	95% Conf. Interval		Beta Coeff
				Lower	Upper	
Education Qualification (ref: primary)						
Secondary	0.018	0.034	0.605	-0.050	0.086	0.049
Diploma Certificate	-0.045	0.039	0.250	-0.123	0.032	-0.105
Associate Degree	-0.133	0.049	0.007	-0.230	-0.036	-0.219
Bachelor Degree	-0.002	0.040	0.945	-0.083	0.077	-0.006
Master Degree	-0.136	0.070	0.054	-0.275	0.002	-0.130
Sale per day in naira (ref: Below 11,000)						
11,000 – 20,000	-0.026	0.033	0.425	-0.093	0.039	-0.062
21,000- 30,000	0.011	0.032	0,728	-0.053	0.075	0.029

31,000-40,000	0.063	0.039	0.106	-0.013	0.141	0.130
41,000-50,000	0.074	0.044	0.096	-0.013	0.162	0,117
Above 50,000	-0.011	0.040	0.774	-0.091	0.067	-0.023
Market (ref: Atakunmosa)						
Sabo	0.048	0.035	0.175	-0.021	0.117	0.082
Business (ref: Traditional/native food)						
Fresh produce	0.037	0.032	0.254	-0.027	0.101	0.085
Processed foods	0.072	0.037	0.054	-0.001	0.147	0.133
Grains and legumes	0.035	0.041	0.401	-0.046	0.117	0.066
Spices and Herbs	0.090	0.044	0.044	0.002	0.177	0.0135
Beverages	0.025	0.029	0.390	-0.032	0.083	0.068
Others	-0.157	0.098	0.111	-0.351	0.036	-0.099
EH Sustainability	0.106	0.027	0.001	0.051	0.161	0.254
EH workers involvement	-0.063	0.016	0.001	-0.096	-0.029	-0.242
Promoting EH sustainable practices	0.026	0.027	0.327	-0.026	0.080	0.065
Number of observations	254					
F (34, 219)	3.22					
Prob > F	0.000					
R-squared	0.3332					
Adj R-squared	0.2296					

Dependents variable: Attitude and perceptions of small-scale grocery traders towards maintenance of healthy environment

With traders' environmental health perspectives and practices as dependents variable,
Table 3 and Table 4 above reveal that there is an association between the traders
educational qualification and their environmental health perspectives and practices, the
table reveals that the traders with higher education qualification (associate degree
ceoff=-0.133, 95% CI -0.230 to -0.036, p=0.007) were significantly having lower or
weaker attitudes/perception toward environmental health using those with primary
education as reference point. The tables also reveal a significant positive association
between traders' environmental health perspectives and practices and environmental
health sustainability, that every one unity rise in traders' environmental health
sustainability was as the result of 0.106 unit increase in their environmental health
perspectives and practices, with a significant statistical index (regression coeff=0.106,
std error= 0.027,   95% CI 0.051-0.161, p=0.001). The tables also reveal a significant
negative association between traders' environmental health perspectives and practices

and their perception on environmental health workers involvement, most of the trader with higher environmental health perspectives and practices, were of the opinion that environmental health worker involvement were not satisfactory enough, for every one unit increase in perceived involvement of health worker were significantly associated and due to 0.063 decline in the traders' perceived environmental health perspectives and practices, with significant statistical index (regression coeff=-0.063, std error= 0.016, 95% CI 0.096-0.029, p=0.001).

2nd Objective: To identify the socio-cultural factors that influence the adoption of sustainable environmental practices among small-scale grocery traders in Ilesa metropolis public markets

Table 5 above reveals the sustainable environmental practices among small-scale grocery traders in Ilesa metropolis public markets.

Item	Strongly Disagree	Disagree	Agree	Strongly Agree	Average Index
	N(%)	N(%)	N(%)	N(%)	Mean(±SD)
It is my responsibility to maintain a healthy business environment	2(0.8)	3(1.2)	92(36.2)	157(61.8)	3.590(±0.560)
Participation in market community cleanup enhance proper market hygiene	0(0.0)	9(3.5)	106(41.7)	139(54.7)	3.511(±0.567)
Promoting a healthy market environment is part of my social responsibility	4(1.6)	7(2.8)	100(39.4)	143(56.3)	3.503(±0.633)
Market community norms value environmental sustainability practices	5(2.0)	13(5.1)	139(54.7)	97(38.2)	3.291(±0.654)
The markets' cultural values strongly encourage me to adopt environmental friendly practices	3(1.2)	14(5.5)	140(55.1)	97(38.2)	3.303(±0.627)

Table 5 above reveals the sustainable environmental practices among small-scale grocery traders in Ilesa metropolis public markets. Almost all the traders 97% (249 respondents) either agreed or strongly agreed that it was their responsibility to maintain a healthy business environment, 96.4% (245 respondents) either agreed or strongly agreed that participation in market community cleanup enhances proper market hygiene.

Table 6 Related factors to sustainable healthy environmental practices among small-scale grocery traders in Ilesa metropolis public markets

Item	Regression Coeff	Std Error	Significant Level	95% Conf. Interval		Beta Coeff
				Lower	Upper	
Gender (ref: male)						
Female	-0.006	0.054	0.906	-0.114	0.101	-0.007
Age (ref: 18-25yrs)						
26-35yrs	-0.177	0.074	0.018	-0.323	-0.030	-0.206
36-45yrs	0.074	0.104	0.475	-0.131	0.289	0.059
46-55yrs	0.025	0.099	0.802	-0.171	0.221	0.022
56-65yrs	-0.155	0.118	0.192	-0.390	0.078	-0.115
66yrs and above	-0.133	0.187	0.478	-0.503	0.236	-0.057
Marital Status (ref: single)						
Married	0.047	0.064	0.466	-0.080	0.175	0.057
Divorced	-0.155	0.125	0.219	-0.403	0.093	-0.080
Widow/Widower	-0.041	0.153	0.787	-0.343	0.260	-0.020
Years in the market (ref: below 5yrs)						
5-10yrs	-0.037	0.065	0.568	-0.166	0.091	-0.038
11-20yrs	-0.193	0.074	0.010	-0.339	-0.046	-0.196
21-30yrs	-0.049	0.090	0.589	-0.227	0.129	-0.037
31-40yrs	-0.001	0.116	0.990	-0.231	0.228	-0.001
41-50yrs	-0.241	0.169	0.156	-0.575	0.092	-0.089

Dependent variable: Sustainable healthy environmental practices

Table 6 above reveals that those traders between ages 26-35 years were significantly less likely to have sustainable healthy environmental practices, compare to/or using those in age range 18-25 years, with significant regression coefficient statistical index (reg coeff= -0.177, std error=0.074, 95% CI -0.323-0.030, p=0.018). Also, the table significantly reveals that the longer the length of years the traders spent in the market, the lesser their sustainable healthy environmental practices, for example the table reveals that the traders that spent between 11-20 years in the markets were significantly 0.193 time less likely to sustain healthy environmental practices compare to those that spent below 5 years as reference group, with significant index (reg coeff= -0.193, std error=0.074, 95% CI -0.339 - 0.046, p=0.010).

3rd Objective: To examine the role of environmental health workers on the

maintenance of healthy market among small-scale grocery traders in Ilesa metropolis

public markets.

Table 7: Distribution of environmental health workers' involvement in maintaining cleanliness and hygiene standard among small-scale grocery traders in Ilesa metropolis public markets.

Item	Strongly Disagree	Disagree	Agree	Strongly Agree	Average Index
	N(%)	N(%)	N(%)	N(%)	Mean(±SD)

Environmental health workers regularly visit my store to provide waste management guidelines	17(6.7)	56(22.0)	106(41.7)	75(29.5)	2.940(±0.884)
Environmental health workers regularly organize training/program on sustainable waste management for the market community	15(5.6)	63(24.8)	122(48.0)	54(21.3)	2.846(±0.822)
Environmental health workers monitor my store's waste management practices	17(6.7)	64(25.2)	112(44.1)	61(24.0)	2.854(±0.861)
Environmental health workers provide me with resources and materials for proper waste disposal	36(14.2)	65(25.6)	84(33.1)	69(27.2)	2.732(±1.013)
I strictly adhere to Government regulations on waste management practices	11(4.3)	39(15.4)	122(48.0)	82(32.3)	3.082(±0.803)

Table 7 reveals the role of environmental health workers on the maintenance of healthy markets, the table shows that 39.8% (101 respondents) either disagreed or strongly disagreed that the environmental health workers provided them with resources and materials for proper waste disposal.

Table 8:   Related factors to environmental health workers' involvement in maintaining cleanliness and hygiene standard among small-scale grocery traders in Ilesa metropolis public markets (cont)

	Regression Coeff	Std Error	Significant Level	95% Conf. Interval		Beta Coeff
				Lower	Upper	
Education Qualification (ref: primary)						
Secondary	-0.196	0.134	0.145	-0.461	0.068	-0.141
Diploma Certificate	-0.021	0.153	0.889	-0.324	0.281	-0.012
Associate Degree	-0.196	0.192	0.310	-0.576	0.183	-0.084
Bachelor Degree	-0.097	0.158	0.538	-0.409	0.213	-0.061
Master Degree	0.118	0.275	0.668	-0.424	0.660	0.029
Sale per day in naira (ref: Below 11,000)						
11,000 – 20,000	-0.080	0.130	0.537	-0.336	0.175	-0.048
21,000- 30,000	0.242	0.125	0.055	-0.004	0.489	0.166
31,000-40,000	0.192	0.152	0.210	-0.108	0.493	0.102
41,000-50,000	0.427	0.171	0.013	0.089	0.765	0.175
Above 50,000	0.224	0.155	0.149	-0.081	0.531	0.118
Market (ref: Atakunmosa)						
Sabo	0.142	0.136	0.298	-0.126	0.412	0.063

Business (ref: Traditional/native food)						
Fresh produce	-0.119	0.126	0.345	-0.369	0.129	-0.071
Processed foods	0.086	0.146	0.555	-0.202	0.375	0.041
Grains and legumes	0.310	0.159	0.053	-0.004	0.624	0.152
Spices and Herbs	-0.176	0.173	0.308	-0.518	0.164	-0.069
Beverages	-0.130	0.113	0.255	-0.354	0.094	-0.091
Others	-0.108	0.382	0.777	-0.861	0.645	-0.017
EH Perspectives and Practices	-0.944	0.253	0.001	-1.443	-0.445	-0.246
EH Sustainability	0.272	0.109	0.014	0.056	0.488	0.169
Promoting EH sustainable practices	0.252	0.104	0.016	0.047	0.457	0.160
Number of observations	254					
F (34, 219)	3.04					
Prob > F	0.000					
R-squared	0.3203					
Adj R-squared	0.214					

Dependent variable: Environmental health workers' involvement in maintaining cleanliness and hygiene standard

Table 8 reveals a significant relationship between traders with higher daily sales and their perception of environmental health workers' involvement in maintaining market cleanliness and hygiene standards.

4th Objective: To develop strategies for promoting sustainable environmental waste management among small-scale grocery traders in Ilesa metropolis public markets

Table 9: Distribution of perceived strategies for promoting sustainable environmental waste management among small-scale grocery traders in Ilesa metropolis public markets

Item	Strongly Disagree	Disagree	Agree	Strongly Agree	Average Index
	N(%)	N(%)	N(%)	N(%)	Mean(±SD)
Providing training and workshops on sustainable waste management would encourage me to adopt best practices	4(1.57)	19(7.48)	110(43.31)	121(47.64)	3.370(±0.692)
Regular incentives (e.g gifts, tax break, interest free loan, award etc) will encourage me to implement sustainable waste management	4(1.57)	23(9.06)	141(55.51)	86(33.86)	3.216(±0.668)
Developing and enforcing a waste management policy and guideline will sustain a healthy market environment	1(0.39)	16(6.30)	125(49.21)	112(44.09)	3.370(±0.619)

I strongly believe that frequent town hall meeting will promote a healthier market environment	2(0.79)	16(6.30)	76(29.92)	160(62.99)	3.551(±0.649)
Collaborating with other businesses to share waste management resources will be beneficial	7(2.76)	19(7.48)	98(38.58)	130(51.18)	3.381(±0.743)

Table 9 above shows the traders' perceptions on what could promote or encourage a sustainable healthy environment. The table shows that almost all respondents 91.8% (236 respondents) either agreed or strongly agreed that frequent town hall meeting would promote a healthier market environment. Majority of the traders 90.9% (231 respondents) either agreed or strongly agreed that provision of training and workshops on sustainable waste management would encourage them to adopt best practices. According to the study, a significant proportion of respondents (93.3%, comprising 49.2% agreement and 44.1% strong agreement) supported the development and enforcement of waste management policies and guidelines as an effective strategy for maintaining a sustainable healthy environment.

Discussion of Findings

The social demographic characteristics of small-scale grocery traders in Ilesa Metropolis show that female dominated the public markets Ilesa as shown in Table 1.

In assessing the altitude and perceptions of small scale grocery traders towards maintaining a healthy market environment, 92.9% of the traders believe that neat environment can attract more customers to the business while 90.9% of the total number of traders in Ilesa Metropolis are aware that improper waste disposal can lead to environmental hazard. This is in line with the findings of Ogundipe et al (2020) in his study who found that traders are aware of waste management practices but they lack adequate healthy environment practices. It also revealed that it was the responsibilities of the traders to maintain the business environment, this they can achieve through regular community cleanup exercises. From the findings also, there is indication that

traders with more years of market experience are less inclined to adopt sustainable healthy environmental practices. This discovery is in agreement with findings from Akinpelu et al (2022) where it was reported that market experience had a negative impact on traders' adoption of sustainable environmental practices.

Looking into the findings, health workers have role to play in maintaining market cleanliness as was shown in Table 7. This results also go with the word of Ajayi and Oloruntoba (2020) on the role of health workers in maintaining environmental cleanliness in markets where the importance of health workers in promoting market cleanliness and hygiene practices among traders was emphasized. The respondents also agreed that regular incentives, developing and enforcing wastes management policies, frequent market town hall meeting among other things will promote sustainable environment, and wastes management practices.

Conclusion

Based on the findings of the study, it was concluded that market authorities, in collaboration with traders, environmental workers, and policymakers should develop and implement comprehensive environmental management plans to ensure a healthy market environment and promote sustainable development.

Recommendations

Based on the conclusion, it is recommended that there should be regular conduct of market cleanliness assessments and provision of feedback to traders, regular workshops and training programs for traders should be organized on proper waste management and sanitation practices, educational materials like posters and flyers should be distributed highlighting environmental health benefits, market-based waste management committee should be established. Government should also create a national waste management policy incorporating innovative technologies.

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