CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The central role played by quality environment in the life of humans and even animals cannot be over-emphasized. However, its health implication and the uncoordinated policy thrusts governing it at different levels of government leaves much to be desired. It is taken that qualitative environmental practices engender good health. These put into question, policy initiatives towards ensuring sustainable waste management. Weaving the challenge of waste management around a globally acclaimed principle or variable of sustainability cannot be more poignant. This essentially entails advocating for comprehensive development without jeopardizing the capacity of future generations to support themselves (Amin, Moshood, & Abdulrasheed, 2023). Globally, especially within the United Nations (UN), from the Millennium Development Goals (MDGs) to the ongoing emphasis on Sustainable Development Goals (SDGs), environmental considerations remain crucial for policymakers around the world. Recently, especially since 2015, there has been a revitalized emphasis on 17 goals. Within this framework, components related to promoting a high-quality environment are evident in goals 3, 6, 11, and 13, encompassing good health and well-being, clean water and sanitation, sustainable cities and communities, as well as climate action. When considered as a whole, environmental protection encompasses the actions taken by individuals, organizations, and governments to safeguard the natural environment. Its main goals involve safeguarding natural resources, preserving the current environment, and undertaking initiatives to address and reverse environmental harm whenever feasible.

Environmental protection is also geared towards averting the degradation of the natural environment, which is under threat due to factors such as population growth, technological advancements, and overconsumption. These factors have collectively contributed to adverse effects on the environment, posing risks to both humans and wildlife. Environmental conservation serves to maintain the planet's biodiversity for the mutual benefit of nature and humanity, allowing nature to continue its vital role in maintaining the health of humans, animals, and the planet itself. The environment plays a crucial role in sustaining healthy living and the existence of life on Earth. A comprehensive analysis of global environmental protection efforts since 1970 indicates the active involvement of the United States Environmental Protection Agency (EPA) in protecting both the environment and public health (United Nations Environment Programme., 2021).

In Africa, the environment faces an array of challenges, including increasing occurrences of natural disasters, fluctuating climate patterns, and diverse weather phenomena. It is increasingly expedient for citizens to exercise greater caution in the way they lead their lives in response to these environmental issues, to achieve a harmonious balance between human activities and the environment. Specifically, Nigeria's response to the looming challenges can be seen in the promulgation of the National Environmental Standards and Regulations Enforcement Agency (NESREA) established in 2007 as a federal government environmental agency dedicated to ensuring a cleaner and healthier environment for Nigerians.

Nigeria ranks among the primary contributors to waste production in Africa. According to a report from the United Nations Industrial Development Organization, Nigeria produces an astonishing 32 million tonnes of waste each year, with a daily rate of waste generation ranging from 0.65 to 0.95 kilograms per person (Ike, Ezeibe, Anijiofor, & Daud, 2018). Consequently, waste management has become a primary responsibility of all three tiers of government. Despite concerted efforts to promote hygienic living, waste disposal remains a significant challenge in the country. The nature of environmental mismanagement varies from region to region across Nigeria's six geographical zones.

In Kwara State, compliance with global environmental protection and waste management standards has not been achieved. The state faces numerous issues related to environmental mismanagement. For example, the open dumping of solid waste into wetlands, watercourses, and drains, as well as burying waste in pits, is a common method of disposal. In response to these challenges, the Kwara State Government founded the Kwara Waste and Environmental Protection Agency (KWEPA) under the jurisdiction of the Kwara State Ministry of Environment and Tourism. Functioning by the Kwara State Environmental Protection Agency Law of 1992, this agency is assigned the responsibility of overseeing the management and disposal of waste within the state. The agency has equipped itself with packer compactor trucks, roll-on/roll-off bins, shovels, rakes, brooms, parkers, and wheelbarrows to maintain a clean and tidy environment. This study intends to examine the strategies of environmental protection policies on sustainable waste management systems in Kwara state, Nigeria.

1.2 Statement of the Problem

Despite growing concerns about the adverse environmental impact of improper waste management practices, many regions and communities continue to struggle with inadequate strategies for waste disposal and recycling. It is presumably observed that there are ineffective strategies for the implementation of environmental protection towards sustainable waste management in Kwara. Waste management practices in the state are often unsustainable and pose significant environmental challenges (Oladejo, Adeyemi, & Oyewale, 2020). The study by Ojo, Oladinrin, & Obi, (2021) points out factors such as limited public awareness, inadequate funding, lack of coordination among stakeholders, and insufficient monitoring and evaluation mechanisms.

Mosgaard (2016) reviewed understanding the role of waste prevention, and Malik, Yahaya and Ogunleye (2020) assessed the awareness level and practice of environmental management among students in Ilorin, Kwara State, Nigeria. Awopetu et al. (2013) worked on the perception of the

public at Makurdi, North Central Nigeria, on the waste minimisation strategy option. Oladepo and Rafiu (2012) studied on challenges of waste management and climate change in the Lagos metropolis and Ahmed (2008) wrote on waste management in the Ilorin metropolis: lessons for Nigerian Cities Ilorin metropolis consists of three Local Government Areas West, East, and South but none has been written on assessing environmental protection policies towards sustainable waste management systems in Kwara state. This study will identify the strategies for implementation of environmental protection towards sustainable waste management in Kwara state.

1.3 Research Objectives

i. examine the strategies of environmental protection policies in Kwara State.

1.4 Research Questions

i. What are the strategies of environmental protection policies in Kwara State?

1.5 Significance of the Study

The study will contribute to academic knowledge by revealing the extent to which Kwara State has been able to manage waste and its implications for environmental protection. The study will serve as a guide to policymakers and other researchers on what can be done to improve public policy on proper waste management and environmental protection in Kwara State while also contributing to the body of existing knowledge on public policy and waste management as well as environmental protection. The study locations include Tanke Oke Odo, Amilengbe, Ipata, Gaa Saka, Sango, Okolowo, Wara, Harmony Estate, Oke Oyi, Asa Dam, Amayo, and Ifokanbale area along with the Navy College of Health Science Offa among others.

1.6 Scope and Limitations of the Study

The geographical scope of this study is Kwara State, Nigeria while the subject scope focuses on public policy, waste management and environmental protection. The timeline for this study will cover 1999 to 2023. The reason for choosing the timeline is to cover the fourth republic. The reason for choosing Kwara as a case study is that Kwara State is among the states that are facing a serious challenge of waste disposal and environmental protection, especially in the state capital (Ilorin). The state is littered with refuse and people pay less attention to sanitising their environments.

1.7 Definition of Terms

a. **Policy:** This refers to a course of action proposed by the government or individual or organization
b. **Public:** This refers to the members or people as a whole.
c. **Security:** This means a state of being free from disease, danger or threat.
d. **Environment:** This is referred to the conditions in which a person operates.
e. **Waste:** This refers to an act of using something carelessly or for one purpose.
f. **Management:** This refers to the process of dealing with and controlling both humans and materials**.**
g. **Implementation:** This means putting a decision or plan into execution.
h. **Challenge:** This refers to obstacles encountered in the process of duty discharge.

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CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter reviews scholars' opinions gathered from secondary sources; articles, journals, books, etc. on waste management and environmental security. The chapter consists of three sections, the conceptual clarification, the review of the empirical literature, and the theoretical review.

2.2 Conceptual Discourse

2.2.1 Public Policy

Public policy can be said to be an active part of government (Clarke, 2009). Lassance (2020) defines public policy as an institutionalized proposal to solve a central problem, guided by a conception". Dye (1975) defines public policy as whatever government chooses to do or not to do. This means that public policy is the action part of the government in addressing the needs of the people. Public policy could also be referred to as the action deliberately taken by the government to achieve the desired result.

2.2.2 Environmental Policy

Ambali, (2015) sees environmental policy as a type of policy action deliberately taken to manage human activities to prevent, reduce or mitigate harmful effects on nature and natural resources and ensure that man-made changes to the environment do not have harmful effects on humans. Environmental policy is the commitment of an organization or government to the laws, regulations, and other policy mechanisms concerning environmental issues. These issues generally include air and water pollution, waste management, ecosystem management, maintenance of biodiversity, the management of natural resources, wildlife, and endangered species. Environmental policies can increase environmental security when implemented (Eccleston, 2010).

2.2.3 Waste

Audu (2007), defines waste as the leftover, or already used items waiting for reuse or disposal Waste is a by-product of human activity that is unavoidable (UN-ESCAP, 2018). The United Nations Statistics Division (UNSD) defines waste as "materials that are not prime products (that is products produced for the market) for which the generator has no further use in terms of his/her purposes of production, transformation or consumption, and of which he/she wants to dispose of" (UNEP-GRID, 2018). Waste refers to disposable, discarded, or unused portions of materials (Coker, Achi, Sridhar and Donnett, 2016). Coker et al. (2016) stated that waste mix differs from one user to the next due to culture, social standing, and financial status. The European Communities (EC) (1999) defined waste management by its activities, including preventing wastes, collecting, transporting, treating, controlling, and monitoring. Oyedele (2009) defines solid waste as leftovers arising from human, animal or plant activities that are discarded as useless and do not have any consumer value. Festus and Omoboye (2015) state that wastes are materials or substances that are either spoiled, rejected or no longer required for their original purpose.

2.3 Empirical Review

Malik, Yahaya, and Ogunleye (2020) assessed the awareness level and practice of environmental management among students in Ilorin, Kwara State of Nigeria. The study revealed that environmental problems have attracted the attention of individuals, organizations and governments all over the world. The increase in environmental concerns has continued to highlight the influential factors in environmental protection such as environmental behaviour, awareness, knowledge and attitude. The article was peculiar to Ilorin alone and failed to address environmental protection policies in Kwara state.

David, Olukanni, and Christiana (2019) studied public-private sector involvement in providing efficient solid waste management services in Nigeria Findings from the study showed that without the right legislation and enforcement, waste generators will not be mandated to dispose of their waste properly. The article is relevant to this work but did not address environmental protection policies in Kwara State. Ambali, Ahmad and Farah (2013) wrote on environmental policy on biomedical waste, strategies and issues in Malaysia. Findings from the study showed that biomedical activities generate some wastes that pose severe effects on human health and the environment at large, especially if there is no proper management policy in place. The article was domesticated to Malaysia and did not address waste management.

Ogunniran (2018) revealed a distressing and uncontrollable surge in the rate of solid waste generation in Nigeria, attributed to daily human activities and economic practices. Findings from the study pointed out that the haphazard disposal of solid waste has led to adverse consequences such as climate change, abiotic depletion, photochemical reactions, and extreme weather events like global warming. These environmental issues result from the breakdown of greenhouse gases emanating from chemical and radioactive wastes. The repercussions include water contamination, obstruction of water bodies, soil and air pollution, and the prevalence of both communicable and non-communicable diseases in numerous regions across the country. The article did not address environmental protection policies in Kwara State. Harit, Sarv, Ashish and Shadab (2020) wrote on solid waste management: characteristics, techniques, environmental impacts and health effects in Aligarh City", Uttar Pradesh, India. The findings from the study uncovered shortcomings in the existing facilities, attributed to a lack of concern, a high volume of waste generation, insufficient collection space, delayed approval for new landfill sites, and the presence of several open dump sites that contribute to fires. The article is relevant to this work but did not address environmental protection policies in Kwara State.

Samuel and Olamide (2016) assessed the environmental sanitation and solid waste management in Ibadan North Local Government, Oyo State, Nigeria. The results unveiled that the management of environmental sanitation and solid waste involves a collaborative effort among agencies operating at both state and local government levels, in addition to private entities. Additionally, the research demonstrated that residents in the Ibadan North local government area express favourable attitudes toward certain aspects of environmental sanitation but hold negative perceptions regarding specific facets of solid waste management. The article was domesticated to the Ibadan North local government area only. Zorica, Cristiana, Elena, and Cezarina (2015) posit that the practice of waste management is employed as a measure to safeguard the environment by overseeing the collection, transportation, processing, recycling, disposal, and monitoring of waste materials. The study's results indicated that local government authorities typically handle the management of non-hazardous residential and institutional waste in metropolitan areas. Conversely, the responsibility for managing non-hazardous commercial and industrial waste usually lies with the waste generator. The article did not address environmental protection policies.

Yetunde (2013) wrote on the sustainability of municipal solid waste management in Nigeria with specific reference to Lagos. Findings from the study indicated that numerous countries, especially those in the developed world, have implemented strategies from the waste management hierarchy to ensure the sustainable handling of their municipal solid waste. The selection of these options typically relies heavily on local factors. The study is relevant to this work but does not address environmental protection policies.

Lishan, Bo, Tong, Liang, and Ouwen (2023) studied promoting and maintaining public participation in waste separation policies in Shanghai, China. The study revealed that with the implementation of waste separation policies, residents' satisfaction with waste management increased by 5.3%, and participation willingness increased by 6.1%. Waste generation is sometimes a result of the environmentally inefficient use of resources, with potential adverse impacts, justifying the need to establish and promote a close relationship between environmental policies and waste management. The article was not domesticated to Nigeria and failed to discuss environmental protection policies while this research work examines the strategies of environmental protection policies on waste management in Kwara State, Nigeria.

Yusuf, Adewoye, and Sawyer (2022 investigated the opinions of Ilorin metropolis residents regarding the central storage of solid waste in the Kwara state of Nigeria. The findings highlighted significant concerns among stakeholders about inefficient waste collection and unsafe disposal practices in Nigeria. The study underscored the escalating nature of the waste problem in Ilorin, as daily waste generation outpaces evacuation efforts. Consequently, the situation of central storage for solid waste in Ilorin is increasingly distressing, emphasizing the pressing need for effective waste management strategies. The article is relevant to this work but did not address environmental protection policies in Kwara State.

Ihuoma (2012) researched the characterization and quantification of solid and liquid wastes in Iwo and Ibadan. The findings indicated that a prevalent disposal method involves openly dumping solid wastes into wetlands, water courses, and drains, as well as burying such wastes in pits. Consequently, this practice has led to the area becoming littered, presenting an eyesore and causing a nuisance due to the associated stench. The article was domesticated to Ibadan and did not address environmental protection policies.

Hushie (2016) engaged in fostering collaborations between public and non-governmental organizations for healthcare initiatives in Ghana. The study revealed that partnership between civil society organizations (CSOs) and the government in the health sector necessitates distinct forms, ranging from equal and formal contractual arrangements to decentralized and advocacy-oriented collaborations. The commitment of both the government and NGOs to collaborative efforts has proven instrumental in enhancing service delivery, mitigating health inequities, and reducing disparities. Non-governmental organizations contribute significant value through their knowledge, expertise, community legitimacy, capacity to attract donor funding, and implementation capabilities. This is particularly crucial in addressing health needs in areas or communities beyond the government's reach and for services it doesn't provide. The article was domesticated to Ghana and did not address waste management.

Dholakia (2013) conducted a study on the coordination of TB/HIV through a public-private partnership, drawing insights from practical experiences in the field. The study focused on a three-year Public-Private Partnership Project implemented in four districts of Maharashtra. The study revealed that community leaders and private health providers underwent sensitization regarding issues related to TB and HIV/AIDS. The study highlighted that inconsistent funding poses a challenge to the smooth implementation of programs. Public-private partnerships were recognized as instrumental in improving access to care. The study also underscored the necessity for constant dialogue among all stakeholders for the successful implementation of such partnerships. The article was domesticated to Maharashtra and did not address waste management and environmental protection policies.

Akukwe (1998) worked on the growing influence of non-governmental organizations (NGOs) in international health. Findings from the study showed that challenges of non-governmental organizations (NGOs) include the continued increases in global poverty status, the growing influence

of private-funded health systems, the need for sustainability of external-funded programs, and the clamour for community participation in the planning and management of external-funded programs. The study revealed that near universal recognition of the indispensable roles of NGOs by bilateral institutions and governments, the current emphasis on global trade by developed countries, and the need to develop political and economic systems that are equitable and promote social development are opportunities for non-governmental organizations (NGOs). The article is relevant to this study but did not address waste management.

Miranda (2013) worked on the legislation that prohibits the transportation, deposition, and dumping of harmful waste on any land or territorial waters, among other related matters. Violation of this law can result in severe penalties, including life imprisonment, and the forfeiture of vehicles or equipment used in the transportation or importation of the waste to the Federal Government of Nigeria. In cases where a corporate entity is responsible for the offence due to the negligence or consent of its principal officers, both the individual officers and the corporate body will be subject to appropriate punishment. The Act stipulates that; individuals are not allowed to engage in activities likely to generate hazardous waste without obtaining a permit from the Agency; waste generators must ensure secure storage methods for such wastes. Equally, those generating hazardous waste are required to treat the waste using approved methods; exporting or transiting hazardous waste without the Agency's permit is prohibited; transporting toxic waste through Nigeria to another country requires prior informed consent from the Agency and non-compliance with the above obligations constitutes an offence punishable by a fine of N5,000,000, imprisonment for five years, or both. The article did not address waste management.

Ijaiya and Joseph (2014) discussed the reconsideration of environmental law enforcement in Nigeria. Findings from the study showed that limited constitutional provisions for environmental protection, conflicts and overlapping roles in environmental management, an overly legalistic approach by the courts, and a lack of mandatory disclosure of information are the major challenges of environmental law enforcement. The study advocated for the promotion of private and public interest litigation, the establishment of procedures to enhance public participation in Nigerian environmental protection, the creation of mechanisms for addressing environmental emergencies, and the establishment of dedicated environmental courts. The article is relevant to this work but did not address waste management in Kwara State.

Fagbohun (2012) interviewed on Nigeria's quest for environmental governance. The study revealed that corruption incurs real political, economic, and social costs. Notably, the environmental damage resulting from bribery, extortion, unfair policies, and other corrupt practices is identified as a particularly significant and expensive consequence. Acknowledging the impact of corruption on the environment, it is widely accepted that increased transparency and public participation significantly improve the quality of decisions affecting environmental issues. These insights provide an avenue for intervention, focusing on conservation, preservation, and environmental justice through the powerful tool of transparency. The article is relevant to this work but did not address waste management in Kwara State.

Jenny and Tim (2021) explored how the positive feeling associated with recycling, known as the warm glow, can paradoxically lead to increased wasteful behaviour. Findings indicated that when individuals are presented with alternatives such as transforming plastic packaging into clothing or repurposing unused bread into beer, which have gained widespread popularity; the populace may psychologically perceive their waste creation as a positive contribution to the collective good, generating a sense of personal satisfaction (referred to as a warm-glow effect). The study contended that these potential 'wasteful contribution' effects should be taken into account when evaluating the genuine sustainability benefits of specific recycling initiatives. The article is relevant to this work but did not address environmental protection in Kwara State.

Pradipta and Harminder (2018) investigated the predictors of recycling intentions among the youth in India, addressing the escalating challenge of municipal waste management in the country. The rising urban population and high consumption lifestyles contribute to the challenge of municipal waste management, exacerbated by India having the world's highest number of young people aged 10–24. Findings from the study showed that social factors significantly influence the recycling intentions of Indian youth. The study emphasizes the importance of policymakers promoting recycling as a social trend in India and ensuring the provision of adequate facilities to facilitate public participation in recycling activities without encountering difficulties. Additionally, schools play a crucial role in enhancing students' awareness of recycling and motivating their engagement in household waste management practices. The article was domesticated to India but did not address environmental protection in Kwara State.

Mekonnen, Amanuel, & Terje, S. (2022) explored the evaluation of stakeholder roles in community projects with a focus on the environmental security and livelihood improvement of impoverished rural societies. The study revealed that involvement of stakeholder participation enhances environmental security and uplifts the livelihoods of the impoverished in a rural Ethiopian community. The study recommended that non-governmental organizations adopt a grassroots approach to community projects to garner acceptance and trust as well as ensure project sustainability. The article was domesticated to Ethiopia but did not address waste management in Kwara State.

Richardson and Razzaque (2006) addressed public participation in environmental decision-making. Findings from the study showed that public involvement in environmental decision-making has become a fundamental aspect of numerous global environmental regulatory systems. Those impacted by development approvals, pollution licenses, land use plans, and various regulatory procedures have progressively called for increased consultation, as well as more transparent and accountable decision-making. The article is relevant to this study but did not address waste management in Kwara State.

Maletz, Dornack, & Ziyang (2018) researched source separation and recycling. The study revealed that there is a global consensus on the development of a circular economy and the establishment of green societies. Both China and Germany, as leading countries in their respective regions in this domain, aim to decrease the environmental impacts of waste and avoid the "Not In My Backyard" (NIMBY) syndrome. They have accumulated significant experience in waste reduction and the efficient utilization of waste. Over the past 30–40 years, strategies such as "Pay As

You Throw," the "Green Dot" system, and the "trade-in policy (the new for old policy)" have consistently demonstrated higher recycling rates and reduced waste. The article illustrates the evolution of German waste legislation to achieve current recycling rates while Germany adheres to European laws. The article was domesticated to China and Germany but did not address waste management in Kwara State.

Lavee and Sagie (2007) conducted research on the criteria for acceptable heart donors with a focus on maximizing the utilization of hearts recovered from potential donors in Israel. The study revealed that the global shortage of available donor hearts restricts the number of cardiac transplantations worldwide, including in Israel. The study also revealed that involving various stakeholders can lead to innovative strategies, including recycling initiatives and circular economy models. They asserted that policies related to environmental protection and waste management are more likely to be effective when developed with local input. The article was domesticated to Israel but did not address waste management in Kwara State.

Innes & Booher (2004) worked on reframing public participation and strategies for the 21st century. Findings indicated that engaging in collaborative participation can effectively address complex and contentious issues, such as budget decision-making, fostering a more conducive environment for future actions in communities marked by bitter disputes. The crucial elements identified in this process include authentic dialogue, network building, and institutional capacity. The authors argued that participation should be viewed as a multifaceted set of interactions involving citizens and various stakeholders collaborating to generate outcomes. The proposed next steps encompass the development of an alternative practice framework, establishment of forums and arenas, adaptation of agency decision processes, and provision of training and financial support. The article was domesticated to the United States but did not address waste management in Kwara State.

Troschinetz and Mihelcic (2009) explored the theme of sustainable recycling of municipal solid waste (MSW) in developing countries. The study revealed that the average rate of MSW generation stood at 0.77 kg/person/day, with recovery rates ranging from 5% to 40%. Findings revealed that several factors played pivotal roles, including government policy, government finances, waste characterization, waste collection and segregation, household education, household economics, municipal solid waste management (MSWM) administration, MSWM personnel education, MSWM plan, local recycled-material market, technological and human resources, and land availability. The findings also showed a noteworthy correlation emerged between stakeholder involvement and the three dimensions of sustainability—environment, society, and economy. The factors driven by all three dimensions (waste collection and segregation, MSWM plan, and local recycled-material market) were those demanding the highest level of collaboration with other factors. The article is relevant to this study but did not address environmental protection policies in Kwara State.

Johnson, González, Dueñas, Gamero, Relyea, Luque, & Caniza (2013) addressed the enhancement of waste segregation and cost reduction in a tertiary-care hospital situated in a lower–middle-income country in Central America. The study revealed that efficient management and segregation of healthcare waste (HCW) are crucial for ensuring safety, environmental protection, and cost control in healthcare institutions. Findings from the study showed that inadequate HCW management poses increased risks and costs to these institutions. Although the hospital staff demonstrated knowledge of waste segregation practices, their compliance with national policies was lacking. Re-segregating waste in biohazardous waste bags revealed that 61% of this waste was common waste, suggesting a possible lack of awareness among staff regarding the cost implications of missegregating healthcare waste. The findings suggest that educating hospital staff on HCW management can lead to better segregation of biohazardous waste and significant cost savings. Hospitals, particularly those in lower-middle-income countries, stand to benefit from optimizing available resources and sustaining best practices in HCW management. The article was domesticated to Central America but did not address waste management in Kwara State.

Oberlin (2013) conducted a study focusing on the characterization of household waste in the Kinondoni municipality of Dar Es Salaam. The findings revealed a household waste generation rate of 0.44 kg/person/day. On average, the composition of household solid waste included kitchen/food waste, paper, plastics, glass, metals, aluminium, and other materials, with approximate proportions of 74.10%, 8.30%, 9%, 0.75%, 0.60%, 0%, and 7.25%, respectively. An analysis of the relationship between daily per capita household waste generation and socio-economic factors indicated a weak positive correlation with household size ($r = 0.219$ for middle-income households and $r = 0.138$ for low-income households). Additionally, the Pearson coefficient (r) suggested a very weak negative correlation ($r = -0.108$ for middle-income households and $r = -0.096$ for low-income households) between per capita daily waste generation and household income. The article was domesticated to Dar Es Salaam but did not address waste management and environmental protection policies in Kwara State.

Armijo, Ojeda., & Ramírez (2018) undertook a study focusing on the characterization of solid waste and the recycling potential for a university campus. The study revealed that Campus Mexicali I generates 1 ton of solid waste daily, with over 65% of this waste being recyclable or having the potential for recycling. These results indicate the feasibility of implementing a segregation and recycling program on a university campus. Additionally, the study demonstrated that, given current conditions such as the number of recycling companies and their capacities, the local market can absorb all of these recyclable wastes. The article did not address waste management and environmental protection policies in Kwara State.

Donnini, Rodrigues, Saide, & de Mattos (2007) conducted a study focusing on the recycling potential of urban solid waste designated for sanitary landfills in Brazil. The study revealed that approximately 90% of the waste held the potential for recycling, while only 10% necessitated landfilling. The study also revealed that compostable organic matter, represented by food and garden waste with high moisture content (51% and 41%, respectively), constituted 54% in mass and 21% in volume. The predominant plastic-type in the waste stream was high-density polyethylene, with an estimated disposal of about 5000 kg/day. A socioeconomic analysis of waste generation indicated that low-income neighbourhoods tended to discard relatively less packaging and more food waste, shoes, and construction debris compared to middle and high-income areas, possibly attributed to lower purchasing power and education levels. The study pointed out that more aluminium and uncoloured polyethene terephthalate were discarded during the warmer months, likely due to increased consumption of canned and bottled beverages. The article was domesticated to Brazil but did not address environmental protection policies in Kwara State.

Al-Salem, Lettieri, & Baeyens (2009) researched the recycling and recovery routes of plastic solid waste (PSW). The study revealed that primary recycling, a method involving the reintroduction of clean scrap of a single polymer into the extrusion cycle to produce products of similar material, is commonly employed within processing lines but is seldom utilized among recyclers due to the often inadequate quality of recycled materials. Secondary techniques involve the use of various waste products, including end-of-life or production (scrap) waste, which are generally resized into more suitable shapes such as pellets, flakes, or powders, depending on their source, shape, and usability. The study also found that energy recovery is a viable solution for PSW, especially in the case of municipal solid waste (MSW). While the amount of energy produced in kilns and reactors in this approach has been extensively investigated up to the operational stage, integration with petrochemical or converting plants remains an underexplored aspect. The article did not address environmental protection policies in Kwara State.

Matter, Dietschi, & Zurbrügg (2013) conducted a study on enhancing the informal recycling sector through household waste segregation in Dhaka. The examination of the informal recycling industry, its stakeholders, and waste generation and composition revealed a substantial untapped potential. However, any initiative seeking to promote source segregation and increase access to recyclables must meticulously consider all integrated aspects of the waste management system that influence and determine the sustainability and success of the proposed improvements. The study recommended that the practicality of implementing segregation at the household level, as well as the regularity of collection or purchase of recyclables by the informal sector, should be addressed as a top priority. The article did not address environmental protection policies in Kwara State.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on the methodology to be used in this research work successfully. It explains the research design. It also gives details about the population and sample used for the research.

3.2 The Purpose of the Study

This study is to explore the main thrusts of public policy on waste management and its implications for environmental protection in Kwara State. It aims to investigate the issues associated with waste disposal in Kwara State. The study examines the relationship between waste management and environmental protection. The study equally aims at examining the strategies of environmental protection policies in Kwara State.

3.3 Research Design

This research is anchored on a descriptive study as it's designed.

Table: 3.3 Workflow.

S/N	**Research Objectives**	**Research Questions**	**Methods/Research Instrument**
i	Examine the strategies of environmental protection policies in Kwara State.	What are the strategies of environmental protection policies in Kwara State.?	Survey Questionnaire and Interview

Source: Researcher's Field Survey, 2024

3.4 Sources of Data Collection

To carry out this study, the data was collected from two major sources. These sources will include primary and secondary sources.

3.4.1. Primary Sources of Data

The primary sources of data for the analysis of this study were collected from the respondents through the design questionnaire and interview. The questionnaires were administered by the researcher. The researcher conducts an individual oral interview with people of the region. This was done to elicit further information from them concerning the issue under study.

3.4.2 Secondary Sources of Data

The secondary data for this study was collected from textbooks both published and unpublished that are found to be relevant for this study. These already written works include; textbooks, journals, magazines, newspapers, and some relevant documents that are relevant to this research work.

3.5 Population and Sample of the Study

The term "population" has been defined by Odo (1992) as "the entire number of people, objects events and things that all have one or more characteristics of interest to a study The population of this study is drawn from the Kwara State Ministry of Environment and Forestry, Kwara State Ministry of Health, Kwara State Environmental Protection Agency, Kwara State Association of Waste Collectors and the Kwara State House of Assembly Committee on Health and Environment were 1,207. The population of this study is 1,207 and the sample size is 400 determined by the Taro Yamane (1967) formulae. Thus:

$$Equation\ 1:$$

$$n = \frac{N}{K + N(e)2}$$

$$And, plugging\ in\ the\ given\ values:$$

$$n \approx 1{,}207$$

$$1 + 1{,}207(0.05)2$$

$$n \approx 1{,}207$$

$$1{,}208x0.0025$$

$$n \approx 1{,}207$$

$$3.02$$

$$n \approx 399.668$$

Therefore, approximately n ≈ 400. As a result, the sample size for this study is 400.

3.6 Method of Data Collection

Primary data is collected with the aid of a structured questionnaire administered to various levels of staff of the local government. The researcher will administer a questionnaire directly to the respondents based on the sample size. The questionnaire is divided into two sections. The first section will capture bio-data information of the respondents while the second section focuses on information based on the concept of this research, using a 5-point Likert scale with "1= Strongly Disagree, 2= Disagree, 3 = Undecided, 4 = Agree and 5=Strongly Agree". More so, the researcher will also interview in addition to the questionnaire.

3.7 Method of Data Analysis

The data gathered is analyzed using the Statistical Package for Social Sciences (SPSS) for easy analysis. This primary data is analyzed through a pilot study, regression and correlation analysis.

3.8 Validity of the Instrument

The content approach to estimating validity is used to establish the validity of the research instrument. The questionnaire is drafted and submitted to the supervisor who scrutinizes and evaluates the strength of the instrument. The corrections, evaluation and suggestions made by the project supervisor enrich the research work.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents findings based on the administered questionnaire. The analysis comprises the results of the demographic characteristics of the respondents from each sampled and the regression estimates of the variables. A total of thirty-two questionnaires were distributed and returned correctly. The survey cut across the Department of the Environment in Kwara State Environmental and Protection Agency. Statistics Package for Social Sciences (SPSS) Statistical software was used for analysis to determine the answer to the objective; the study was tested by pilot, correlation and regression.

4.2 The Study Area

Kwara State is a derivative of the local name for the River Niger. It was created on May 27, 1967, when the Federal Republic of Nigeria was split into twelve states by General Yakubu Gowon. Its original name "West Central State" has subsequently changed to Kwara. Before its creation, the area currently known as Kwara was part of the former Northern Region of Nigeria. The structure of the state has undergone several alterations. First, in 1976, a segment of the eastern part of the state was merged with the current Benue state. Second, in 1991, part of the areas of the state was merged with the current Niger state and Kogi state. The capital city, Ilorin, is a historically ornate centre, with one of the most distinguished Emirates in the country.

The Kwara State Environmental Protection Agency Law was enacted in 1992. The Act created the Kwara State Environmental Protection Agency (KWEPA) to promote a safe and healthy environment for the people of Kwara State. The Agency is saddled with the powers to carry out all environmental protection activities, carry out research and development activities for environmental protection and educate the general public on proper waste disposal methods acceptable by the State Government for domestic and industrial wastes (Adebayo, 2022).

4.3 Results and Discussion

Table 1: Strategies for the implementation of environmental protection policy in Kwara

Key: SD (Strongly Disagree), **D** (Disagree), **U** (Undecided), **A** (Agree), **SA** (Strongly Agree),

S/N	STATEMENTS	SD	D	U	A	SA	Total	Aggregate Response
1	There are awareness campaigns and education programs on environmental conservation in Kwara state.	13 (3.6%)	22 (6%)9	9 (2.5%)	**207** **(56.7%)**	114 (31.2%)	365 (100%)	**Agreed**
2	There is approval for a dumpsite in Kwara state.	-	11 (3%)	11 (3%)	167 (45.8%)	**176** **(48.2%)**	365 (100%)	**Strongly Agreed**
3	There is a collaboration between the state government and NGOs for joint initiatives in Kwara state.	3 (.8%)	29 (7.9%)	28 (7.7%)	**192** **(52.6%)**	113 (31%)	365 (100%)	**Agreed**

4	Enforcement of penalties and fines for improper waste disposal in Kwara state.	1 (.1%)	17 (4.8%)	3 (.8%)	128 (35.1%)	**216 (59.2%)**	365 (100%)	**Strongly Agreed**
5	Establishment of recycling programs and waste separation initiatives in Kwara state.	28 (7.7%)	19 (5.2%)	19 (5.2%)	**232 (63.5%)**	67 (18.4%)	365 (100%)	**Agreed**
6	Involvement of local communities and stakeholders in decision-making processes in Kwara state.	12 (3.3%)	44 (12.1%)	25 (6.8%)	**216 (59.2%)**	68 (18.6%)	365 (100%)	**Agreed**
7	Implementation of waste segregation at the source (Household, Commercial, Industrial) in Kwara state.	28 (7.7%)	87 (23.8%)	46 (12.6%)	**127 (34.8%)**	77 (21.1%)	365 (100%)	**Agreed**
8	Encouragement of the reduce, reuse, recycle (3Rs) approach in Kwara state.	59 (16.2%)	53 (14.5%)	23 (6.3%)	**174 (47.7%)**	56 (15.3%)	365 (100%)	**Agreed**
9	The state adopts technology (ICT) to capture a database on waste construction in Kwara state.	38 (10.4%)	63 (17.3%)	24 (6.6%)	**208 (56.9%)**	32 (8.8%)	365 (100%)	**Agreed**

Source: Researcher's Field Survey, 2024

Table 1 shows that 56.7% +31.2% = 87.9% agreed in Kwara state that there are sufficient awareness campaigns and educational programs on environmental conservation in the state. This is in line with respondent 2 from the Kwara State Environmental Protection Agency who alluded that the Kwara State government, through the Ministry of Environment and Forestry and its agency make awareness campaigns and educational programs to sensitize the members of the public on the need to keep their environment clean. The government have put in place a lot of precautionary measures to ensure that people do not dump refuse indiscriminately. One of the measures is placing bins (popularly called Roro Bin) in strategic areas in the metropolis to ensure that people do not litter the environment.

There are jingles to create awareness and sensitize people to become registered waste collectors with the state government. Measures will be put in place to rest and prosecute those who are dumping refuse illegally in the metropolis. In the area of market sanitation, the Babaloja and Iyaloja (Male and Female Market Leaders) are used as points of contact with the market community. They are charged with the responsibility of organizing meetings to further drive home the messages from the government on the need to properly and effectively dispose of waste without negative backlash on the sanity of the environment. The result is in line with Malik *et al.*, (2020) who revealed that environmental problems have attracted the attention of individuals, organizations and governments all over the world and that the increase in environmental concerns has continued to highlight the influential factors on environmental protection such as environmental behaviour, awareness, knowledge and attitude.

It shows that 45.8% +48.2% = 94% strongly agreed in Kwara state that there is approval of dumpsite in the state. This is in line with respondent 1 from the Kwara State Ministry of Environment and Forestry says that "there is only one approved dumpsite in the state. It is situated at Aiyekale along Ogbomosho road". Similarly, respondent 4 from the Kwara State House of Assembly Members' Committee on Health and Environment states that the Kwara State Government has only one approved dumpsite across the state. However, there is agitation for the establishment of more dumpsites from the stakeholders. It is also in line with respondent 6 from the Kwara State Association of Waste collectors that Sokoto Aiyekale is the only approved dumpsite in the metropolis and it is difficult for them to operate especially during the rainy season and the site is far away with poor access road. The finding is similar to Yusuf *et al.*, (2022*)* who opined that there is an officially approved dumpsite in Kwara state, including the Ilorin metropolis. Still, the management of this dumpsite needs improvement to ensure safe and responsible waste disposal.

However, it is found in Kwara State that dumpsite accessibility and insufficiency are an impediment, as the dumpsite was found to be too far and largely inaccessible. This is also in line with respondent 5 from the Environmental Health Department, Ilorin West Local Government Area says that the available waste tippers are not enough and the dumpsite is far away from many strategic areas. As a result, the truck will evacuate waste once instead of twice or three (3) times and abandon the remaining refuse which in turn pollutes the environment. The practice sometimes resulted in littering the environment, which became irritant and distressful (Ihuoma, 2012).

The table reveals that 52.6% +31% = 83.6% agreed that in Kwara**,** there is a collaboration between the state government and NGOs for joint initiatives. The finding is in line with respondent 1 from Kwara State Ministry of Environment and Forestry states that: Kwara State collaborates with NGOs such as Rotary Club, and Blue Mist. They voluntarily evacuate waste in strategic areas like Oyun Bridge and Tanke Oke-Odo solar power energy. The result is in line with Hushie (2016) and Dholakia (2013) acknowledged the positive effect of NGO-government collaboration on the environment and health enhancement and the promotion of programs developed for controlling and preventing diseases such as cholera, communicable diseases, malaria and tuberculosis in different communities. The finding is in line with the previous study by Samuel and Olamide (2016) who stated that the management of environmental sanitation and solid waste involves a collaborative effort among agencies operating at both state and local government levels, in addition to private entities. Akukwe (1998) admitted that the collaboration of NGOs with the public sector is inevitable in health-care provision activities for different communities, particularly the poor people, specific vulnerable groups, suburban populations, disabled individuals, and the elderly.

The table reveals that 35.1% +59.2% = 94.3% strongly agreed that in Kwara state**,** there is enforcement of penalties and fines for improper waste disposal. The result is similar to respondent 1 from the Kwara State Ministry of Environment and Forestry: the Kwara state government formed a task force together with the vigilante group (Private Security Guards) for continuous monitoring of those dumping waste illegally. The task force is everywhere and anybody apprehended shall be prosecuted before a mobile court in the Ministry of Environment. Fines are imposed depending on the gravity of the offence committed while those incapable of readily paying are remanded in prison.

Similarly, respondent 2 from Kwara State Environmental Protection Agency that; In the sense we normally carry out the enforcement as KWEPA is in conjunction with the Ministry of Environment, the parent ministry. At times, the staff embark on night duty when it is discovered that the town is too dirty to arrest people dumping illegally on the road or in illegal places by 7:30 to 10:00 p.m. So, whoever is caught will be taken to the station and the violator to the court the following day. Such violators will be fined heavily. At times when there are many, the mobile court is organized for them at the Ministry of the Environment so that they will be prosecuted and fined accordingly. The laws are very effective but it hindered by a shortage of staff or personnel.

Miranda (2013) stated that the National Environmental Standards and Regulations Enforcement Agency (NESREA) is responsible for enforcing environmental standards and regulations in Nigeria. They carry out research and development activities for environmental protection and educate the public on acceptable waste disposal methods. Hakeem and Joseph (2014) asserted that the Harmful Waste Act prohibits the carrying, dumping, or depositing of harmful wastes in the air, land, or waters of Nigeria without lawful authority. David *et al*, (2019) admitted that without the right legislation and enforcement, waste generators will not be mandated to dispose of their waste properly. However, Ijaiya and Joseph (2014) believe that the punishment obtainable for noncompliance is grossly inadequate; and injured parties are not fairly recompensed. In addition, some environmental offences are punished administratively rather than through corrective measures or criminal prosecution. Furthermore, Fagbohun (2012) stressed that the Constitution makes no specific reference or provision regarding the authority of national governments and smaller political subdivisions to enact environmental legislation.

The table also reveals that 63.5% +18.4% = 81.9% agreed that in Kwara state**,** there is an establishment of recycling programs and waste separation initiatives. Respondent 2 from Kwara Environmental and Protection Agency states that; there is an establishment of recycling programs and waste separation initiatives but there is no recycling plant in the state.

The finding is in line with Jenny and Tim (2021) state that laudable initiatives designed to limit the environmental damage associated with consumption, such as the recycling of plastic packaging into clothing or unused bread into beer, have become increasingly popular. It is also relevant to the previous study by Pradipta and Harminder (2018) revealed that the recycling of ever-increasing urban waste has become a priority for sustainable environmental management and planning activities in both developed and developing countries.

The table also reveals that 59.2% +18.6% = 77.8% agreed that in Kwara state**,** there is involvement of local communities and stakeholders in decision-making processes. Mekonnen *et al*., (2022) state the success of the project depends on the participation of stakeholders at all levels, in projects which require environmental decision-making in particular. The participation of stakeholders is critically important for sustainability and environmental security. Richardson and Razzaque (2006) mentioned that stakeholder participation in the environmental decision-making process helps citizens exercise their democratic rights through the combined involvement of ordinary people, the media, environmentalists, academics and scientists.

Lavee and Sagie, (2007) think that involving various parties can result in innovative strategies, such as recycling initiatives and circular economy models (assert that policies related to environmental protection and waste management are more likely to be effective when they are developed with local input. Innes and Booher (2004) argued that community involvement aids in identifying practical solutions and addressing potential implementation challenges.

The table also reveals that 34.8% + 21.1% = 55.9% agreed that in Kwara state**,** there is the implementation of waste segregation at the source (Household, Commercial, Industrial). Respondent 2 states that the Kwara state government encourages waste segregation at the dump site. The scavenging service is rendered to sort the waste and pay tokens to the state government. Equally, Waste contractors evacuate waste to dumpsites and scavengers sort out the waste separately. Some waste collectors are alleged to dump waste in an unapproved dumpsite and segregate their waste. Such practice is considered illegal. The result is in line with Lishan *et al* (2023) asserted that with the implementation of waste separation policies, residents' satisfaction with waste management increased and participation willingness increased also. Waste generation is sometimes a result of the environmentally inefficient use of resources, with potential adverse impacts, justifying the need to establish and promote a close

relationship between environmental policies and waste management. The finding is also in line with Maletz *et al*., (2018) expressed that waste segregation is an important step in a road map to circular economy. Troschinetz and Mihelcic (2009) indicated that sustainable recycling programs among other factors highly depend on waste segregation. Johnson *et al*., (2013) said that it is clear that waste segregation has a substantial contribution to effective waste management.

The table also reveals that 47.7% + 15.3% = 63% agreed that in Kwara state**,** there is encouragement of the reduce, reuse, recycle (3Rs) approach. Respondent 2 from Kwara Environmental and Protection Agency states that: there is encouragement for the reduce, reuse, recycle (3Rs) approach. The waste segregated by scavengers is taken to different places especially for recycling since there is no recycling plant in the state. The result is similar to Zorica *et al*., (2015) who believe that the practice of waste management is employed as a measure to safeguard the environment by overseeing the collection, transportation, processing, recycling, disposal, and monitoring of waste materials. Oberlin (2013) revealed that the reuse and recycling of plastics, electronics and metals are informally practised and the selling chain is from households to waste collectors to recycling centres and finally to industries. Armijo *et al*., (2008) and Donnini *et al*., (2007) argued that waste reuse, recycling and recovery (R), if well planned and managed, can reduce the amount of waste to be disposed of by up to 65% of the total waste generated. Waste recovery and reuse also can yield direct economic benefits. Recycling of plastic waste, the other large waste stream, is also mentioned to reduce waste volume (Al-Salem *et al*., 2009). Waste reuse and recycling can contribute to income generation and may help to reduce complications in handling and disposing of huge volumes of solid wastes (Matter *et al*., 2013).

The table also reveals that 56.9% + 8.8% = 65.7% agreed that in Kwara state**,** there is the state adopts technology (ICT) to capture databases on waste construction. However, Respondent 2 from Kwara Environmental and Protection Agency states that: Kwara state has not adopted technology (ICT) to capture databases on waste construction and monitoring purposes. Because of the lack of CCT cameras for monitoring, the residents around the Government Reserve Area dump refuse illegal after the closing time of the Kwara State Environmental Protection Agency. Likewise, in many strategic areas like Offa Garage, Taiwo and before the Emir's palace.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

The study revealed that there are sufficient awareness campaigns and educational programs on environmental conservation in the state. The result is in line with Malik *et al*., (2020) who revealed that environmental problems have attracted the attention of individuals, organizations and governments all over the world and that the increase in environmental concerns has continued to highlight the influential factors on environmental protection such as environmental behaviour, awareness, knowledge and attitude. The study also showed that respondents agreed that there is approval for dumpsites in the state. The finding is similar to Yusuf *et al.,* (2022*)* who opined that there is an officially approved dumpsite in Kwara state, including the Ilorin metropolis. Still, the management of this dumpsite needs improvement to ensure safe and responsible waste disposal. However, it is found in Kwara State that dumpsite accessibility and insufficiency are an impediment, as the dumpsite was found to be too far and largely inaccessible.

The study revealed that there is a collaboration between the state government and NGOs for joint initiatives. The result is in line with Hushie (2016) and Dholakia (2013) acknowledged the positive effect of NGO-government collaboration on the environment and health enhancement and the promotion of programs developed for controlling and preventing diseases such as cholera, communicable diseases, malaria and tuberculosis in different communities. The finding is in line with the previous study by Samuel and Olamide (2016) who stated that the management of environmental sanitation and solid waste involves a collaborative effort among agencies operating at both state and local government levels, in addition to private entities.

The study revealed that there is enforcement of penalties and fines for improper waste disposal. The result is similar to Miranda (2013) stated that the National Environmental Standards and Regulations Enforcement Agency (NESREA) is responsible for enforcing environmental standards and regulations in Nigeria. They carry out research and development activities for environmental protection and educate the public on acceptable waste disposal methods. Hakeem and Joseph (2014) asserted that the Harmful Waste Act prohibits the carrying, dumping, or depositing of harmful wastes in the air, land, or waters of Nigeria without lawful authority. David *et al*, (2019) admitted that without the right legislation and enforcement, waste generators will not be mandated to dispose of their waste properly.

The study showed that there is an establishment of recycling programs and waste separation initiatives. The finding is in line with Jenny and Tim (2021) state that laudable initiatives designed to limit the environmental damage associated with consumption, such as the recycling of plastic packaging into clothing or unused bread into beer, have become increasingly popular. It is also relevant to the previous study by Pradipta and Harminder (2018) revealed that the recycling of ever-increasing urban waste has become a priority for sustainable environmental management and planning activities in both developed and developing countries.

The study also revealed that there is involvement of local communities and stakeholders in decision-making processes. Mekonnen *et al*., (2022) state the success of the project depends on the participation of stakeholders at all levels, in projects which require environmental decision-making in particular. The participation of stakeholders is critically important for sustainability and environmental security. Richardson and Razzaque (2006)

mentioned that stakeholder participation in the environmental decision-making process helps citizens exercise their democratic rights through the combined involvement of ordinary people, the media, environmentalists, academics and scientists.

The study showed that there is the implementation of waste segregation at the source (Household, Commercial, Industrial. The result is in line with Lishan *et al* (2023) asserted that with the implementation of waste separation policies, residents' satisfaction with waste management increased and participation willingness increased also. Waste generation is sometimes a result of the environmentally inefficient use of resources, with potential adverse impacts, justifying the need to establish and promote a close relationship between environmental policies and waste management. The finding is also in line with Maletz *et al*., (2018) expressed that waste segregation is an important step in a road map to circular economy.

The study also showed that there is encouragement for the reduce, reuse, recycle (3Rs) approach. The result is similar to Zorica *et al*., (2015) who believe that the practice of waste management is employed as a measure to safeguard the environment by overseeing the collection, transportation, processing, recycling, disposal, and monitoring of waste materials. Oberlin (2013) revealed that the reuse and recycling of plastics, electronics and metals are informally practised and the selling chain is from households to waste collectors to recycling centres and finally to industries. The table also reveals that 56.9% + 8.8% = 65.7% agreed that in Kwara state**,** there is the state adopts technology (ICT) to capture databases on waste construction. However, Respondent 2 from Kwara Environmental and Protection Agency states that: Kwara state has not adopted technology (ICT) to capture databases on waste construction and monitoring purposes. Because of the lack of CCT cameras for monitoring, the residents around the Government Reserve Area dump refuse illegal after the closing time of the Kwara State Environmental Protection Agency. Likewise, in many strategic areas like Offa Garage, Taiwo and before the Emir's palace.

5.2 Conclusion

The study examined the environmental protection policies on sustainable waste management systems in Kwara. The study concluded Kwara state government takes environmental protection and waste management as serious issues and it pays attention to them by creating public awareness and enforcing the law on the violators but only that many members of the public are stubborn to comply. In this contemporary era, the global practice has shown that waste can be converted to wealth. As a result, the Kwara State government can fully key into global standards to drive and improve the economic situation of the state through daily waste generation by the members of the public.

5.3 Recommendations

The Kwara state government should procure new technologies such as smart waste bins, anaerobic digestion, and Closed Circuit Cameras Television (CCTV) to enhance environmental protection and sustainable waste management. The government's budgetary allocation for environmental protection should be increased. The Kwara state government should procure more vehicles, trucks, and compactors and ensure regular maintenance. The State government should create and approve more dumpsites through the Ministry of Environment and Forestry and its agency. The recruitment, selection and placement process should be designed and given priority to environmentalists. Recycling and treatment plants should be established by the Kwara State Government to be able to convert waste into wealth. By doing so, it will create job opportunities. The Kwara State Environmental Protection Agency should enforce sanitary laws across the state instead of in strategic areas within the metropolis only. There should be adequate fund allocation for all concerned agencies, and the involvement of Private Sector Participation (PSP) in environmental protection and waste management in the state.

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