

**POLITICS OF SOLID WASTE MANAGEMENT IN BAUCHI STATE, NIGERIA:
1976-2015**

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**A RESEARCH THESIS SUBMITTED TO THE SCHOOL OF HUMANITIES AND
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MAY, 2021

DECLARATION

I hereby declare that this thesis is my original work. It has not been submitted to any other institution for examination purposes. Any quotations have been acknowledged and referenced accordingly.

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DEDICATION

I dedicate this thesis to my parents Mallam Umar M. Adamu and Maimunatu Umar Adamu who taught me that the best kind of knowledge is one which is acquired for its own sake. It is also dedicated to my siblings who always reminded me that even the largest task can be accomplished when I take one step at a time. You have been a great source of motivation and inspiration. Your kindness and selflessness cannot be forgotten.

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OPERATIONAL DEFINITION OF TERMS

- Actor oriented** : The idea, reason and the strong interaction among stakeholders in shaping the outcomes of evolving social issues.
- Actors/Stakeholders:** Entities that can affect or be affected by an organization actions, objectives, and policies. Examples of key stakeholders are, directors, employees, government (and its agencies), owners (shareholders), suppliers, unions, and the community from which a business draws its resources.
- Formal Private Actors:** Players registered in SWM by the government who sometimes partner with the government.
- Government** : The machinery through which a state is governed; it is a system where policies, edict, and regulations are made to enforce and control all the state apparatus, done mostly through the constitution of a given state.
- Informal Private Actors:** Unregistered players in SWM who are mostly not recognized by the government in Bauchi state.
- Institution** : an organized setup, a legal entity or a foundation formal and informal established by the government to carry out a specific function in the public or private sector, such as NGOs, BASEPA, Cosmopolitan Cleaners and Community based Organizations.
- Politics** : The process of making decisions applying to all members

of each group. Environmental politics designate the politics, political theories and ideas on solid waste management. It also examined the environmental issues from political parties and environmental civil societies view points. It analyzed the basic tenets of environmental policy making and implementation in solid waste management.

Population : The total number of people who lived in Bauchi state as well as the study area Bauchi city and its environs.

Solid Waste Management: A system of conveying refuse from houses or disposal sites to final dumpsites. Solid waste includes broken glasses, waste papers, sticks, broken plastics; decompose food, wood or clothes. Handling Solid waste requires the use of shovels, payloaders, excavators, tractors and other tools. SWM is done for the sake of cleaning the environment for the betterment of the populace.

Solid Waste : It is any discarded materials, used or unwanted from industries, markets, shops, hospitals or houses. These includes syringes, hand gloves, beds, electronics, garbage, broken bottles, chairs, tables, plates, zincs, pots, spoons, cloths, hairs, rods, packets, cartons and many more.

ABBREVIATIONS AND ACRONYMS

C & D:	Construction and Demolition
CBOs:	Community Based Organizations
EPR:	Extended Producer Responsibility
FEFA:	Federal Environmental Protection Agency
ICI:	Industries, Commercial, and Institutions
IGF:	Internally Generated Revenue IWM Integrated Waste Management
KCC:	Kampala City Council
LAS:	Local Authorities
MCH:	Municipal Corporation of Hyderabad
MENR:	Ministry of Environmental and Natural Resources
MLGRD:	Ministry of Local Government and Rural Development
MMDAs:	Metropolitan Municipal District Assemblies
MOLG:	Ministry of Local Government
SWM:	Solid Waste Management
NCC:	Nairobi City Council
NEMA:	National Environmental Management Authority

PAYT:	Pay as You Throw
PPP	Public-Private Partnership
REMASAB:	Refuse Management and Sanitation Board
WMD:	Waste Management Department
DRDS:	Domestic Refuse Disposal Services Limited
NEC:	National Environmental council
NURTW:	National Union of Road Transport Workers
GRA:	Government Residential Area
CCL:	Cosmopolitan Cleaners Limited
NGOs:	Non-Governmental Organisations
LUA:	Land Use Act.
LA:	Land Administration
FEPA:	Federal environmental protection agency
FGD	Focus Group Discussion

ABSTRACT

Environmental politics and governance studies the ideas and theories related to environment, examined the view point of environmental social activist and political parties as well as analyzes the public policy making and implementation. The precautionary principle and the integration of environmental considerations into environmental policy. Policy making enhances the participation and deliberations among communities, actors and institutions. This will also encourage democratic procedures to enhance policy performance at multinational, national and local level. Thus, environmental politics is examined through the precept of accountability, inclusiveness and deliberation by private and public actors in decision making for maximum policy outcomes. The rapid rate of urbanization and increase in population in Bauchi city like other cities in Nigeria have led to solid waste being dumped on streets and open spaces. This study examines the history of Solid Waste Management (SWM) in Bauchi between 1960-1983. It analyzes the politics by state and non-state actors in solid waste management in Bauchi from 1983-1997, and finally interrogates the changes in the politics in solid waste management in Bauchi 1997-2015. The study used a qualitative research method based on a descriptive research design. This approach is appropriate because it describes the state of affairs of a phenomenon as it is. Data were collected from the primary and secondary sources using semi-structured interviews and focus group discussion (FGD); similarly, journals, books, theses, articles, and reports, both published and unpublished, were utilized as secondary sources of data. The target population for the research was people from various agencies, boards, politicians, NGOs, private waste management actors, and inhabitants of Bauchi city and its environs. Purposive sampling technique was used to select respondents. To analyze the data, the study adopted the thematic approach for analysis. Data collected was subjected to processing, categorizing, evaluation, and interpretation, based on the study objectives. This process was achieved through transcribing, editing, and evaluating evidence to ensure the validity of the data collected through in-depth interviews, documents, records, and archival materials. Ethical issues were observed by the researcher. The study adopted the tragedy of the commons and actor-oriented theories. The theories have explained the reason for the environmental crisis based on population increase, and how to solve the crisis through the interplay of different stakeholders. The findings of the study concluded that despite government allocation of hundred and millions of naira annually 85 percent of the traditional community dump spaces (Bingi) within Bauchi city were converted to personal and or public use such as schools, Banks, shopping malls, residential areas, and mosques leading to indiscriminate dumping of solid waste on major roads and streets causing health issues as well as road obstructions. Corruption, lack of environmental civil society involvement, over population, poor policy making and implementation are the major challenges in SWM in Bauchi. It was established that SWM was politicized; the appointment of top SWM staff and contractors is influenced by politicians. The study recommends that solid waste management policy should be included in all environmental domains. Political parties should include SWM as part of their manifesto in to order to save the environment and the society.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

There is more than 1 billion metric tons of Solid Waste (SW) in cities around the world, and experts project that this may be above 2 billion metric tons by 2025, because of the consistent population increase (George, 2012). Municipal SWM has become a big crisis and an issue of national and global concern. Most developed nations prohibit the informal recycling of SW. In the United States for example, the situation remains complicated. Similarly, many developed countries and urban cities were able to manage their SWM systems. Collection of SWM may be done by formal private waste practitioners though informal collection still exists in highly regulated areas. In Berkeley, California for instance, scavengers normally pick solid waste from already sorted recycling bins and garbage (Tchobanoglous, Kreith 2002, Hoornweg & Bhada, 2012). In the same way, several urban centers such as Belo Horizonte in Brazil and Buenos Aires in Argentina have attempted to integrate the informal actors into their SWM systems but the efforts were not successful (Gutberlet, 2008).

Regrettably, substantial numbers of residents in the third world countries are neglected from getting solid waste management services by successive governments (Cointreau, 1994; Chegaill, 1996; Bolaane & Ali 2004 & Simon, 2008) Akinsulire (2005) maintained that in most of the cities in Africa, issues of solid waste management were enormous and generally frustrated the efforts of municipalities, experts, states, national and foreign governments.

Solid waste management in African cities is entirely shouldered by the municipal authorities and private actors. For example, in Tanzania, it is a collaboration of municipal council, contractors and pushcart boys, but lack of allocation on the public budget makes it impractical to handle SWM. In Ghana, the main actor is the Ministry of Local Government and Rural Development (MLGRD), but the poor routine collection and institutional bottlenecks affect the SWM. In Nairobi Kenya on the other hand, SWM is controlled by private and public actors such as Nairobi City Council (NCC), National Environmental Management Authority (NEMA), National Environmental Council (NEC) and Domestic Refuse Disposal Service Limited (DRDS). Private companies operate in a disorderly manner without adhering to simple rules and regulations, Bribery and corruption are the major issues in Kenya's SWM system (Julianne 2008, Puopiel, 2010, and Moses et al, 2004).

Crissie et al. (2008) investigated the new methods in waste minimization practices in Cape Town and Ruiru Kenya. They found out that there were clear disparities between Ruiru and Cape Town, for example, the latter had more sophisticated, up-to-date, innovative and technical capacity to cater for SWM. Also, Cape Town has functional laws governing the conduct of solid waste management, plus the services are provided by the private waste management practitioners coupled with the intervention of non-governmental organizations and major stakeholders in the sector. In Ruiru, Kenya however, there is poor technical capacity, weak law, and inadequate funding in SWM.

In Nigeria, SWM in urban places is one of the primary duties of the state government, while in the rural areas management of solid waste is handled at the household level; Disposing of waste in open dumpsites causes serious environmental and health issues. The

level of waste generation in some municipalities and towns is enormous, estimated above 0.4kg per individual every day. However, it is smaller compared to the more than 1.1kg produced in the industrialized nations per individual daily. The quantity and composition of solid waste in Africa differs depending on socioeconomic, climatic, and cultural variables, so its sustainability is difficult, particularly in Nigeria. The high volume of waste generation in most cities in Nigeria has outweighed the capacity of institutions and actors in solid waste management, resulting to harmful environmental effects like water and air pollution, decomposing waste on the major roads thereby spreading diseases by flies, insects, and cockroaches (Nabegu, 2008a).

In Benin City, three in five households lack solid waste collection services mostly available to those in government residential areas (GRAs) or those who are close to a political class who can highlight the inadequacies in the services (Ogu, 2000). Sensitization by authorities, public sector, donor agencies, as well as development partners on SWM has become an issue of serious concern, attracting politicians and policymakers over the years. For instance, the government of Kano State, after its inauguration on 29th May 2015, declared seven days for municipal solid waste collection, with the governor physically taking part in the collection. The main actors and institutions active in the formulation of the state environmental policy. The range of environmental problems covered by the state. The examination of Formal and informal patterns of interaction and the relationships between the stakeholders and agencies. in contemporary environmental politics the inclusive and participatory decision making enhances public acceptance for policy decisions and its implementation.

However, despite the glaring gap and the priority given to the sector, SWM issues continue to deteriorate, threatening the long term health and the general wellbeing of the inhabitants of Kano metropolis due to the laxity of the politicians, institutions, and actors in solid waste management. Several studies on solid waste management such as, Jonathan (2013) and Bogoro et al., (2012) have focused on attitudinal aspects, waste segregation, indiscriminate waste disposal, the political economy of municipal solid waste, and unplanned SWM system, lack of finances, technological know-how, and lack of political goodwill. Inadequate funding, laxity in legislation, coupled with poor managerial capacity within the sector in Bauchi State. This study reveals a lot of reforms in the manner in which SWM by various stakeholders, both private and public, has been designed. In spite of these initiatives, solid waste management is consistently facing a lot of challenges in the Bauchi metropolis because dumpsites provided by the state institutions were converted to other purposes.

1.2 Statement of the Problem

Poor policy action, lack of infrastructural facilities, incompetent personnel, and poor recovery and recycling programmes are among the main issues of concern. In Bauchi, there has been a series of approaches to SWM such as, the monthly operation keep Bauchi clean, street cleaning exercises, environmental sanitation programs and mobile courts on environmental sanitation. These programs have been in place since the early 1980s and 1990s during the military era to mid-2000's civilian administration. Ineffective solid waste management strategies, poor policy making and implementation, lack of political commitment coupled with increase in population and improper town planning are serious problem to the entire system.

In Bauchi city the problem of SWM has become an issue of concern, people have abandoned the traditional community system of solid waste management and relied completely on the government. On the contrary, government efforts are insignificant. For example 90 percent of the dump spaces within Bauchi city were converted to personal property notably Bingin Malashe at Wunti was converted to a mosque (wunti street); Jakara around Ilelah-central market roundabout was converted into a shopping complex and a bank building, and Bingin Galadima in Jahun now a residential area; Bingin Sarki at Tura became a primary school building, Bingin Kwara at Wunti was converted into a residential area (wunti street), as well as Kan Garke at Mallam Goje.

Solid waste is dumped in open streets within the city. Ineffective SW collection translates to outbreak of diseases, sporadic road accidents leading to casualties and deaths, hindrance to economic activities, and lost in economic values within the municipality. This may not be unconnected with the fact that the SWM system is controlled by politicians and their allies. Usman & Sa'adiya (2017) focus on Solid Waste Management Strategy Gaps experienced by the residents of Bauchi Traditional walled city, Bauchi Metropolis.

Despite the importance of SWM, few studies have been carried out to help stakeholders identify the root cause and the political issues surrounding the SWM system in Bauchi city. This study examines how SWM was politicized by the military and civilian administration in Bauchi. The research sought to fill the gap by analyzing the politics of SWM in Bauchi city and its environs between 1976-2015.

1.3 Objectives of the Study

- i. To trace the history of solid waste management in Nigeria 1960 to 1983.

- ii. To analyze the politics by state and non-state actors in solid waste management in Bauchi between 1983-1997.
- iii. To interrogate the changes in the politics of solid waste management in Bauchi in the period 1997-2015.

1.4 Research Questions

- i. What issues defined the history of solid waste management in Nigeria in the period 1960 to 1983?
 - i) What roles were played by state and non-state actors in solid waste management in Bauchi 1983-1997?
 - ii) What are the changes in politics in solid waste management in Bauchi in the period 1997-2015?

1.5 Research Premises

- i. The issues affecting solid waste management are due to poor government policies and people's attitudes in the period 1960 to 1983.
- ii. The role of state and non-state actors in solid waste management in Bauchi was exclusively based on a state-centric and top-down model in the period 1983-1997.
- ii. The changing politics in solid waste management is associated with corruption and nepotism in the period 1997-2015.

1.6 Justification and significance of the study

In urban Nigeria, SWM is one of the primary duties of the state government, while in the rural areas management of solid wastes is handled at the household level, where mostly

disposing of waste in open dumpsites causes serious environmental and health issues (Nabegu, 2008). Bauchi city is one of the most populated areas in entire northeastern Nigeria. However, the researcher focuses on the trend of events as they unfold under successive administrations of both the military and civilian rule. Bauchi was chosen because of the population influx from neighboring states facing crisis, such as Boko haram in Borno state, and herdsmen-farmers clashes in Taraba state, resulting in unplanned settlement, and solid waste being disposed in open spaces and streets. Similarly, most dump spaces were either converted to banks (jakara), schools (Tura), residential areas (Jahun), or shopping malls (Jakara) and there was little knowledge on SWM in Bauchi. The period 1976 was chosen because it was the year in which Bauchi state was created and 2015 was the year of transition from a democratic administration to another democratically elected government without military coup. Despite the changes, dynamism and politics in SWM there is no study that has been conducted in the area in Bauchi state. This research seeks to investigate to fill in the existing gap. It will contribute in policy formulation necessary for actors such as administrators, planners, academics, private solid waste actors, donor agencies, community associations, and non- governmental organizations. The study has also added to new knowledge and the existing literature on SWM and a guide for future research, particularly concerning state and non-state actors as well as the politics involved in solid waste management in Bauchi state.

1.7 Scope and limitations of the study

The study focuses on Bauchi city and its environs in North-Eastern Nigeria. Bauchi city and its environs were selected because in recent years the state has recorded a high generation of thousand metric tons of solid waste. The research was conducted in Bakaro,

railway, Kofar Nassarawa, Jahun, Central Market, Wunti Street and Mallam Goje area. Thus, it is pertinent because SWM in Bauchi city and its environs is enormous. The research goes to the period prior to 1976 to better understand the beginning of SWM in Bauchi. The research will settled at 2015 because of 16 years of stable democratic government without military intervention as well as the policies in SWM in Bauchi city and its environs.

The study was limited by several challenges: First and foremost, there was a language barrier. Most of the inhabitants in Bauchi are Hausa native speakers, hence the researcher had to hire the services of a trained interpreter to translate the interview questions into the language understandable for the native respondents. Secondly, accessing the study respondents was difficult. Some of the respondents did not give the researcher time for the interview. Therefore, the researcher contacted respondents through constant visits and phone calls to gather data.

1.8 LITERATURE REVIEW AND THEORETICAL FRAMEWORK

1.8.1 Introduction

This chapter reviews some relevant literature on the practice of SWM globally, Africa and Nigeria. The study considered the theoretical framework appropriate for the research. The literature review adopted the thematic style of organization based on the objectives of the research.

1.8.2 Solid waste management practice globally

The United States Environmental Protection Agency USEPA (2002) notes that population expansion increases waste generation as well as the expansion of economic activities.

Improper solid waste management is a serious environmental issue. Indiscriminate disposal and poor handling of solid waste can result in flooding as a result of drainage blockage, water pollution, and breeding of insects and rodents. Poor solid waste management can cause heightened greenhouse gas (GHG) emissions, affecting climate change thereby endangering development.

Cultural practices, customs, beliefs, views, and behaviors are learned response sets that can be shaped and improved through knowledge. Thus, the bad attitudes in which people handle waste can be corrected by way of education and counseling (Agbola, 1993).

Broekema (2004) evaluates the participation of the private sector in SWM in Hyderabad and its efficiency in achieving different targets. The Municipal Corporation of Hyderabad (MCH) is in charge of the entire waste management process from generation to final disposal.

MCH (1998) maintained that the motive for the municipal council of Hyderabad to delegate part of its solid waste management activities to the private actors was because of the increase in its labor force in the private sector. In spite of the daily population increase in the city, the highest court ordered that all the major roads should be swept at night (night sweeping) before the commencement of business activities in the morning which was challenged by the laborers.

In related views, Cointreau-Levine (1994), Coad (1997) and Broekema (1998) stated that the private players formed a diverse set of people performing a wide range of activities from collection to final disposal of solid waste management activities, such as labor contract societies, small-scale factories, real-estate agents, co-operative societies for

women among others. Municipal Corporation of Hyderabad observed that in the year 1998, the Municipal of Hyderabad recognized that the then privatization efforts were not good enough because of the level of insincerity of the contractors, improper monitoring system, absence of fixed output norms and above all there was a connivance between several MCH officials and private contractors. Estimate of the contract quotation increased excessively by more than one thousand nine hundred and ninety-nine (1999 percent) compared to the previously submitted quotations (MCH, 1998).

Asnani (2006) in his report on solid waste management in India observed that SWM was one of the very important services provided by urban municipalities in the country to ensure a conducive and healthy environment for all. However, SWM happened to be one of the most poorly rendered services due to a lack of political commitment and institutional deficiencies. The solid waste management system have recorded a major setback because of the use of an old method and very weak regulations governing the conduct of the systems at both cities and rural levels.

Additionally, Asnani (2006) maintained that people in power and the urban municipalities usually referred the task of handling metropolitan SW to low-ranking personnel like the sanitary supervisors. Also, he observed that a substantial part of the urban funds apportioned for SWM was mostly spent on the wages of sanitation workers whose output was below average. Roughly, the entire 3955 towns with population below 100,000 people ran SWM services rather ineptly.

The improvement of solid waste management (SWM) services in India's cities was attributed to the release of funds by the Supreme Court Approved committee amounting to

Rs 1.5 crore per 100,000 populations in 1999. This amount included the generation, processing, transportation and final disposal of SW in a more systematic method. The total expenditure amounted Rs 4275 crore, comprising Rs 1710 crore spent on tools and vehicles, and Rs 2565 crore for the management and dumping of SW (Asnani, 2006).

In a similar study, SWM practices focus on information concerning existing waste management policies, methodologies and research related to the industries, commercials and institutions (ICI) sector in Nova Scotia, Canada. The study was aimed at understanding the planning concepts, components, strategies, and frameworks of emerging and up to date SWM system (Owen et. al, 2011).

According to McDougall et. al. (2001) and Tchobanoglous and Kreith, 2002), to achieve aims and objectives in the management of solid waste, several different and suitable methods need to be applied, For example, applying appropriate technologies, modern techniques, and good management programs. Consultants Engineers Firms CEF Consultants (1994) observed that in Canada materials and solid waste are prohibited from landfills. Solid waste management regulation and Canadian environmental protection act adopted strategies like extended producer responsibility (EPR). This is a system of managing solid waste from the industries by providing trash cans and bin for its product in Canada for easy recycling.

Fishbein et. al. (2000) and Sachs (2006) observed that extended producer responsibility (EPR) is an idea that needs production companies to make it a point of duty to reduce waste from their products by taking responsibility of how byproduct and waste can be recycled without causing any environmental impacts or effects. Through EPR, therefore, solid waste

is curtailed from the industries for easier recycling (CCME, 2009). Although the idea is somewhat easy, the application and executing of EPR encounters a lot of issues, predominantly in the USA where the legal framework is geared towards regulating industrial processes than products (Sachs, 2006).

In a similar study, NSEL (1997) notes that in the construction and demolition debris disposal site guidelines, the minister is the central authority in charge of giving out any approval or permission on or before the commencement of all the operations on Construction and Demolition (C&D) waste dumpsites. Pay as you throw (PAYT) waste management system was introduced in Nova Scotia where users were paying money for SW collection and disposal (USEPA, 2009).

Ali (2004), Zurbrugg (2002) and Massoud et. al. (2003) observed that public actors in Srilanka face problems managing SW ranging from funding, political interference, incompetence, lack of skilled personnel, and insufficient tools.

1.8.3 Solid waste management practice in Africa

Gombya (2000) observed that majority of the third world nations mostly employed two methods of managing solid waste. The first is the official system where SW is handled by the authorities. It usually involves the cities' municipalities taking the responsibility of handling the entire process of solid waste management, from generation, collection and the final disposal. Secondly, it is capital intensive which makes it difficult for the government to assent to its cost implication considering the issues surrounded by SWM the government opted to incorporation private sector. Onibokun et. al. (1999) added that there is a need to

involve informal players like local institutions, the private sector, and the organizations between formal and informal actors in SWM.

In a related study, Tchobanoglous et. al. (1993) found out that in most African cities such as in Kenya and Ghana, this goal is hardly achieved because of poor service coverage due to inadequate infrastructure, lack of recycling activities and inadequate landfill disposal techniques. Similarly, insufficient skip supply for storing waste, improper way of handling the SWM system and insufficient funds for the institutions to efficiently collect the waste generated in Ghana (Puopiel, 2010).

Similarly, the Ministry of Local Government and Rural Development (MLGRD) is liable for the entire solid waste management process in Ghana. It oversees the functions of the decentralized urban and regional assemblies (MMDAs), under the ministry of environment and science via the Waste Management Department (WMD), under the environmental protection agency act 1994 (MLGRD, 2004).

According to the Tamale Metropolitan Assembly, a total of GH¢ 15,000 was spent on SWM by the Waste Management Department (WMD). This amounted to GH¢ 60,000 in a month. Out of this, 60 percent was spent on fuel for collection, 25 percent for maintenance of vehicles and equipment and 15 percent for other administrative duties. This money was given to the WMD by the municipal authority every month. Similarly, Zoom Lion a private SW company roughly spent GH¢ 2,700 weekly on solid waste management that is, GH¢ 108,000 monthly. An interview with the urban authorities revealed that an amount of GH¢ 1,711,984.2 was spent on the management of solid waste out of the overall revenue of GH¢

4,003,158.64 received in 2009. That is, both Internally Generated Revenue (IGR) and DACF. This represented 42.8 percent of the metropolitan revenue spent on SWM.

For an effective and purposeful SWM. In Accra Ghana, the metropolis has to be categorized according to centers where private practitioners are contracted by Accra Metropolitan Assembly (AMA) to evacuate the refuse in one to two centers. More than fourteen companies were hired. They include: Gee Waste limited and Daben Cleansing Construction Services Limited, Ako Waste Management Limited, Liberty Waste Service Company, Vicma Waste Construction. Yet solid waste was disposed of on the streets directly to await collection to the final dumpsite as there was no provision for waste collection centers (Anomanyo, 2004).

The collection of SW in Tanzania is usually done by authorities in partnership with private waste management practitioners and the pushcart boys. The volume or range of the accumulation of solid waste in Arusha and Dar es Salaam cities of Tanzania is estimated to be lower than forty-nine percent (49 percent). According to Ntobi (2008), Arusha council has two trailers and five waste collection vehicles of which some are weak to convey the needed services. In the city of Dar es Salaam Tanzania, the income realized is more than eighty-nine percent (89 percent) of the total financial plan.

Moses et al. (2004) studied the entire process of managing refuse in Nairobi and found out that Nairobi city council (NCC) SWM performance was poor; they observed that SWM services were in a disorderly manner devoid of regulations or guidance, with bribery and corruption attracting the entry of contractors and community sectors into the solid waste

management system from the 1970s to 1990s. A contract completed in 1999 as it was found out was yet to be reviewed.

According to Gatheru and Shaw (1998), the major actors in solid waste management in Nairobi city are National Environmental Management Authority (NEMA), National Environment Council (NEC), Ministry of Environment and Natural Resources (MENR), NCC, local authorities (LAs) under the Local Government Ministry (MOLG), Domestic Refuse Disposal Services Limited (DRDS), Kenya Refuse Handlers Limited, and informal actors, among others. They found out that, despite the privatization of solid waste management, staff attitude was positive, although there was no law instituted to monitor, guide, and regulate the process (the Republic of Kenya, 2000).

Crissie et. al. (2008) in their study investigated the new methods in waste minimization practices in Cape Town and Ruiru Kenya. They found out that there were clear disparities between Ruiru and Cape Town, for example, the latter had more sophisticated, up-to-date, innovative and technical capacity to cater for SWM. Also, Cape Town has functional laws governing the conduct of solid waste management, plus the services are provided by the private waste management practitioners coupled with the intervention of non-governmental organizations and major stakeholders in the sector. In Ruiru, Kenya however, there is poor technical capacity, weak law, and inadequate funding in SWM (Crissie et al. 2008).

A lot of factors have demonstrated a series of problems in solid waste management. A United Nations Conference on Human Settlement report, notes that one-third to almost half

of the solid waste generated in almost all the cities in developing countries is dumped in illegal sites like open spaces, roads, and culverts (UNCHS, 1996).

Additionally, in most third world cities people cannot afford enough plots, pits toilets cannot be built with little sanitary facilities resulting to indiscriminate disposal of human waste on the streets due to inadequate regulations and poor technological know-how to handle solid waste management (Freduah, 2004; cited in Feleke 2015).

1.8.4 Solid waste management practice in Nigeria

The federal government of Nigeria established different institutions to take charge of SWM, such as the federal ministry of environment, the National Environmental Standards Regulations and Enforcement Agency (NESREA), and the Federal Environmental Protection Agency (FEPA), military Decree No. 5 of 1969. These institutions are responsible for enforcing and administering SWM laws in Nigeria, but under the present Nigerian constitutional provisions, issues of SWM lie within the powers of the federal government of Nigeria (Nabegu, 2008). The federal government of Nigeria as the principal actor in SWM has been having the problem of lack of coordination and integration with the states and local government authorities, as well as various agencies in the country. This led to the establishment of state environmental protection agencies. Currently, state governments are the sole actors in SWM through their respective environmental protection agencies, guided by laws and regulations. Although the states and the federal government pursue their SWM programs in a divergent and indistinct manner, have failed to incorporate stakeholders in taking part in decision making in SWM. To worsen it all, in

Nigeria local governments outside the state metropolis opt for colonial laws instead (Nabegu, 2008).

Abila and Kantola (2013) attempt to look at the issues on urban SWM in cities across Nigeria. The Nigerian government enacted decree number 58 to establish a Federal Environmental Protection Agency (FEPA) on 30th December 1988 to attain certain goals. Agumwaba (1998) observed that institutions of solid waste management in Nigeria are faced with problems of finances, in addition to technological, psychological and political aspects.

Dauda, Osita (2003) and Ezeah Roberts (2012) further observed that the problems associated with SWM included: poor infrastructural facilities, lack of competent personnel, inadequate resources to take care of SWM, poor recycling and recovery program, poor legislation and policy implementation as well as inadequate disposal techniques. In Lagos, the major legal bodies responsible for environmental protection are the Lagos State Waste Management Agency (LAWMA), Lagos State Environmental Protection Agencies (LASEPA), Local Government Councils (LCGs) and the Ministry of Environment and Physical Planning (MEPP) (Kofoworola, 2007).

In a related study Zender (2012) and Nnorom et. al. (2009) found out that cultural beliefs, communication channels, and lack of partnership with the international, national and intercontinental waste management organizations/agencies are the major municipal challenges in SWM particularly in Lagos.

Nabegu (2015) in an article examined that the existing institutional trend for the management of municipal solid waste is enormous. He pointed out that currently, the

institutions of SWM are frail, which led to different political, legal and structural lacuna and crisis among the three tiers of government (federal, state and local). This brings about ineffectiveness in service delivery in Nigeria.

Nabegu (2008) observed that in Kano, the Refuse Management and Sanitation Board (REMASAB) owned by the state government was principally charged with the responsibility of the metropolitan SWM. Nabegu (2008) noted that the SWM agency was financed by the six local governments in the state capital with about 25 percent, while the contribution of the state government was 50 percent, and the rest of the local authorities usually fill the remaining gap. Additionally, the board receives grants occasionally to carry out certain functions, mainly during particular occasions or when special personalities are likely to visit.

Although the State ministry of Environment plays its part in monitoring SWM, crisis arose as to who the real monitor between REMASAB and the Ministry is because there is no clear designation as to what the Ministry would supervise. The municipal governments within Kano city are controlled by the actions of REMASAB, whereas other district bodies use by-laws that were promulgated at different periods to have proper sanitary and protected environment. This means that REMASAB operates fewer than two categories: house to houses solid waste collection and two collections from the designated waste disposal points or centers (Nabegus, 2008).

Nabegus (2008) suggested that achieving proper SWM services in the city of Kano required a holistic support of the legal and institutional entities with clear terms and conditions for those actors, and recommended the decentralization of both the private, public and all the

stakeholders participation so that there will be accountability, transparency and good governance.

Ogu (1997) added that it has never been successful involving the private sector participation and that the plan was a way out to provide a substantive measure to poor management of solid waste in Benin City, and to ensure the involvement of community services in the entire solid waste management system.

Based on the literature review, it can be observed that McDougall et al. 2001; Tchobanoglous and Kreith, (2002) focused their studies on Integrated waste management (IWM). Abila and Kantola, (2013) attempted to look at the issues of urban SWM in cities across Nigeria. Agumwaba (1998) studied the institutions of solid waste management in Nigeria. While Usman & Sa'adiya (2017) focus on Solid Waste Management Strategy Gaps experienced by the residents of Bauchi Traditional walled city, Bauchi Metropolis. . Other scholars generally focus on the managing SW as well as issues in Nigeria. There is little information particularly on the politics of SWM in Bauchi. However, there is little knowledge on the politics of SWM in Bauchi city and its environs 1976-2015. Therefore, this study set out to partake to fill in the knowledge gap.

1.8.5 Literature Review Gaps

There are vast numbers of works on solid waste management in some parts of the world; Jonathan (2013) and Bogoro et al, (2012) have focused on attitudinal aspects, waste segregation, indiscriminate waste disposal, the political economy of municipal solid waste, unplanned SWM system coupled with poor managerial capacity within the sector in Bauchi. On the other hand, McDougall et. al. (2001), Tchobanoglous and Kreith (2002)

focused their studies on Integrated waste management (IWM). Abila and Kantola, (2013) attempted to look at the issues of urban SWM in cities across Nigeria, while Agumwaba (1998) studied the institutions of solid waste management in Nigeria.

Ogwuche & Yusuf (2013) did an article on Spatial Location of Solid Waste dump sites and Collection Scheduling using GIS in Bauchi Metropolis Nigeria. Usman & Sa'adiya (2017) focus on solid waste management strategy gaps experienced by the residents of Bauchi Traditional walled city, Bauchi Metropolis. The study analyzed solid waste management (SWM) practice globally. It also looked at the practice of solid waste management (SWM) continentally and finally, the research examined the general solid waste management (SWM) practice in Nigeria. The afore-mentioned literature is relevant to the current study. It forms the background of which the current study was established. It has numerous contributions as far as SWM is concerned. The above studies however, are more general since they focus on the entire Nigeria and barely address problems in environmental politics in Bauchi state. None of this focuses on the politics of SWM has been conducted in Bauchi. However, this research focused to trace the beginning of solid waste management in Bauchi state. Analyze the politics by state and non-state actors in solid waste management and finally interrogate the changes in politics in solid waste management in Bauchi city and its environs, Bauchi state, Nigeria.

1.9 Theoretical Framework

A lot of theories have been used to explain solid waste management, notably, Socio-Political Development Theory, Institutional Theory, Complexity Theory, Central Place Theory, Capacity Building Theory; these theories were not suitable for this study. The

reasons were that; Scott, W. Richard (2004) identify that institutional theory is a theory on the deeper and more resilient aspects of social structure. It considers the processes by which structures, including schemes; rules, norms, and routines, become established as authoritative guidelines for social behavior. Different components of institutional theory explain how these elements are created, diffused, adopted, and adapted over space and time; and how they fall into decline and disuse. As a popular and powerful explanation for both individual and organizational action. the behavior of people towards SWM in relation to institution is interconnected. Thus, institutional theory has little application to the current study because institution can change in character and potency over time. As it has happened in different regimes in Bauchi over the years.

While Central place theory by Walter Christaller (1933) is a geographical theory that seeks to explain the number, size and location of human settlements in a residential system. It was introduced in 1933 to explain the spatial distribution of cities across the landscape. Walter Christaller asserted that settlements simply functioned as 'central places' providing services to surrounding areas (Goodall, 1987). The central place theory has been criticized for being static; it does not incorporate the temporal aspect in the development of central places. Furthermore, the theory holds up well when it comes to agricultural areas, but not SWM, industrial or postindustrial areas due to their diversified nature of various services or their varied distribution of natural resources. This owes to its inability to provide a solution to an immediate problem.

This study therefore, was guided by two theories among the aforementioned, as related and relevant. The tragedy of the commons advanced by Garrett (1968) and actor-oriented theories by Norman Long (2001) were used to explain the politics of SWM in Bauchi state,

Nigeria. The two theories are complementary because tragedy of the commons did not indicate how other stakeholders play a role in managing environmental crisis. But, actor oriented theory have suggest how state and non-state actors are involve in SWM. The research chose the Tragedy of the commons theory by Garret Hardin because it explains the dangers of population explosion in relation to the environment, particularly SWM and the notion that man by his nature does not value his environment, except if authorities regulate his behavior. The second theory Actor oriented by Long was also relevant to this study because it demonstrates a relationship between different actors in solid waste management and how various institutions such as government, international bodies, private, public, individuals and non-governmental organizations integrate with the management of SW.

1.9.1 The Tragedy of the Commons Theory

Hardin describes population increase as an ethical problem therefore one can hardly find a practical solution to overpopulation. For instance, we could assume that we have reached the peak of advancement and cannot go beyond making energy from firewood effectively nor increase our ability to renew the advancement to meet the demand of our energy. Looking at the simple instances of possible technical solutions around the world, then we are left with how we can combat solid waste by changing our attitudes towards SWM thereby saving our environment to get and utilize maximum energy. Garret Hardin pointed at diverse cases of resources over exploitation due to the increase in population, as explained by the parable of the tragedy that herdsmen sharing a common pasture are led by the inevitable logic of people's rational decisions for maximum personal gain.

The tragedy of the commons (ToC) is often called upon as an overall elucidation for the origin of environmental crisis especially when concern over the state of the earth was on the rise. In recent years various governments are increasingly being called upon to take a more active measure in environmental protection, thereby, exerting a significant influence on resource management policy and institutional attainment. The tragedy of the commons theory is considered to be appropriate when dealing with environmental management and its sustainability. The above discussion shows that human beings lack the knowledge on how to utilize and sustain their environment so that they can live and settle in big cities (Myllylä, 2001).

Similarly, in a study Street Environmentalism Myllylä (2001) noted that the concept of environmentalism encompasses ideologies, philosophies, and actions. Milton and Kay (1995) acknowledge that environmentalism is a search for a better prospect, pursued through the implementation of ethnically defined tasks. Myllylä (2001) concludes that all the activities of human beings on the environment need to be properly guided and monitored. Hardin suggested that governance can only be managed by professionals. A Malthusian technocrat, scientific solutions are not obtainable according to him in most cases human beings are irrational in their decision making, which in the end is detrimental to humanity. Coercion, as applied by rational experts, though resulting in the loss of individual liberty, remains the only means of averting ruin and the Tragedy of the Commons. TOC theory was set to guide this study to investigate the reasons why there is always a crisis over resources as a result of population increase, and why people failed to utilize their environment for their betterment. Indeed, solid waste can be converted to wealth but instead it has become a source of an epidemic to the society. Hardin concludes

that the environment can only be managed and sustained if the government is in total control.

1.9.2 The Actor Oriented Theory

Following the subsequent 'deadlock' in the progress of research in the 1980s, significant attention was tailored towards addressing the methodological as well as theoretical issues of general theories of development that support different types of linearity and organizational or institutional dominance. Most people were tired of structural and institutional hegemony and wanted to design and employ a new method of social phenomena. The actor-oriented theory seemed the only solution to "impasse" because it entails social structures, from international, continental, national, state and local arenas and how they are sheltered into a struggle over institutional and resource hegemony (Long, 2001).

Considering the contribution and the effects of organization and the process of social change, the actor-oriented theory had become desirable not only among the development scholars, researchers, but also among policymakers and development partners. Certainly, development has in recent times been upheld by international, national and central authorities, to engage in the design and execution of a particular policy by institutions such as United Nations Education Science and Cultural Organization (UNESCO), World Bank, and many Non-Governmental Organizations (NGOs).

The philosophical concept, ideas, and practices of actor-oriented analysis are grounded in a social constructionist view of change Long (2001). The Actor-oriented theory is centered

on making a community transfigure and understand the various interplay between global stakeholders or actors.

The theory points out the reasons, meaning, and powers related to various agencies' interactions to frame the outcomes of evolving social settings. More so, the actor-oriented analysis explains the intricacies surrounding the practice, and their expected and unexpected outcomes that have to bear on social interactions. AOT is a compliment of the tragedy of the commons theory. The theory tries to address the weakness of the tragedy of the commons theory by pointing out how the social structures from international, continental, national, state and local levels employ methods over institutional and resource control. Invariably the actor oriented theory entails the interplay among various stakeholders such as government institutions, NGOs, civil society, agencies, communities and individuals in managing environmental crisis as well as coming up with measures on how environmental resources can be harnessed. Hence, the theories have interpreted and helped analyze SWM in Bauchi city and environs, north-eastern Nigeria. This study has added to the body of existing knowledge in SWM, by analyzing the extent to which each element contributes to and/ or deters success.

1.10 RESEARCH METHODOLOGY

1.10.1 Introduction

This chapter consists of sampling procedures, data sources and instruments, research design, target population, data collection, data analysis, site of the study, data management and ethical considerations.

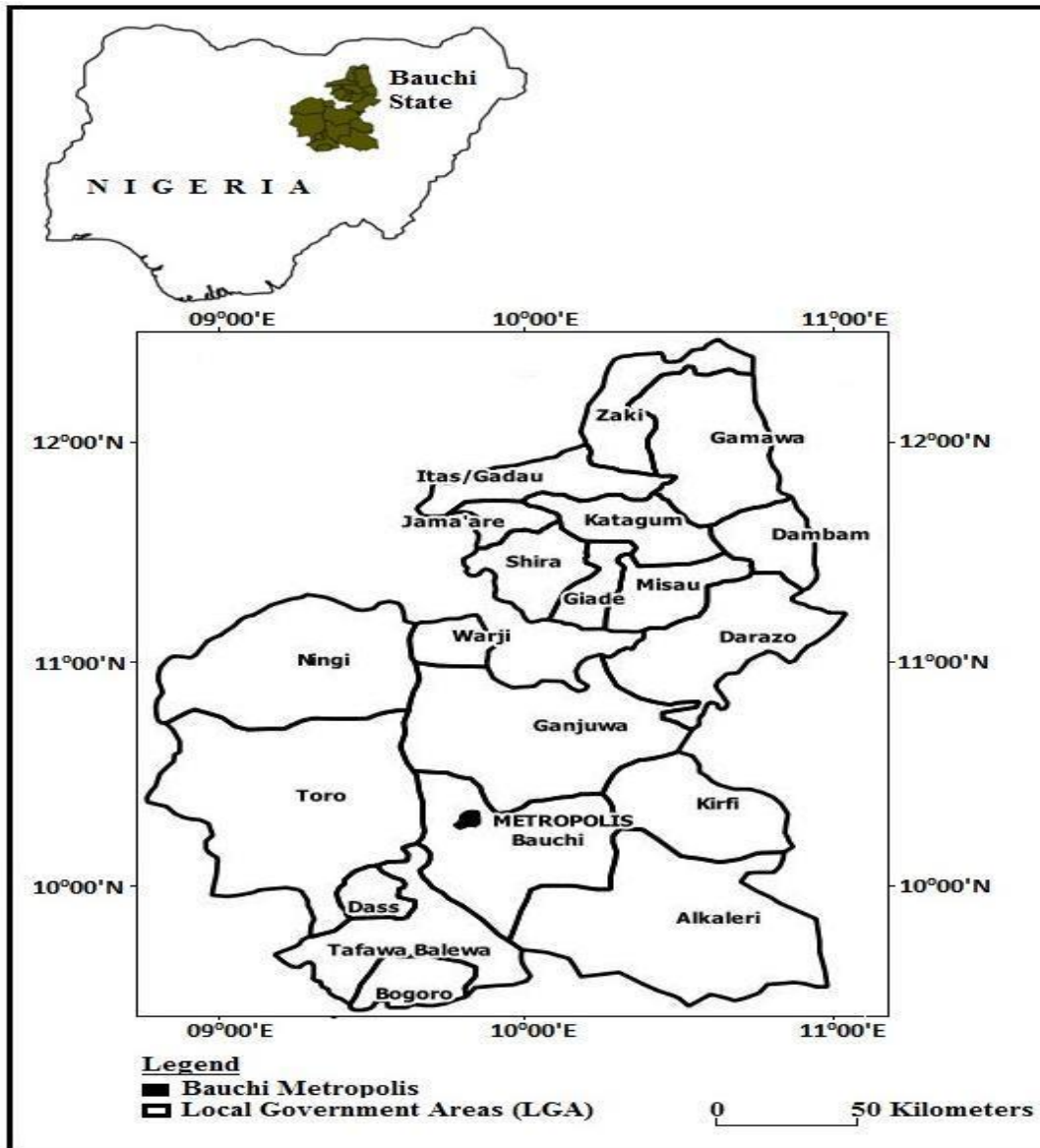
1.10.2 Research Design

This study adopted qualitative research based on a descriptive research design. Data was collected through the review of secondary literature, including journals, articles, reports, newspapers, unpublished projects/theses, and books and the use of personal experiences and in-depth interviews. This method enabled the researcher to collect in-depth information on the views of the subjects who experienced politics in solid waste management. Other sources (document analysis) were also used in order to realize the objectives of this research.

1.10.3 Study Locale

This study was conducted in Bauchi city and its environs, Bauchi state, Nigeria, also referred to as the state capital of Bauchi state in North-Eastern Nigeria. The state was created in 1976, with 20 local government areas. It covers a total land area of 49,259.01 square kilometers, representing about 5.3 percent of Nigeria's total landmass (Yalwa, 2016). The state has a population of 4,653,066 according to 2006 census as indicated in figure 1.

Figure 1: Map of Nigeria showing Bauchi city



Source; [https:// smartraveller.gov.au/countries/africa/west/pages/nigeria.aspx](https://smartraveller.gov.au/countries/africa/west/pages/nigeria.aspx)

1.10.4 Target Population

The target population of the study was the people of Bauchi city and environs. The respondents of the study were officials of Bauchi State Environment Protection Agency (BASEPA), Bauchi State Urban Development Board (BSUDB), private solid waste

management actors, private-public waste management actors, cosmopolitan cleaners company limited, politicians, NGOs, community leaders, and local inhabitants between the age of 25 and above, who were conversant with the knowledge of SWM in Bauchi metropolis and environs. A total number of one thousand (1,000) people were targeted.

1.10.5 Sampling Techniques and Sample Size

Purposive sampling technique was used to guide this study in selecting the respondents. Purposive sampling is a process of selecting a sample according to the judgmental criterion of the respondent who would be suitable for the study (Kanupriya, 2016). The purposive sampling technique was adopted through the use of interviews to elicit responses from officials from the ministries, agencies, NGOs, state and non-state actors. This study settled at 10 percent of the overall target population as illustrated in the table below. Sample sizes of 10 percent from the target population were selected to represent the study respondents. The sample size of the study comprised one hundred (100) selected numbers of respondents.

Table 1: Sample element

Population	Target population	Sample Size
Community leaders	130	13
BASEPA Officials	70	7
Cosmopolitan cleaners officials	70	7
Private solid waste Actors	200	20
Individuals solid waste Actors (scavengers)	200	20
NGOS	70	7
Local inhabitants	200	20
Focus Group Discussion	60	6
Total	1000	100

Source: Researcher (2019)

1.10.6 Data Sources

The researcher collected data by using both primary and secondary sources. Semi-structured interviews and focus group discussion were used by the researcher as primary sources of data. Secondary sources were also used in collecting data, including the internet, libraries, newspapers, textbooks, magazines, theses, reports and articles, among others.

1.10.7 Data Collection method

Data was collected through primary sources, using interviews and focus group discussion with participants in the area of Bauchi city and environs. Similarly, information about the politics in solid waste management in Bauchi was also obtained from officials of Bauchi State Environment Protection Agency (BASEPA), officials of Bauchi State Urban Development Board (BSUDB), private waste managers and the local inhabitants of Bauchi city and environs using semi-structured interview. The secondary sources of data were the

internet, libraries, newspapers, magazines, theses, reports, articles and other scholarly work relevant to the area of study.

1.10.8 Data Analysis

This research adopted a thematic approach for analysis. Data collected was subjected to processing, categorizing, evaluation and interpretation, based on the study objectives. This process was achieved through transcribing, editing, correction, and evaluating evidence, to ensure the validity of data collected through in-depth interviews, documents, records and archival materials based on the objectives of the study.

1.10.9 Data Management and Ethical Considerations

In undertaking this study, the researcher strictly adhered to ethical standards. The works cited were acknowledged. Confidentiality was also an issue of concern. Some of the respondents were scared to reveal information, particularly government officials, because of the fear of intimidation by their employers. The researcher respected confidentiality and was able to clarify the purpose of the research. However, this was managed by presenting a letter of approval from Kenyatta University and BASEPA, containing all the information on the purpose of the research and with the assurance that utmost confidentiality would be maintained.

This research was conducted with a permission letter from the graduate school, Kenyatta University. An introductory letter was also issued to the researcher by the Bauchi State Environmental Protection Agency (Basepa), Bauchi state, Nigeria, which introduced the researcher to various community leaders, Basepa officials, NGOs and other residents in Bauchi city. Data was collected through recording and oral interviews from respondents.

CHAPTER TWO

2.0 HISTORY OF SOLID WASTE MANAGEMENT IN BAUCHI 1960 TO 1983

2.1 Introduction

This chapter focuses on the history and emergence of Bauchi state. It discusses the concept of waste and solid waste as well as waste management. The land tenure system and solid waste management in the southern and northern parts of Nigeria are evaluated. It also discusses the role of traditional leaders in land management and administration in Nigeria, from the military and civilian administrations. Finally, the rural-urban migration in the early 1970s due to the oil boom which resulted in a high concentration of people in Bauchi city thereby affecting the urban town planning by taking away spaces for solid waste disposal is also discussed.

2.2 The Concept of Waste

Waste can be defined as any unwanted and unusable thing. It can also be referred to as any materials thrown away after primary use, because it is either valueless or of no significance. Waste can be seen as any item or object that is useless after its initial use or purpose hence it is thrown away. Waste can be liquid, solid or gas. Solid waste is trash we produce from households usually like broken chairs, cans, bins and tins. Liquid or gas waste is sometimes referred to as emission, which causes pollution of both air and land (Nathanson, 2020).

Figure 2: Waste in a bin



Source:

(Author, 2019)

2.2.1 Solid Waste

Any unwanted materials that are discarded after use, such as domestic, industrial, market and animal by-product are called solid waste. Solid waste can be defined as trash that is generated from industries, homes and business outlets. This can be controlled in many ways. Solid waste is anything garbage, junk, mud from waterworks or unwanted items like solid, from agriculture, mining, business activities or companies. Solid waste can also be subdivided into components based on their sources for example, bio-medics, agricultural waste from companies, municipal waste, and precarious waste (Nathanson, 2020).

Figure 3: Municipal Solid waste



Source: (Author, 2019)

2.2.2 Solid Waste management

Over the years waste generated was thrown away. Nowadays the waste generated from homes, industries, and markets is usually put into waste bins and containers. It is then taken to dump spaces or the road side for onward collection to the final dumpsite, or for recycling or incineration. Solid waste like plastics, metals, glass, wood or paper are sometimes reused, while items that cannot be reused are incinerated or taken to a dumpsite or landfill. Food waste is biodegradable, thus it is usually put into a composting area where it

decomposes. This type of waste is referred to as "wet or green waste". When is dumped in an open place, it is called littering (Nathanson, 2020).

2.3 Land Tenure System in Southern and Northern Nigeria

When Nigeria got its independence in 1960, land administration and management, borders and resources were shifted and handed over to Nigerians. From the beginning, there was a slight change in the administration and management of land in Nigeria. For instance, in the southern part of Nigeria, land remained under the custody of the locals or indigenes with traditional chiefs as overseers (Mamman, 2004).

In northern Nigeria, however, the situation was not the same because in 1962 there was a new land-use policy which was meant to substitute the existing colonial land procurement laws. The new act positioned all lands under the custody of the state governors. The state government was responsible for the administration and management of all lands for the common interest of ordinary northerners. The new laws also announced customary and statutory rights of occupancy. Customary rights were overseen by the Emirate while statutory rights were controlled by the respective state governments. A Certificate of Occupancy (C of O) normally issued to locals and strangers as a legal document to served as proof of ownership for a certain epoch of time, based on land usage (Ghebru and Okumo, 2016).

2.4 Land Administration and SWM under colonel Bello Khaliel military governor Bauchi state; 1976-1979

The military is trained for war, not political inclinations. The chronological interventions into the Nigerian political system by the army as well as suspending the legislative and

constitutional ethics have undermined policies and programs thereby jeopardizing Nigeria's sustainable development. This is viewed as a political deformity of Nigeria (Ake, 1996).

According to Eminue (2006) the military in politics is nothing but the actualization of their interest. This is the situation where the military acquire wealth and affluence at the expense of the state (Joseph, 1991). The military should be kept away from politics and remain in the barracks discharging their primary duties of defending the territorial boundaries of Nigeria (Elaiwu, 1979).

During president Murtala/Obasanjo's regime in 1976 agriculture used to be Nigeria's economic mainstay but before long, the oil boom outlawed all other sectors. Colonel Bello Khaliel was the first military governor of the state in 1976. The impact of the military on solid waste management in Bauchi was terrible, although they cannot be discredited in total because in one-way or the other, they help instill discipline and maintain law and order. SWM was handled by local government authorities under the environment and forestry department. All issues of solid waste were coordinated by the department alongside with environmental health workers. Communities also played a key role, where most of the solid waste collection centers (dump spaces) were provided by them (Peter and Oluwaseun, 2018).

The government was considered as the major stakeholder in solid waste management in Nigeria and Bauchi state in particular, and achieved this through the established boards and institutions. Bauchi state was created in the year 1976 as well as Bauchi local government area, by the then military administration under decree number 1 of 1976 (Bogoro and

Babanyara, 2011; cited in Edict No. 3 of 1977). According to Balarabe, a Politician in Bauchi;

Basically, as of 1976 local government authorities were the major stakeholders the SWM. A staff from the traditional institutions (Dogarai) who was the custodian of traditional communities formed part of the committee set by the local government, together with a trained staff of the local government (Dubagari). Community health workers were to ensure proper house to house sanitation and environmental compliance within the community and its environs (Balarabe O.I 18/09/2019).

Solid waste management was the responsibility of the local government authorities as enshrined in the Nigerian constitution of 1979 and 1989 of decree number 12 of 1989. Due to poor financing and inadequate tools, the local government could no longer sustain the management of solid waste. The responsibility was later transferred to Bauchi state urban development board (BSUDB), created in 1977, a year after Bauchi state was created (Bogoro and Babanyara, 2011).

After the colonial period, the management and administration of land was a serious issue in Nigeria. Even at the government or personal level, to secure land for any purpose from individuals and communities used to be very difficult. An influx of people into urban areas increased the demand for land, due to the increase in national income from the oil boom in the early 1970s. There were no clear regulations concerning land use and possession. Eventually, the influx of people into urban centers led to land division, especially in rural areas and ownership of land by Nigerians was lopsided. These problems tied to the increase in the prices of land in the cities seriously affected the carrying out of many earmarked 2nd national development projects between 1970-74. Therefore, the 1962 land tenure system of northern Nigeria automatically became law, as the 1978 Land Use Act (LUA), with little modifications (Ghebru and Okum, 2016) cited in LUA, 1978).

There were several attempts by the government of federal republic of Nigeria to reform the land use act from 1962 to 1978. For example, the 1962 land tenure law of northern Nigeria, the August 15, 1975 Anti-Inflation Task Force, January 6, 1977 Rent Panel was also constituted, Constitution Drafting Committee, May 20, 1977 Land Use Panel was set up, and finally the National Land Policy Reform to present-day Land Use Decree No. 6 of 1978. However, the situation remained the way it was, with states governors and local government chairmen being the ultimate administrative custodians of land in their respective territories (Ghebru and Okum, 2016).

The modifications of the 1962 land tenure act of northern Nigeria which gave birth to the 1978 land use act entirely changed the existing land tenure system in southern Nigeria, by giving complete trust of land to the then states military governors. Consequently, individuals, families, local autonomy vested in traditional chiefs, corporate bodies, institutions and groups were broken up by the act. The system permitted people to use the land according to the due process other than using the concept of demand and supply in land allocation rights, so long as the land was not damaged "usufructuary rights" (Mamman, 2004; cited in Uchendu 1979 and Francis, 1984).

The 1978 land use act aimed to join the operational land law and legalize the land act rights of all Nigerians by giving out the legal and traditional Certificates of Occupancy (C of O). Eventually, the reforms were left with a lot of vacuum and vagueness because the earlier land use act was not canceled. It was neither definitive nor determinative, retaining "if" clauses in some sections of the law. Hence, the act was subject to many open-ended interpretations and contestations (Ghebru and Okum, 2016).

The Act started operating in 1978 based on the Federal Government Anti-inflation Task Force committee's recommendation set up on 15th /08/1975, to study the causes of price increase of goods and services in the country. The committee found out that the then land use system was one of the major issues causing the hike in the prices of commodities in the country. Therefore, the committee recommended that the national policy on land be merged with that of the south and northern Nigeria as against the existing diversity of the land tenure laws. This only vested too much power on the governors at the state level, and federal government and its agencies at the federal level. The governor become the only person to allocate land to groups, individuals and corporate bodies in all the urban areas (states) for any developmental purposes where chairmen allocated land at the local government level (LUA, 1978).

According to the 1978 land use Act of Nigeria, governors are given more administrative control over land agencies on the allocation of land to either public, private, or and corporate entities. This is the main reason why land is not commonly accessible for development, particularly dumpsites in Bauchi state (Adamu and Abubakar, 2014). An expert Bubakar from malam Goje Bauchi observes that;

Land use act is laws made to checkmate the behavior of individuals in a given society. With those laws, the government will be able to have power and control to ensure the safety of the entire society. Such laws enable the government to execute its policies, programs such as road constructions, drainages, streets lights, dump spaces, streets naming, etc. If the government doesn't have the power to compensate any land that it considers being so important to the public, then an individual stands the chance of dominating the land (usufructuary). For example mallam goje street was a house belonging to a family called "Mallam Madu odele" but because of its strategic location government found it as important for public interest and the house was compensated, demolished and a road was constructed, presently called mallam goje street. Also, the dump space at "bingin

kangarke” in the same mallam goje street was owned by an individual (Expert KII, 19/09/2019).

Similarly, the 1978 land use act of Nigeria stipulated that there shall be a committee in local and the state governments responsible for advising the chairman and the governor in the management, relocation, land disagreement and repayment of land and that the committee members should be veteran in their field, with at least not less than six years' experience. In Bauchi State, the Governor and the local government chairmen are the chief custodians, trustees, and administrators of their territory for the betterment of the general interest of their citizens (Adamu and Abubakar, 2014).

2.5. Land Administration and SWM under Abubakar Tatari Ali's Administration civilian Governor Bauchi State; 1979-1983

In 1979 president Shagari was elected and Abubakar Tatari Ali became the governor of Bauchi state. It was a period of reconstruction from the aftermath of the Nigerian civil war of Biafra but characterized by political thuggery, bribery and corruption, thus little attention was given to solid waste management in Bauchi state (Awofeso, 2002).

During the regime of Governor Tatari Ali, the responsibility of SWM was transferred from local government authority to Bauchi state urban development board (BSUDB), created in 1977, a year after Bauchi state was created (Bogoro and Babanyara, 2011).

Additionally, Bauchi state urban development board (BSUDB) was established under the town and country planning law, edict number 4 of 1979 (amended by edict 2 of 1990) as the planning authority for all urban centers of the state as specified in the declaration of planning areas order 1988. Isa a staff of Basepa noted that; Refuse management was under the watch of local authorities, it was well organized because the population of Bauchi was

not much and there were community services and relative effort by the traditional institutions. Although a state development board was later created, their services were much better compared to the local government (Isa K.I.I, 20/09/2019).

The board is responsible for physical development control achieved through the regulation and routine monitoring of physical development by way of proper control of building constructions, maintenance of infrastructural facilities such as road networks, storm water drainage, sewage system, urban streets lightings, road signage, street naming and house numbering to ensure compliance to specifications and set standards (BSUDB, 2011).

Although in Nigeria there are three tiers of government, that is, local, state and federal governments, each operates within its constitutional jurisdiction (Afon, 2007). Decree number 58 of 1988 established the federal environmental protection agency (FEPA) responsible for taking charge of all the issues concerning solid waste management in Nigeria (Walling et al., 2014; Imam et al., 2008). The decree later gave the state and the local government power to establish their environmental protection agencies as (Amended) in 1992, but the amendment does not include any legislation for the provision of dump spaces or dumpsites, particularly in Bauchi state. According to Sambo a former politician in Bauchi refutes that;

The government has done little in that area because when you go around the city only a few dump spaces (bingi) would be seen which were compensated by private individuals. About 75-80 percent of the residents within the city need the land or dump spaces because most of the solid waste is dumped in an open space and on major roads indiscriminately as it is shown in figure 4 and 5 (former politician, O.I, 21/09/2019).

Figure 4: Dumpsite at a major road, old graveyard fadan bayak, jahun, Bauchi city



Source;
(Author,

2019).

Figure 5: Dumpsite at the main road at Dutsen Tanshi Primary School, Bauchi City



Source; (Author, 2019).

Research has revealed that misuse of power and corruption is a setback to the security of land tenure, which undermines people's zeal to acquire property rights, leading to improper management of land. A land administration system is a vital tool for fostering economic advancement and proper management at every stratum through good governance (UN-GGIM, 2015).

Ghebru and Okum, (2016) observed that good governance in LAS can lead to suitable, proficient and successful LA and support the safety of people and corporate entities property rights. However, the state may be influenced by some powerful politicians who could use their power to undermine the land administration system in order to suit their interests.

Nzeadibe & Anyadike (2012) observed that in Aba and Bauchi city, there is virtually no single legislation concerning solid waste management because of poor institutional and political will, although, it has been argued that most of the solid waste management contractors are politicians. That is why Ayotamuno & Gobo (2004) maintained that there is laxity in the enforcement of policies thereby taking solid waste management as a less priority. Sambo a former politician from Bauchi added that

Both the successive military and the civilian administrations in Bauchi have not either by decree or legislation enacted any provision concerning dump spaces and dumpsites, considering the daily mass influx of people into the city (former politician, O. I, 21/09/2019).

The general public hardly gets access to any land registration procedures; Land administration and management were said to be very poor, particularly in Bauchi state,

where virtually low level of land reforms and management were perceived (Ghebru and Okum, 2016).

2.6 Conclusion

In this chapter, the study revealed between 1960-1975, land administration and management were relatively controlled by the natives and chiefs in southern Nigeria but in the north, all land management and administration were controlled by the governors at the state level and their chairmen of local government areas. Chiefs and Emirs were made to control the customary issuance of a Certificate of Occupancy while state governments controlled the rights of issuing the statutory Certificate of Occupancy (C of O).

This chapter revealed that Bauchi has been a traditional city where SWM cannot be unconnected to land. Most of the solid waste collection centers (dump spaces) within the city were either provided by the communities or the Emirate council. However, SWM system was partly handled by the government and the community in Bauchi city and environs.

The research established that around 1976-1979, Bauchi city witnessed an influx of people and unplanned settlements affected solid waste management. The laws, policies, various land reforms, as well as the establishment of different bodies to handle SWM did not go well with the provision of solid waste management spaces in Bauchi city and environs.

This chapter established that from 1976-1979, authorities responsible for SWM did not make any significant impact because under the local government authority, SWM was seen to have been managed by the community and not the government, and that the Bauchi State Urban Development Board was meant for town planning, not management.

Finally, the chapter reveals that the focus of the research on solid waste management is timely because a lot needs to be done in the sector to meet up with the contemporary global standards. The study adopted the tragedy of the commons and actor oriented theories as variants of environmental politics. because In recent years various governments are increasingly being called upon to take a more active measure in environmental protection, thereby, exerting a significant influence on resource management policy and institutional attainment. These theories considered to be appropriate when dealing with environmental management and its sustainability.

CHAPTER THREE

3.0 POLITICS BY STATE AND NON-STATE ACTORS IN SOLID WASTE MANAGEMENT IN BAUCHI 1983-1997

3.1 Introduction

Chapter three focused on two issues, the role played by state actors under military and civilian administrations as well as their policies and programs towards SWM in Bauchi state. Secondly, it discusses the approach made on special task force committee on environmental sanitation set up by the military administration to take charge of all SWM issues in Bauchi state. The chapter also discusses the establishment of BASEPA in 1997.

3.2 State Actors in Solid Waste Management in Bauchi 1983-1985

3.2.1 Solid waste management under brigadier Sani Sami's Military regime Governor Bauchi state

In 1983 when President Buhari (Brigadier General) came into power, Brigadier Sani Sami was appointed as the military governor of Bauchi State (Peter and Oluwaseun, 2018). War against indiscipline and corruption (WAI) was launched in 1984 to fight all the social irregularities in Nigeria, which gave rise to the establishment of WAI Brigade to clean and clear all the environmental issues within the Nigerian states, such as illegal hawkers, vendors and mechanics on the streets (Emenyeon and Bernanrd, 1997). This effort was one of the most successful in the history of solid waste management in Bauchi state because it marked the beginning of the monthly nationwide environmental sanitation program by the military that exists to date. This exercise gave birth to the formation of a special task force committee on environmental sanitation in the mid 1980s to early 1990s in Bauchi state (Agbaje et.al. 1988).

3.2.2 Establishment of Environmental Sanitation Task Force Committee in Bauchi 1984

Basepa (2000) noted that the task force committee on environmental sanitation was constituted in two phases, in 1984 and 1986, by the military government. The first task force committee on environmental sanitation was inaugurated in 1984 and lasted for only two years. Another committee was set up in the year 1986 and lasted for eight years till 1994. The main objective of this special committee was to achieve a clean and healthy environment in the entire Bauchi state. According to Zango a local resident in Bauchi;

The aim of the committee was achieved because at that time Bauchi city was developing it was the military era where everybody was afraid of the army, so people were cooperating with the committee. They were working round the clock to ensure the cleanliness of our environment (Zango K.I.I, 22/09/19).

The task force committee was headed by a senior military officer, mostly from the rank of an army captain and above. The membership of the committee was derived from various ministries, parastatal, and extra ministerial departments including: representatives of Bauchi state ministry of works, ministry of health, representatives of local government areas, Bauchi State Development Board, representatives of Bauchi state police command, Nigerian Army Bauchi command, Bauchi Emirate Council, ministry of commerce and industry and the ministry of social welfare and community development (Basepa, 2000).

Ali a trader from Yelwa in Bauchi stated that;

The beauty of the special task force on environmental sanitation committee was that the composition of the committee was cut across almost all the sections of the society, including the traditional rulers and ministries. Their work was so easy (Ali O.I, 23/09/2019).

The major objective of the committee was to ensure a healthy and clean environment in Bauchi state, thus they were charged with certain responsibilities such as solid waste management, from generation to final disposal, house to house inspection, drainage clearance and maintenance, roadside grasses and shrubs clearance and maintenance, and construction and maintenance of ventilated improved Very Important Person (V.I.Ps) toilets in strategic areas of the metropolis to curtail open defecation (Basepa, 2000). According to Sani, a youth leader from Gwallaga in Bauchi;

This was the first time where we saw the commitment of the government towards addressing the issues of solid waste management from the root for example, the provision of dump space, and their maintenance; whatever they did they always supervised and ensured its implementation, but today the case is the reverse (Gwallaga K.I.I, 25/09/2019).

One of the objectives of the special task force on the environmental sanitation committee which was achieved and maintained to present time is the monthly sanitation exercise (Basepa, 2000).

The committee has recorded tremendous achievements in terms of a clean and healthy environment for sustainable development. This enhances productivity and better standards of living, creation of a free and conducive environment free of vectors that spread diseases, and control of water and air contamination; Great achievement was equally recorded in terms of provision of facilities such as solid waste collection centers (transfer stations), incinerators, final dumping sites, drainage system and V. I. P toilets. During the era of the task force, over 10 V. I.P toilets and solid waste collection centers were constructed to curtail indiscriminate solid waste dumping and open defecation (Basepa 2000). According to an expert Sulaiman from Wunti in Bauchi;

The success story of the task force was basically because of the militarized politics of the Army. Most a times, they use force in executing their functions, so people comply or else you face the military decree. However, at the end of the day solid waste management was effective (Wunti K.I.I, 27/09/2019).

War Against Indiscipline Brigade Boys (WAI BRIGADE BOYS) established by the military administration in 1983 which used to be part of the special task force committee on environmental sanitation is still in existence and performs actively in the present-day monthly environmental sanitation exercise (Basepa, 2000).

3.2.3 Taskforce, SWM, Coup de tat and Transition 1985-1997

As of December 1985, another coup d'état was carried out which brought General Babangida to power as Nigeria's president and Colonel Chris Abutu Garuba as the Governor of Bauchi state. Most of their policies and programs were on the privatization of public properties and western agenda. Social responsibilities such as solid waste management in Bauchi state remained the same, though the governor continued to maintain the task force committee on environmental sanitation (Peter and Oluwaseun, 2018). Hardo a community leader in Bauchi revealed that;

During President Buhari's first regime, solid waste management was successful because every household took care of its solid waste. Major streets in Bauchi were clean. Dump spaces were taken care of by the community, and shop owners normally took responsibility of their premises. I think all these were achieved due to the intervention of the military (Hardo O. I, 01/10/2019).

Soon after, the then military government introduced the national environmental sanitation which was to be carried out every last Saturday of the month in Bauchi state. Because of that, a special environmental sanitation task force committee was established in Bauchi state by edict number 5 of 1986 as amended in edict number 7 of 1986, which was referred

to as edict number 5 and 7 of 1986, specifically to take care of SWM in Bauchi state (Edict No. 5, 1986). An expert, Ahmed from Basepa in Bauchi stated that; This was the tough and most successful period in the history of solid waste management in Bauchi state, where even the dump spaces and the dumpsites were properly managed by the community, because there was a serious enforcement by the task force committee which involved the Army and the war against indiscipline and corruption (WAI) brigade boys, (expert K.I.I, 02/10/2019).

The special task force committee was set up to replace Bauchi State Urban Development Board (BSUDB) being a section of environmental planning. The main duties of the task force were to ensure all environmental laws and sanitation were followed and enforced.

The special environmental sanitation taskforce committee lasted for only a decade and was abolished in the year 1994 at the time of another democratic transition (Bogoro and Babanyara, 2011).

In 1994 General Sani Abacha became the president of Nigeria through a palace coup and the military governor of Bauchi state was Colonel Raheed Adisa Raji, who spearheaded a comprehensive reform in solid waste management in Bauchi state. Although governor Raji also upheld the task force committee on environmental sanitation for a short period, he was later removed from office, and another military governor Colonel Theophilus Bamigboye was appointed who championed the establishment of Bauchi State Environmental protection Agency (BASEPA) in the year 1997. General Abacha died in power on the 8th of June, 1998 and was succeeded by General Abdulsalami Abubakar who handed power

over to democratically elected president Olusegun Obasanjo in 1999 (Bellow, 1987).
Yakubu from an NGO in Bauchi observes that;

Although the state had undergone a series of administrative changes, the establishment of Bauchi State Environmental Protection Agency (BASEPA) was a blessing to the state because BASEPA was the only agency responsible for coordinating all environmental issues such as solid waste management, private-public partnership, and the registration of formal and informal actors in the SWM sector without the fear of the army as illustrated in Figure 6: below (Expert, K.I.I, 03/10/2019).

Figure 6: Cosmopolitan cleaners at work along Nassarawa Street, Bauchi city



Source; (Author, 2019).

BASEPA was setup by edict number 3 of 1997 to take over from the special environmental sanitation task force committee (Bogoro and Babanyara, 2011). Ahmed from Basepa in Bauchi added that;

The government plays the role of providing adequate machinery, working materials, manpower and proper funding mechanism to handle the management of solid waste in the state, and to keep the environment clean, which is good for human existence. However, constitutionally, solid waste management is the primary function of the local government as specified in the 1999 constitution of the federal republic of Nigeria. However, the inadequate skilled manpower, machinery, and inability of finding, the state government was called upon to complement the effort of the local government to keep the state clean for the betterment of the people of Bauchi state. (Expert K.I.I, 04/10/2019).

Ogwueleka (2003) noted that there were several efforts by the government of Bauchi state to have efficient and suitable solid waste management systems since the 1990s to date, yet, the effort did not yield much result.

3.2.4 Impact and Constraints

The committee depended solely on the state military government for funding. Their monthly grant used to come from the state government account. From the inception in 1984, the committee received less than a hundred thousand Nairas (100,000) monthly as subvention, but the amount almost tripled in the 1990s (Basepa, 2000). According to an expert, Zakari, from Nassarawa in Bauchi stated that; Although Bauchi state was a young state during the task force committee era they were able to discharge their duties diligently with the little resources at their disposal (Zakari K.I.I, 28/09/2019).

The major challenges of the committee were inadequate funding, which led to its inability to have enough facilities to discharge their functions effectively, lack of experts and manpower, poor attitudes of people towards solid waste management, inadequate public awareness. Policies and regulations were based on decrees and not legislation (Basepa, 2000). Abdullahi a local resident from Ilelah in Bauchi notes that;

Working with the military and civilian is hectic. I could remember it was a difficult task because of the divergent views; you hardly saw a complete team of the committee at once working together due to their background and training. This was a serious challenge to the committee. Another issue was, ordinarily, civilians feared the military, so in most cases, people use to avoid the committee because of the fear of intimidation (Abdullahi O.I, 29/09/2019).

According to Basepa (2000), the task force committee was faced with the problem of coordination and insubordination because most of the members, especially the few professionals within the team, felt that their responsibilities were high jacked by the military.

3.3 Conclusion

Chapter three reveals that Bauchi State Urban Development Board (BSUDB) did not live up to expectations; It performed below average, since the military decided to remove SWM from the board. A new committee was set up by the military governor of Bauchi state in conjunction with the new policy of the federal republic of Nigeria of General Muhammad Buhari, the war against indiscipline and corruption (WAI). The special task force committee on environmental sanitation was constituted in 1984 to manage all environmental and sanitation issues in Bauchi state. This marked the beginning of compulsory environmental sanitation exercise that took place every last Saturday of the month in Bauchi state and Nigeria at large.

The chapter also establishes that the task force on the sanitation committee was headed by a senior military officer, while police officers, Wai brigade, and top mainstream civil servants formed part of the committee members. It lasted for ten years, and it was the most effective in the solid waste management history of Bauchi state.

The research established that the task force committee was so powerful and autonomous than BSUDB and BASEPA in terms of operation and general service delivery. Within a decade it was able to record tremendous achievements in SWM in Bauchi State. It was found out that within the period under review 1984-1997 the task force committee on environmental sanitation was the only state actor in SWM in Bauchi state. Although, the committee was semi-formal and civil it was militarized in nature due to its composition.

The research revealed that in the last days of president Abacha's administration, under the leadership of military governor colonel Theophilus Bamigboye Bauchi state, an environmental protection Agency (BASEPA) was established in 1997 and started operation in 1998.

Finally, the chapter also revealed that solid waste management was politicized thus, successive bodies that handled it did not make any effort to provide professional measures or to come up with a comprehensive synergy or master plan that would consider all issues of SWM in Bauchi state. It was revealed that corruption was deeply rooted in SWM in Bauchi state, since the establishment of the state, and the issues surrounding solid waste management remained unabated. The tragedy of the commons and actor oriented theories interrogate population increase as an ethical problem to the environment therefore one can hardly find a practical solution to overpopulation. Because understanding the nature of environmental crisis and the relationship between actors in SWM determine the decision-making policy to be taken to solve the crisis.

CHAPTER FOUR

4.0 CHANGING POLITICS IN SOLID WASTE MANAGEMENT IN BAUCHI STATE; 1997-2015

4.1 Introduction

Various state and non-state actors have contributed to solid waste management in Bauchi. This chapter looks at SWM from the political point of view. The chapter discusses the major formal state and informal non-state actors in solid waste management in Bauchi state. The chapter presents the international treaty on the solid waste that led to Nigeria's incorporation into global environmental charter and the subsequent establishment of National Environmental Protection Agency (NEPA), as well as the creation of Bauchi state environmental protection agency (BASEPA) in 1997. The chapter also discusses policies and programs such as private-public partnership (PPP) concerning solid waste management under military and civilian administrations. Additionally, the conversion of dump spaces to shopping malls and worship centers as well as how state and non-state actors embattled overpopulation and unplanned settlement in Bauchi are presented.

4.2 International Convention on Solid Waste Management

The formation of the Federal Ministry of Environment in Nigeria was pushed by the incorporation of Nigeria into the world environmental issues characterized in the world "Earth Summit" that took place in June 1992 in Brazil, Rio de Janeiro. Presidents and leaders across the world met to find a common solution to global environmental problems, thereby attaining sustainable development goals. Solid waste management was top on the agenda at the UN summit of 1992 in Rio de Janeiro, making it a priority to solve the issues in trade and commerce, social development as well as science and technology. Therefore

the Rio de Janeiro summit affirmed the agenda 21 promulgations, where it directed governments at all levels from local, national, regional and international to commit enough resources and necessary technology towards ensuring the implementation of solid waste management policies (United Nations Conference on Environment, 1992).

Based on the promulgation of decree number 58 of 1998, Nigeria was committed to achieving the standards in the world environmental sustainability, which led to the establishment of Federal Environmental Protection Agency (FEPA), the only body responsible for all environmental issues in Nigeria such as protection, policies, enforcement, and research (Bappah et. al. 2016). Moreover, a body that comprised all the commissioners of the environment in Nigeria, known as the National Council on Environment, was created to serve as a policy and advisory sector of all environmental issues. A similar body was instructed to be established in all the states of the federation, with equal duties at the state level. Thus, it led to the establishment of a state environmental protection board across the federation (Bappah et. al. 2016). Due to the need for a healthy and wealthy environment, coupled with the realization of the national and international charter on environment, Bauchi state government instructed the committee on the environment to recommend an institution that would take charge of all environmental safety in the entire state.

4.2.1 The Emergence of New State Actor in SWM under Colonel Theophilus

Bamigboye Military Governor Bauchi State in 1997 BASEPA was the only legal institution solely responsible for waste management, policies, laws and all environmental issues in Bauchi state. It was created by edict number 3 of 1997 and started

its operation in June 1997. The creation of Bauchi state environmental protection agency was as a result of the engagement of Nigeria in the global concern on environmental issues as stipulated in the "EARTH SUMMIT" of 1992 in Brazil, Rio de Janeiro (Bappah et. al. 2016; cited in NCED, 2014). It was during the last days of President Sani Abacha's rule that the then military governor of Bauchi state colonel Theophilus Bamigboye championed the establishment of Bauchi State Environmental Protection Agency (BASEPA) in the year 1997, thereby dissolving the long serving task force committee on environmental sanitation. General Abacha died in power on the 8th of June, 1998 (Bellow, 1987). An elderly lady in a FGD in Bauchi stated that;

The establishment of BASEPA in 1997 was a good idea but I think the politicians and the government are still far from addressing the root problems of solid waste management in the state because it has not been in their priority. Take a look at Bauchi city, for example, there is no single functional dump space or waste collection centers. Those places are built up with structures as indicated in figure 7: below (FGD O.I, 04/10/2019).

Figure 7: Bingin Sarki (dump space) at Tura converted to primary school



Source; (Author, 2019)

Therefore Bauchi state environmental protection agency (BASEPA) was thus created to use all expertise and map out policies, programs, laws and strategies for a good environmental management system in Bauchi state particularly concerning solid waste management, as well as to establish partnership with appropriate actors at the state, federal and global levels (Bappah et. al. 2016).

General Abdulsalami Abubaka's administration was very short and focused on the organization of a historic transition program that returned Nigeria from a long military era to a democratically elected, president Olusegun Obasanjo in 1999 (Bellow, 1987).

According to Mbanefo (2008), the returning of Nigeria from military dictatorship to democracy in 1999 was a great relief. Many Nigerians were happy about the election of Olusegun Obasanjo as the newly legitimate elected president of the federal republic of Nigeria, with a lot of hope and numerous expectations. In the same vein, Mal. Ahmed Adamu Mu'azu was elected as the governor of Bauchi State from May 1999 to May 2007.

The complexity of the interplay of socio-political, economic, cultural and the dictatorial issues that led to the emergence of Olusegun Obasanjo and Ahmed Adamu Mu'azu as the president of Nigeria and Governor of Bauchi State respectively was enormous. This is because of the thirty-seven years of military dictatorship in Nigeria since independence. On assumption of duty, the two leaders took a giant action to create an enabling environment with policies and programs that would return Nigeria to sustainable development, particularly Bauchi State (Odoziobodo, Kevin, and Richards, 2010).

From 1999 to 2007 former president Obasanjo reviewed more than 41 drastic policies in Nigeria including: foreign debt servicing, power sector, telecommunication, education,

health, transport sector, aviation sector, foreign affairs, oil and gas, employment, pension and many more sectors. This research however, revealed that all these policies, programs and issues raised the Obasanjo's administration performed below average; 90 percent of them were very poor. More so, environmental policies and issues such as solid waste management were completely excluded, even in Bauchi State (Kofarmata, 2007). It was concluded that the administration of President Olusegun Obasanjo had been ineffectual, resentful, inconsistent, a failure, a disappointment, a waste, and dragged Nigeria's national interest and collective goal (Sabella Abadie, 2007).

4.2.2 BASEPA issues under Governor Mu'azu's administration 1999-2007

Schuttenbelt et. al. (1994) stated that formal actors are organized bodies that comprise government establishments involved in providing and maintaining municipal amenities. They provide an enabling environment for competition, for better services. In a substantial number of cities in the third world, SWM is the responsibility of the government, but it is faced with a lot of challenges such as, delay in or lack of proper funding, poor policies and the lack of political commitment. These result in poor professionalism in the sector. According to Habu, an expert from railway in Bauchi;

BASEPA has remained the principal actor in the sector but the increased generation of solid waste per day due to population expansion in Bauchi has brought about new actors, both registered and unregistered, as well as competition in SWM (Habu K.I.I, 05/10/2019).

However, Kant and Berry (2001) asserted that the government remains the major player and financier of SWM, but there is need for partnership with private practitioners for more efficiency, particularly in Bauchi state.

Figure 8: Organizational chart of BASEPA

According to section 39 of the decree that established BASEPA, the above table shows that

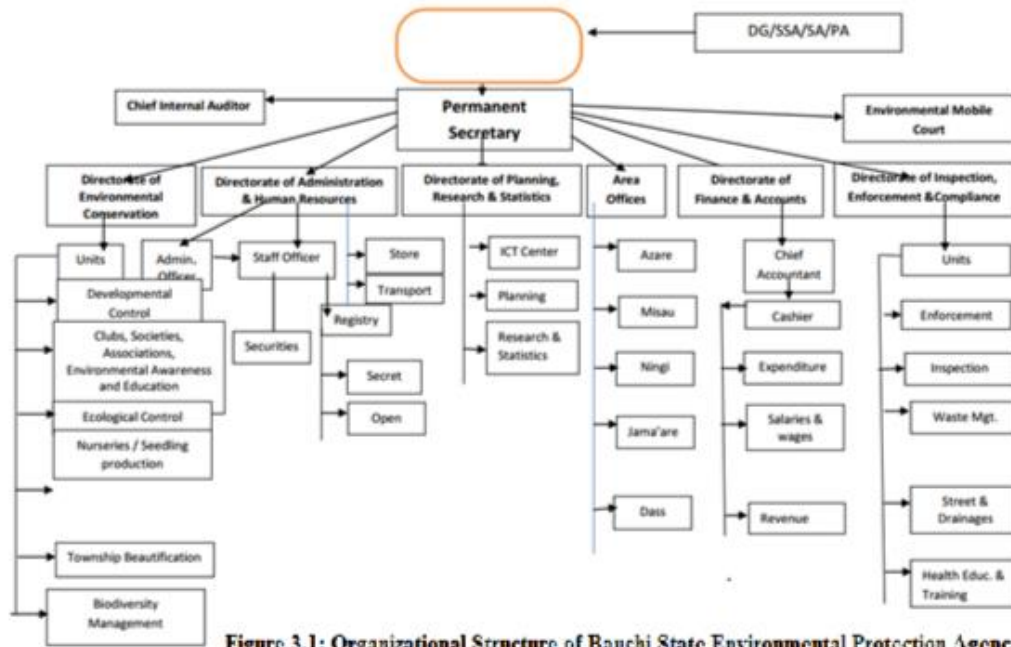


Figure 3.1: Organizational Structure of Bauchi State Environmental Protection Agency

Source: Author: Cited in BASEPA, 2015

the board of directors is the governing body of the agency, with the chairman at the top. The director-general is the chief executive head of the institution as the case was during the military administration. Today however, the position of director is equivalent to the permanent secretary at the civil service cadre. Unlike the militarized political arrangement or decree, the director-general is in charge of the daily responsibilities of the agency. BASEPA has about five sub-offices across the three geo-political zones in the state that covers the rest of the local government areas with environmental sanitation mobile court to prosecute those who violate solid waste management regulations (Bappah, 2010).

According to edict number 3 of 1997, the mission and vision of BASEPA is to make use of a befitting environmental doctrine to set up proper management policies, programs, and

laws, and to cooperate with appropriate actors at state, federal and international levels for a common sustainable environmental development (Babanyar et al ;2011).

According to the director, Basepa in Bauchi; Principally, Basepa as a formal institution is responsible for solid waste management in Bauchi, that is, collection, transportation, and disposal. Considering the population increase, the government had to invite private-public partnership for interested service providers. This gave them a level ground to participate, and operate, especially at the low-density areas; so currently, the agency has given permit to twelve (12) new solid waste service providers at zero tariffs of royalty, just to encourage them to participate to facilitate the control of solid waste in Bauchi city and its environs (Dallari, K.I.I, 06/10/2019).

Bauchi state environmental protection Agency is set to achieve the following: On establishment, the goal of the state policy on environment was to achieve sustainable development in Bauchi state particularly through ensuring healthy lives of people by averting all forms of environmental issues, environmental preservation for current and upcoming generations, creating awareness and partnering with the community as concerns the benefits of the environment in development, making environmental laws, policies and programs that go along with the culture of the people to attain development, to establish proper solutions to all environmental issues and any foreseen problem, and to represent the state government at any international, national or continental meetings or charter on environmental issues (Bappah et. al. 2016). Daudu a youth in an FGD in Bauchi notes that;

The major objective of BASEPA is to ensure the environmental safety of Bauchi state and to liaise with the community and other related actors in order to have smooth running of its affairs (FGD O.I, 07/10/2019).

BASEPA's three sources of income are: budget allocation from the state government, contributions, support, lending, or grants from other means, and through penalty, fines, and other legal sources. These support facilitate the daily running of the agency.

The director Basepa from Bauchi added that; government of 1979, solid waste management was controlled and funded by the local authorities, but because SWM is capital intensive, the local authorities could no longer shoulder the burden hence the state government had to come in and finance it. Presently the funding comes from the state account (Dallari, K.I.I, 08/10/2019). During the military regime and the early age of the first civilian.

This was also noted by an expert in SWM in Bauchi who maintained that; Our major source of funds is of course the state government, with a little and periodic intervention from non-governmental organisations (NGO's) (Baba, K.I.I, 10/10/2019).

4.2.3 BASEPA and the Crisis of Over Population in Bauchi

The edict number 3 of 1997 which created BASEPA has not been updated to suit contemporary situations. In other words the edict has not been reviewed or reformed.

Therefore, policies and laws on solid waste management in Bauchi state are generally weak, thereby making the populace dispose their solid waste indiscriminately, in open spaces and on major streets. Lack of dump spaces and dumpsites is also a serious challenge in SWM in Bauchi state. Additionally, funding is inadequate leading to inadequate presence of equipment and tools, with most of them either outdated or in bad

condition and some being grounded. As a result SWM is facing a setback (Bappah et. al. 2016). Umar a trader from Makera in Bauchi notes that; Since the creation of BASEPA in

1997 the population of Bauchi state is growing but the equipment used to manage SW is not growing, which means the problem will persist because this indicates that the agency no longer has the capacity to cater for the needed solid waste management in Bauchi (Umar O.I, 12/10/2019).

Indeed, heaps of solid wastes are continuously accumulating within the densely populated areas of the city wall as a result of lack of dump spaces. Although financial assistance is given to BASEPA by ecological fund to support the budget from the state government, it is not enough to provide the needful in SWM in Bauchi state. This has amounted to poor service delivery, lack of good solid waste management research, poor staff training and general staff ineffectiveness (Babanyara et al, 2011 & Ezeronye, 2000). According to Dangari an expert in SWM from Bauchi;

Bauchi state is the custodian and regulator of SWM, but its operation has become impractical due to influx of people from neighboring crisis states like Adamawa, Borno, Taraba and Yobe (Dangari, K.I.I, 14/10/2019).

The population growth in Bauchi can be explained from different angles. For example, the Tafawa Balewa Local Government crisis. There are several factors as regards the 1991 Tafawa Balewa Local Government crisis, the major reason that sparked the conflict being a little misunderstanding between a Christian butcher of the sayawa ethnic group and a FULANI muslim customer. Thousands of lives were lost, property worth millions of Naira was destroyed and hundreds of thousands of people were left homeless (Boer, 2002). The misunderstanding later turned into a war between the two faiths (Christians and Muslims), spreading to neighboring communities, plateau state and the capital city of Bauchi (Boer, 2002). This is one of the early major causes of the influx of population into

the city of Bauchi, because the crisis affected all the Christians faithful in the state, notably the Igbos, Yoruba's and the Christian south-south of Nigeria residing in different locations of Bauchi state. According to Ilelah, a local resident from Tura in Bauchi; Shortly after the 1991 crisis of Tafawa Balewa, the city of Bauchi began to witness a big population increase and some people (indigenes) started selling their land to the victims, including the refuse dump spaces. This is the period when BASEPA needed to act, and it was also the year of transition to democratic rule, but instead of the politicians as well as the government making it a priority, nothing was done about it (Ilelah O.I, 15/10/2019).

As of 2010, BASEPA had the following equipment for SWM; 3 tipper trucks, 2 dino trucks, 6 tractors, 3 tankers, 2 payloaders, 80 containers, 600 brooms, 600 shovels, and 300 hoes, indicating that that equipment could not manage 20 percent of the total solid waste generated within Bauchi metropolis and environs, despite the resources spent in the sector (Bogoro and Babanyara, 2011). Mustapha Idris an expert in SWM in Bauchi examines that;

Solid waste management in Bauchi State from the period 1982 to 2015 can be categorized into three periods. First phase period, of 1982-1993 was handled by the sanitation task force committee in conjunction with the state development board and this was very effective and efficient because of the joint team of highly trained and skilled personnel. In the second phase period of 1992-2014 sanitary activities were handled by BASEPA, tipper garage association, cosmopolitan cleaners and others, through a policy called Public-Private Partnership (PPP), a policy initiated by the state government. in the third phase period of 2015 to date solid waste management and sanitary activities are handled by BASEPA and cosmopolitan cleaners in the ratio or percentage of 30 to 70 percent, where BASEPA is apportioned 30 percent while cosmopolitan cleaners 70 percent of the responsibility of SWM in the metropolis of Bauchi state and its environs (Idris, K.I.I, 16/10/2019).

In Nigeria it is apparent that the environment, especially solid waste management issues are least prioritized. Solid waste is dumped in open streets and major roads in different

cities because the environmental institutions at the state level are mostly headed by politicians and their acquaintances. The system is full of unqualified personnel inexperienced in solid waste management, not to mention the lack of provision of dump spaces and dumpsites (Ogwueleka, 2009).

Ogbazi (2013) opined that poor regulations and policies in Nigeria have led to failure in town planning. The government has been the brain behind unplanned housing due to its inability to plan for the rapid population increase in the country, thus land is allocated cheaply without following due process (Nwaka, 2005). Despite the existing urban and regional laws concerning SWM, there has never been any attempt by the government to make use of those laws because of politics and personal interests. Nabegu, (2010) observed that in Kano state for instance, a very insignificant part of residents has access to solid waste management services. He noted that it is because of the poor town planning of the city. Usman and Mohammed (2012) asserted that the city of Bauchi is characterized by poor town planning. Most of the roads and buildings used to be dump spaces but they were developed illegally, with some being approved based on whom you know. Umar Musa a young trader in Bauchi notes that;

The congestion of community dumpsite within Bauchi city was a result of the failure of the state government to initially provide more considering the geometric increase in population. That is why presently people dump their waste indiscriminately in open spaces particularly on the major roads within the city. However, such "Bingi" were originally owned by private individuals, but as a result of their neglect over a long period "reason being that land was never an issue" and because the population as at then was relatively small, there was no high demand for land. However, when the population began to grow and these spaces were not fenced, the community seized the opportunity and converted those (Bingi) as dump spaces. Soon after, the government decided to recognize those (Bingis) without any compensation, and that is where the genuine owners of

(Bingi) began to develop their land spaces (Bingi). Now the controversies lie between the real owners of Bingi, communities and the government (Musa O.I, 17/10/2019).

According to Agunwamba (1998), individual interests and politics have always been the major impediment to the enforcement of environmental regulations in Bauchi. Sagir Bello an elderly retiree in Bauchi notes that;

The impact of the controversies between the government and the residents over dump spaces within Bauchi city is huge and quite negative, reason being that the real owners of those dump spaces are beginning to recover their land, while the community, on the other hand, is resisting claiming to own their land parcel which had been for a long period used as dump spaces. So the community feels that it belongs to them. To me, the only solution is that the government should as a matter of urgency intervene and compensate those controversial land parcel through direct contact with the real owners of those spaces because if it involves a third party in the transaction then consider it faulty and impossible (Bello FGD, 18/10/2019).

The gap between Nigeria and other developed countries in the area of solid waste management is wide in terms of political will, provision of dump spaces and dumpsites, economic viability and the rate of solid waste generation. Unlike Nigeria, and more specifically Bauchi state, the solid waste management system is attributed to poor political will (Ogwueleka, 2009). Within the period under study, Bauchi city recorded a mass population increase from the neighboring Plateau state (Jos) political crisis in 2009, Tafawa Balewa crisis of 1991, 1992 and 1995, and the recent Boko Haram insurgences in Borno, Adamawa, Yobe, and Taraba states. This has compounded the issues in SWM in Bauchi and made it hectic for BASEPA to handle (Boer, 2002). According to Dandada Ahmadu, a community leader from Gwallaga in Bauchi; Some of the dump spaces were taken by the government and victim of crisis, others by hereditary. Recently, government directed us to look for any available land or incomplete building within Bauchi city and

environs for onward purchase in order to solve the issue of dump spaces (Ahmadu O.I, 19/10/2019).

Afon & Okewole (2007) argue that in Oyo city due to the rapid population increase of more than 2.9 percent per annum, there is a need for 1.2 and above acres of land for waste disposal to commensurate the rate of solid waste generated. Approximately 40 acres of land is required in Oyo city for the dumping of solid waste in the next 30 years due to the population expansion per annum. The number of people living in a particular area determines the amount of solid waste that will be generated. For instance between 2000-2001 in Port Harcourt city, solid waste generated was over 25 percent (Ogbonna et al, 2007). Similarly for Bauchi, the figure is increasing day by day, which in the nearby future BASEPA alone will not manage to handle. Maryam Sani an elderly lady in an FGD from Bauchi reported that;

The population of Bauchi city is exploding, for example, in the heart of the town, places such as Nassara, Gwallaga, and Wunti are overpopulated and most of their solid waste activities is done in open spaces or on the major roads within the city because BASEPA is incapacitated. I can tell you without any doubt I cannot remember when last I saw BASEPA in my ward coming to address solid waste issues. So people are left with no option than to use what they have, which is too bad for a city like Bauchi as captured in figure 9: below (Sani FGD, 20/10/2019)

Figure 9: A dump truck at Bakoro primary school at the main road, Bauchi city



Source; (Author, 2019).

Equally, Ezeah & Roberts (2014) argue that in Abuja, political meddling has caused a serious obstacle in solid waste management as well as the observation of policies. In Bauchi most of the successive administrations always came with their candidates; each political leadership came with its new system and style as well as its people, including the managers and actors in solid waste management. Therefore, it has become open that the existing solid waste management policies and laws are untenable. Sadiq Ladan, a former government official in Bauchi revealed that;

The solid waste management in Bauchi State has suffered a setback, we are moving backward instead of forward. In the past when we reported to BASEPA, immediately 10 to 20 trucks would come to collect the solid waste. There was a staff of BASEPA who was posted here to be assisting people in disposing of the solid waste properly. Solid waste management in Bauchi city until 1999 was fluctuating, but, during the administration of Ahmad Adamu Mu'azu the governor of Bauchi state (1999-2007) there was a significant improvement; there was law enforcement, proper equipment and relative discipline, and the executive governor himself usually took part during the monthly environmental sanitation exercise. Today things have fallen apart, major roads within the city have become dumpsites, motorists, pedestrians, and motorbikes are struggling to have access of road as shown in figure 10: below (Ladan K.I.I, 21/10/19).

Figure 10: Dump space at Rimin Jahun along the major road in Bauchi city (old Musaba junction).



Source; (Author, 2019).

Adeyemi et al. (2001) note that generally, SWM is one of the main issues in Bauchi state and the most difficult thing troubling the municipality and formal actors. Adefemi &

Awokunmi (2009) observed that people are no longer following the rules and regulations concerning solid waste management and that most cities are facing more environmental degradation due to indiscriminate disposal of solid waste. In Nigeria and other third world countries, one of the serious problems with the solid waste management systems is the lack of clear policies that guide the conduct of SWM.

Ogwueleka (2009) found out that some of the methods used in solving solid waste management issues in Nigeria showed insignificant achievement and did not differentiate the demands and disparity of the various cities. He opined that the methods followed are quite bureaucratic and capital intensive. BASEPA solid waste management policies are close to none because people no longer adhered to rules and regulations (Nagegu, 2016).

Babaji Talle, an expert in SWM in Bauchi notes that;

The challenges and the problems surrounding solid waste management are enormous but to mention a few: inadequate machineries, inadequate manpower and training, inadequate waste collection points, inadequate public awareness, weak enforcement of law, lack of proper policy implementation, poor attitudinal change of the people as regards dumping of refuse at a given place as well as timing, lack of political will, the contracts to purchase SWM equipment such as payloaders, graders, trucks, tractors, are given to friends and family member who in the end buy substandard equipment that does not last long, posting of duty staff is based on who you know, and most of the equipment used by BASEPA are grounded as illustrated in figure 11: below (Talle, K.I.I, 22/10/2019).

Figure 11: Side view of some of the grounded SWM trucks and machines at BASEPA



Source; (Author, 2019).

In addition to the above, Ezeah & Roberts (2013) argue that inadequate funds in solid waste management agencies have left them with no options other than going to Europe and America to purchase second-hand equipment and machines. According to Nabegu (2016) the types of machinery and equipment used by BASEPA are obsolete, grounded or bad and generally insufficient for adequate solid waste management services.

4.3 BASEPA and the Emergence of Multiple Actors in SWM under Governor Isa Yuguda's Administration 2007-2015

In May 2007, Umar Masa Yar'adua became the elected president of the federal republic of Nigeria, and by August same year his administration announced a policy of seven (7) points agenda as his focal point. These were critical infrastructural development in power, energy,

transport, Niger-Delta, wealth creation, human capital development, the land tenure system, and security. Environmental policies and issues such as solid waste management were excluded, although President Yar'adua's administration was sluggish because of his health issues. He was unable to accomplish his mission and died in power on 5th May, 2010 at Aso Rock Presidential Villa Abuja (Robert, Dr & Dode, Oghenedoro, 2019). Bauchi state environmental protection agency has achieved in the introduction, registration and partnership with some formal private and informal private solid waste management actors in the state. These include Cosmopolitan Cleaners, The National Union of Road Transport Workers (NURTW) tipper branch, Community Based Organizations (CBOs), Bauchi Youth Forum, Mahema Community Rescue Initiative, Women Initiative for Change, Gwallaga Youth Forum, Top town cleaners, Ken-Hedges, Talatu Ventures, and Naz environmental cleaners (Usman and Mohammed, 2012). According to Sara Emmanuel, a business lady in Bauchi; the government, under the responsibility of the agency usually takes out from its purse to settle any problem that may arise (Emmanuel O.I, 23/10/2019).

This was also noted by Silas Shirya, an expert in SWM in Bauchi who examined that; Basepa has invited private-public partnership, from interested service providers who the government gives a level ground to participate and operate, especially in the low-density areas. Currently the agency have given permit to twelve (12) new solid waste management service providers at zero tariff of royalty, just to encourage them to participate and to facilitate the handling of solid waste, as well as to curtail the increase in joblessness of the teeming youths of the state. This is done to ease the collection, transportation and disposal of solid waste within the state metropolis and its environs. So

also, some other areas have been leased out to a private contractor. (Shirya, O.I, 24/10/2019).

Bauchi state environmental protection agency is charged with the responsibility of supervising and monitoring all the activities of private companies and their performances, as well as enforcing all the laws of solid waste management (Bappah et. al. 2016). Isaac

Damina, an elder from Bauchi in an FGD revealed that; Initially, the whole activity of solid waste management was 100 percent taken care of by the government, but recently this trend has started changing with the presence of private investors, and also we are encouraging sorting of the waste from the source, like “BOLA JARI” popularly known as scavengers sometimes registered with the agency and collect some of this solid waste that are useful or can be transformed (recycled) into useful purposes for others (Damina, FGD, 25/10/2019). Bulus Borgo, An expert in SWM in Bauchi also stated that; there are a lot of positive and negative changes that have occurred in solid waste management in Bauchi city. The culture of self-help-project or community development project or program is no more in existence. Changes in solid waste management where the composition and generation of solid waste (Borgo, K.I.I, 26/10/2019).

The state and local government solid waste management agencies, as well as the major actors are faced with a big challenge, that is, the increase and the accumulation of volumes of solid waste per day are alarming, something that is trying to outweigh their technological, technical and financial capabilities (Ogwueleka, 2009). Lack of funds is one of the major problems of BASEPA due to a shortage of monthly grants from the state. This affects their research programs and the ability to discharge some of their basic functions,

as well as policy implementation (Bappah et. al. 2016). The allocation from the Bauchi state government is the main source of income for BASEPA, which is not sufficient and mostly comes at a later time. Also, the periodic assistance received from the ecological fund is not adequate, thereby making BASEPA unable to operate effectively (Babanyara et al, 2011). Bulus Borgo, an expert in SWM in Bauchi added that; There are huge challenges, the types of equipment are becoming obsolete, and of regular servicing of some of the equipment is not forthcoming. The servicing of tools is becoming a problem. Also, there are increasing demands by people about the volume of generated solid waste day by day without the required changes in its management. There is inadequate staff, even the ones at hand are naïve concerning their jobs, and some of the equipment bought are new but mishandled. I can tell you during the military era solid waste management in Bauchi was relatively successful because few stakeholders were controlling the whole process and it was a period where corruption was minimal, and everybody lived up to their responsibility, but today the case is the reverse, where government spends a lot of resources on many stakeholders and donors but if you go round the city and its environs you hardly notice any significant improvement as far as solid waste management is concerned. The money goes to a few people's pockets (Borgo K.I.I, 20/01/2019).

In Nigeria, poor finances have been acknowledged by various scholars as the major reason affecting solid waste management systems, (Agunwamba, 2003; Ayotamuno & Gobo, 2004; Ezeah & Roberts, 2012; Izugbara & Umoh, 2004; Ogu, 2000; Ogwueleka, 2009). It appears environmental institutions cannot provide the required funds for solid waste management because most of the policies are controlled by political administrators.

According to Bappah et al. (2016), BASEPA is faced with inadequate personnel, poor working internal milieu and poor remuneration. Maryam Sani, an elderly lady from Bauchi in an FGD explained that;

We have many problems with inadequate funding, manpower and training, waste collection points (dump space) and public awareness. Solid waste management activities are capital intensive, we need funds for the provision of facilities like waste disposal points, modern trucks (septic emptier) and RORO containers. Similarly, there's need to construct drainages, incinerators, landfill sites, etc because the population of the state is growing in geometric order (Sani FGD, 18/10/2019).

Equally, Afon & Okewole (2007) reported that a solid waste management system is not placed as one of the top priorities by the federal, state, and local governments in Nigeria. There has been a long periodic financial neglect of environmental institutions. Furthermore, Ezeah & Roberts (2013) noted that the institutions of solid waste management are not fully entrenched in the government payroll since sometimes they are ignored and or short budgeted, and this compounded issues in SWM in Bauchi state.

Babaji Talle, an expert in SWM in Bauchi notes that; there are some increasing demands by people about the volume of solid waste generation day by day without the required changes in its management as well. There is inadequate staff, even the ones at hand are inexperienced at their jobs, and some of the equipment bought is new but is mishandled (Talle K.I.I, 22/10/2019).

Additionally, the problem of solid waste management is attributed to the poor formulation and implementation of policies, coupled with a rapid population increase. Thus, environmental protection agencies of various states are faced with these incessant issues. Laxity in the political, psychological, socio-cultural life of the people in bringing out good

policies and programs leads to the ineffective solid waste management system in Nigeria, particularly in Bauchi state (Agunwamba, 1998).

4.3.1 BASEPA and the Formal Non-State Actors in SWM in Bauchi

A formal non-state actor in this case is an independent body in the SWM system all the needful in the sector and ready to partner with either the government or individuals to provide effective SWM services (Schuttenbelt, et. al., 1994). It has become pertinent for the government at various levels to privatize some of its infrastructural services to solve the problem of SWM. It has been revealed that the private sector maintains its capacity to the extent of performing a better job than the government institutions (Adebola, 2006). In most of the third world countries today private-public partnership (PPP) is gaining relevance governments, where a substantial amount of money is spent on solid waste management (Schubeler, 1996). According to Faruk Malami, an expert in SWM from Bauchi;

Between 2007-2015 solid waste management activities were shifted from centralization to decentralization, thereby inviting private participation and independent waste managers such as cosmopolitan cleaners, Talatu ventures, Top-Town cleaners, Ken-hedges cleaners, and confer cleaners into the realm of solid waste management in Bauchi State. Cosmopolitan cleaners handle the cleaning of the major streets and transportation of solid waste in the metropolis, while other cleaning services companies handle some government public offices, quarters, residential homes, etc. BASEPA plays a complementary role as well as a supervisory role to the service providers in the State (Malami, K.I.I, 27/10/2019).

Sadiq ladan, in Bauchi an expert added that; SWM in Bauchi has not been effective, solid waste regulations are not maintained and there are no dump spaces in Bauchi city. People are exposed to different environmental issues, coupled with the negative attitude of

residents towards environmental maintenance. Ultimately, one cannot distinguish between the public and private actors' performance (Ladan K.I.I, 21/10/19).

4.3.2 Cosmopolitan Cleaners Limited

Bappah (2010) notes that cosmopolitan cleaners limited are a private company based in Abuja. Their activity covers general horticulture, and it is semi-formal with administrative staff. Bauchi state government contracted the company through BASEPA 27th October 2007 to take care of solid waste management in some selected places within the state on. Shortly, the National Union of Road Transport Workers (NURTW) Tipper branch Bauchi was equally engaged in partnership with other home-based private actors.

According to Ruth Boyi a private manager in SWM from Bauchi; The objective of my organization (cosmopolitan cleaners) is to create an indigenous company that will provide janitorial, landscaping and solid waste management services in the country. So basically our objective is clearing, waste management and horticulture. Equally, we are charged with the responsibility of collecting solid waste from different points, using our trucks, in Bauchi state. If you go out in the morning you will see our trucks collecting solid waste from the streets, which transported to the designated dump space along Gombe Road at a place called Dungulbi. (Boyi, K.I.I, 28/10/2019).

Cosmopolitan cleaners are contracted by the Bauchi state government to take care of the daily cleaning of some major streets within the city of Bauchi, mostly the double lane roads. Usually, they make use of shovels, compactor trucks and payloaders to convey the solid waste to dumpsites, and it is done two times daily (Nabegu, 2016). According to

Kenneth Chukwu, a private waste manager in Bauchi; As far as Bauchi state is concerned, SWM is very effective because the state government bears the cost of solid waste management, instead of the citizens. They try as much as possible to provide a clean and healthy environment, the state spends a lot of money by engaging contractors like us (cosmopolitan cleaners) to take care of the environment and keep it clean (Chukwu, K.I.I, 29/10/2019).

The government has been the major and most active participant or actor in SWM in Bauchi. This makes it feasible for the involvement of various stakeholders (Kant and Berry, 2001). However, some scholars observe that the participation of experts, private actors and community associations shows that solid waste management in Bauchi is more effective than being done only by the government agencies (Buba, 2016; cited in Kant and Berry, 2001).

According to Omuta (1987), in Nigeria the key factors involved in solid waste management are mostly private and the public, where the public sector is determined by the government institutions and ministries of environment of different states in the federation. He noted that the private contractors are the informal solid waste collectors who render services at a certain amount of money. This is necessary because of the environmental deterioration resulting from poor solid waste management system (Ogu, 2000).

Ogbonna et al. (2007) maintained that the Bauchi state government was pushing very hard to address the problem of solid waste management by contracting the local private companies to transport solid waste. Faruk Malami, an expert in SWM in Bauchi observes

that; The government, under the responsibility of BASEPA usually takes out from its pocket to settle any monetary problem that may arise (Malami, K.I.I, 27/10/2019).

Yet, inefficiency in the solid waste management system is on the increase because of incompetent personnel and lack of commitment on the part of the government. Kenneth Chukwu, an expert in private waste management in Bauchi stated that; Our Company is facing a lot of challenges such as, indiscriminate disposal of solid waste by the residents in open spaces, and major roads and the general lack of dump spaces (collection centers) and dumpsites in the city. Secondly, due to bureaucracy, there is delay in payment of our monthly dues as well as the renewal of the contract agreement by the state government. There is lack of awareness by the inhabitants, for example, the market people. They are not helping the matter, as there is relative cooperation with the market people in Abuja but in Bauchi, we always have a problem. Another issue is that in the whole of Bauchi city there is only one dumpsite at (Dungulbi) along Gombe Road, which is used for dumping all the solid waste generated by millions of people within the city which is quite small(Manager, K.I.I, 29/10/2019).

The major challenges of Cosmopolitan cleaners and other private solid waste actors is the lack of public enlightenment and the inability from the public to partake in the whole process of solid waste management, coupled with the laxity from the state government and political leaders to revive the policies, laws and edicts governing the conduct of the privatization of solid waste management (Buba, 2016). According to Ruth Boyi, an expert in private SWM in Bauchi; Cosmopolitan cleaners enjoyed the monopoly of being the only registered company that partners with the Bauchi state government. This is due to their closeness with the political class in the state (Boyi K.I.I, 28/10/2019).

This made it difficult for Cosmopolitan Cleaners to perform effectively in the city of Bauchi and its environs (Buba, 2016; cited in Kant and Berry, 2001).

4.3.3 National Union of Road Transport Workers (NURTW)

National Union of Road Transport Workers, Bauchi tipper Branch was also contracted by Bauchi State Government to collect all the solid waste within the city, from plots, public buildings, uncompleted structures, drainages and unauthorized dumpsites (Bappah, 2016). Mustapha Idris, an expert in SWM in Bauchi notes that; One of the major problems of SWM in Bauchi traditional city is inadequate dump spaces. Today people are indiscriminately dumping their solid waste in their neighbors' plots at night and those who are responsible for the collection of the solid waste no longer access those places. This is the first of its kind in the history of Bauchi. Between 2007-2015 tipper drivers were involved in SWM, but later disappeared because their political chiefs are no longer in power (Idris K.I.I, 16/10/2019).

This was noted by a young trader in central market Bauchi who added that; It is a disgusting issue, the involvement of the chairman of tipper garage drivers (sand sellers) by the government, who was one of the political boys of the governor, to partake in solid waste management "how can a sand seller be contracted to collect solid waste. Rather things have not changed, instead it worsened the situation (Umar O.I, 12/10/2019)

4.3.4 Informal Non-State Actors in Solid Waste Management in Bauchi

In Bauchi state, informal private solid waste management actors are independent groups, associations, families, business owners and individuals operating without legal permission from the authorities. Owing to the nature of their unregulated activities, it becomes a hard

task for them, despite the fact that it is their source of livelihood. The private solid waste practitioners use small boys, popularly known as 'scavengers' who are well trained in sorting and picking waste, to go around from house to house and dump space to dump space for collection as shown in figure 12: below (Buba, 2016; cited in Rogerson, 2001).

Figure 12: Cross-section of scavengers (Bola-Jari) at work in Bauchi city



Source; (Author, oak tv, 2019).

4.3.5 Non-Governmental Organizations (NGOs) as non-state Actors in SWM in Bauchi

Non- governmental organizations (NGOs) in this case are privately owned organizations in solid waste management. There are zero profit venture organizations and charitable in nature. As the name implies, they are independent of the governments. NGOs comprise a group of professionals that render services to communities free of charge. They work in conjunction with community-based associations that serves as mediators between the government and the populace. They serve as donor agencies in SWM and sometimes

accord credibility to private actors. However, Non-Governmental Organizations have been challenged for not giving the much needed attention to the SWM system particularly in the state capital of Bauchi (Mitlin, 2001; Desai, 1995). Additionally, Desai (1995) revealed that in Bauchi state, NGOs were faced with the problem of implementation of their program at the local level, as the community leaders, as well as the traditional leaders, were not promising.

4.3.6 Community-Based Organizations (CBOs)

Cheema (1996) noted that community based actors are more of community representatives who act like Non-governmental organizations, and that civil society associations are part of the community actors' SWM system in Bauchi state. According to Danlami Ilelah a local resident in Bauchi notes that; Youths through Community Associations used to participate actively in SWM in Bauchi city with support from NGOs but nowadays they don't come out to partake because they no longer received any support. (Ilelah O.I, 15/10/2019).

Community-based organizations are the grassroots associations where all issues of the community are referred to. These are associations that promote the welfare of their subjects. All issues social and from homes, are taken into consideration. CBOs are however mostly faced with the problem of funding as they do not have a defined source of revenue. The community-based organizations eventually emerged as a result of the failure of the government to meet up the required SWM services in Bauchi state (Stren and White, 1989). Ajiya Daudu, a youth leader in Bauchi in an FGD analysis that; These days we only participate in SWM monthly because most of our members are not interested in community

service due to lack of motivation, and the younger ones don't join the association, thus the community organization is beginning to wash away gradually (Daudu FGD, 07/10/2019).

In Bauchi state, Community Based Organizations part-take in SWM and general community services with little and periodic assistance from NGOs and individuals. Nevertheless, the major challenge of CBOs is that they do not have the paraphernalia to mature and become legitimate entities (Rakodi, 1997). Prominent among the CBOs in Bauchi city are Bauchi Youth Forum, Mahema Community Rescue Initiative, Women Initiative for Change and Gwallaga Youth Forum. Their sanitation activities are mostly done at the end of every month (Bappah, 2016).

4.3.7 Other Non-State Actors

Other private actors in solid waste management across Bauchi state are registered and unregistered, and their services attract some charges. Solid waste collection is carried out on weekly basis from house to house with dust bins mostly in estates and Government Residential Areas (G.R.As) with relatively low population compared to the densely populated areas of the main city wall of Bauchi. These non-state actors include Top town cleaners, Ken-Hedges, Talatu Ventures, Naz environmental cleaners (Usman and Mohammed, 2012). According to Sadiq Ladan a former government official in Bauchi; Most of the private solid waste management actors in Bauchi city are not registered and their operations are restricted to certain areas. They don't have adequate equipment to handle the job (Ladan K.I.I, 21/10/2019).

4.4 BASEPA, Dumpspace Crisis and the Political Dynamics in SWM in Bauchi

Ezeah & Roberts (2013) observed that in Bauchi, the political elite often intervene in solid waste management systems, especially when it comes to the issue of contracts and appointments of directors, managers and top SWM persons. Those responsible to ensure that all environmental rules and regulations are followed are corrupt and take bribes. This makes the public not adhere to environmental regulations because politics has consumed and subsumed almost all the facets of solid waste management systems, from provision of collection centers, purchase of facilities, appointments of persons, and of course contracting of the private sector (Agunwamba, 1998). The dump spaces, dumpsites, and the allocation of trucks for waste collection, as well as trailers, are also determined by those in the position of authority. Considering the solid waste managers might not be specialists such decision may be biased. Carrying out successful environmental strategies may be blocked and deferred due to the influence of those in power, which would negatively affect the protection of the environment (Agunwamba, 1998).

Moreover, in Bauchi city all the solid waste dump spaces and waste collection centers have found new use notably, Bingin Malashe at Wunti which was converted to a mosque (Wunti street), Jakara around Ilelah-central market roundabout was converted to a shopping complex and a Bank building, Bingin Galadima is now a residential area (Jahun District), Bingin Sarki at Tura is now a primary school building, Bingin Kwara at Wunti is now a residential area (wunti street) as well as KanGarke at MalamGoje, and Ganjuwa at Jahun/Ganjuwa now residential area (Gwabba sub-ward). Currently, there is very few spaces or dump spaces for solid waste in Bauchi city as shown in the picture below (Usman & Sa'adiya, 2017).

Similarly, Imam et al. (2009) submitted that heaps of solid waste being dumped in open spaces and on major roads as a result of the building of structures on dump spaces is attracting serious environmental danger. Therefore, they added that in Nigeria particularly Bauchi state, solid waste management is among the top problem. In a related assertion, the predicament that bedevils solid waste management is glaring, thereby costing the political, social and environmental resources, which has direct negative bearing on the citizens and the economy (Izugbara & Umoh, 2004). Dandada Ahmadu, a community leader in Bauchi notes that;

Initially, almost all the major waste collection centers and dump spaces within the city wall of Bauchi (Ganuwa) were strategic and they used to be intact during the military administration, nobody ever thought of touching those places, but all of a sudden from 1999 at the beginning of democracy to date, 75 percent of the total number of dumpsites within the city wall was converted to either a bank, house, school, shopping mall and or worship center, without replacement. Notably, Jakara the biggest dump space in Bauchi city, central market roundabout, Gidan Bori Wunti street, Bakaro, Rimin Jahun, etc. 65 percent of these places are either built by the owners or allocated to communities to build schools without replacement, yet the government don't seem to have the political will on SWM as illustrated in figure 13: below (Ahmadu O.I, 19/10/2019).

Figure 13: One of the biggest dump spaces in the heart of Bauchi city converted to a mosque, bank and shopping mall (central market roundabout)



Source; (Author, 2019)

According to Sagir Bello, an elderly retiree in a FGD from Bauchi; Originally the dump spaces belonged to the people (citizens) not the government, the present dump truck that is close to my house at the main road beside Bakaro Primary School in Bauchi city was given to the government by my late father who said that the government should build a school and then leave the remaining space (PLOT) for him, but so unfortunately, the space was converted to a dump space by the community. As such the space was rendered as a gift to the community. (Bello FGD, 18/10/2019).

All efforts by the state government and private actors to resolve the problems of solid waste in Bauchi state prove abortive, solid waste is continuously accumulating day by day (Bogoro, 2001). Ado Zakari, an expert in SWM in Bauchi notes that;

This is a result of the selfish interest of the current administration. Considering the resources allocated to the sector, upon the agencies' capacity in terms of personnel, equipment, periodic intervention by nongovernmental organizations (NGOs), contractors, cosmopolitan cleaners, private actors and other logistics, yet they went to contract tipper garage drivers (sand sellers). This is another way of diverting government money into private pockets through the tipper drivers because as an expert it is the first of its kind in the history of Bauchi and at the end of the month when they come to claim their money you will find out that the amount payable to the tipper drivers is different from that of the actual amount on the government ledger, meaning the tipper drivers will sign against the actual government voucher and collect the lesser amount. Invariably those tippers belong to the politicians (Zakari K.I.I, 28/09/2019). Moreover, the rate at which the public is well informed can have a positive impact on the efficacy and sustainability of solid waste management (Nabegu, 2010). Also, whenever the public such as civil societies, ward

heads, community leaders are involved in the planning and implementation of policies in solid waste management system, there will be a remarkable improvement as it was observed in Benin and Bauchi Cities (Omuta, 1987). Isa Hardo a community leader in Bauchi added that;

Yes, the communities are trying in solid waste management in Bauchi state. The land space and the fencing of the dump space were done by the community. It is always better if SWM would be handled by private companies. The dump trucks provided to us are just two in number but usually, those given waste to dispose from home are children whose hands cannot reach the point where they can pass the waste into the dump truck stationed there properly, thus they end up dumping the waste on the ground. Many others follow suit thereby polluting the environment as shown in figure 14: below (Hardo O.I, 01/10/2019).

Figure 14: Dump space at the main road, Bakaro primary school, Bauchi city



Source; (Author, 2019).

The success of solid waste management is the support of the entire community and this can only be achieved if there is environmental enlightenment in Nigeria. It is paramount that authorities should take solid waste management awareness campaigns as a point of duty

so that people will be conscious about the way and manner in which their environment should be handled (Rahji & Oloruntoba, 2009). The authors maintain that with proper enlightenment, the society will have an optimistic feeling concerning their environment, more importantly solid waste management. Nabegu (2010) argues that in the streets of Kano and Bauchi cities, solid waste is dumped in open spaces due to lack of dump spaces and dumpsites. According to Maryam Sani, an elderly lady in an FGD in Bauchi;

It is not a good idea at all, as it is, there is little or no designated refuse dumpsites within Bauchi city and its environs because most of them were converted to personal use. Solid waste from various homes is disposed on the main road causing obstruction to the road users and making the environment unhealthy for all the citizenry within my locality. For now a few days back we were given two dump trucks, which I even cried, that it be used in disposing of solid waste but it is too high and children cannot put waste inside properly (Sani, FGD, 20/10/2019).

Presently, in Nigerian cities, the rate at which solid waste is collected is in between 35 to 50 percent of the total generation, which means in Bauchi city a substantial part of the solid waste is usually left without collection, especially within the average and low-income class areas where the government pays little or no concern in providing SWM services. While on the contrary solid waste is collected in the advanced world, in the third world countries solid waste is left unattended United Nation Development Program (UNDP, 2005). A city can set to be clean only when more than 74 percent of the total solid waste generated is properly collected. Sadiq Iadan, a former government official and an expert in SWM observes that;

Since the creation of Bauchi state in 1976, it governed by military and civilian administrations, that is to say that the policies and laws interchanged from the decrees to a constitution. As an expert, the military era was more serious about solid waste management in Bauchi; there were

no political affiliations, no nepotism, little corruption, and zero tolerance to indiscipline. All these gave them an edge to record a tremendous success in the sector. Whereas a democratic administration is full of political undertones, nepotism, godfatherism, corruption, and personalizing government of properties. Politics have become the order of the day in virtually all spheres of the government especially in SWM (Ladan K.I.I, 21/10/2019).

Bauchi State Government policies on solid waste management are generally inadequate.

For example, during the monthly sanitation exercise all over the country the general public did not uphold it seriously (Agunwamba, 1998). Isaac Damina, an elder in an FGD in Bauchi examines that;

The situation is pathetic, when we look back during the military period, there were little resources with great success, but this democratic administration was huge allocation of resources but little success, too many hands are involved the qualified and unqualified, and the contractors are politically inclined. Solid waste management in Bauchi has been politicized, I suggest that the government should go back and revive the policies and laws used by the military and enforce them in the sector (Damina FGD, 25/10/2019).

Usman & Sa'adiya (2017) note that 2007 to 2013 was the period when Bauchi state government ventured into partnership with the private contractors, association of tipper garage drivers and other actors in conjunction with BASEPA, (BASEPA being the sole Overseer of SWM) to be sweeping and collecting solid waste on daily a basis, on almost all the major roads within the city, as well as partaking in the monthly environmental sanitation exercise. The exercise however, did not involve households, ward heads, or community leaders, and the failure to provide basic logistics led to the total collapse of the whole process resulting, in a back-to-square-one situation. Solid waste started to accumulate in open streets and major roads indiscriminately. Another respondent Musa Umar, a trader in Bauchi revealed that;

The government has directed all the ward heads in conjunction with BASEPA to search for any available space or an incomplete building for sale within their territory for onward purchase and conversion to a dumpsite. Presently in some places the government issued out cheques some years back for the payment of those spaces but the money did not reach the real owners of those plots, it is nowhere to be found and yet nobody was accused of being responsible (Umar O.I, 12/10/2019).

Unfortunately, the government and its agencies failed to involve groups' behavior from the social structure, like the clubs, associations, group of elders, for proper solid waste management strategies, and for a bigger input and people involvement (Agunwamba, 1998).

Bovea et al. (2010), Zurbrugg et al. (2012); cited in Cherian and Jacob (2012) note that SWM is a multifarious method that needs substantive data from different angles, such as forecasting the population, waste generation rates, dump spaces and dumpsites, and transportation, to give the relevant actors prior knowledge for proper planning of solid waste management strategy. Bribery and corruption have become common practice in SWM, where one commits an offense but offers some token and escapes the retribution of the law. Therefore, corruption has mired the effectiveness of solid waste management and prevented people from taking environmental problems with utmost importance. For instance, in Lagos, Mushin estates, some residents don't settle their solid waste management bills and go scot-free (Adewole, 1992).

According to Usman and Mohammed (2012), in Bauchi city, solid waste disposal is done indiscriminately in open spaces, drainage, and roads, causing havoc to the environment as well as people's health. According to Musa Umar, a young trader in Bauchi;

People normally pack the waste and take it to their farmland to be used as local manure and others use it as a way of revitalizing their land that has become infertile. Also, some people go to the dump area outside town to pack the waste, especially if it is close to their farmlands where it will be turned into organic manure to boost the farmland in order to get a good yield. The waste is not just left like that but are turned into beneficial use in the farmlands because far back, 22 years ago, during the military era, solid waste management used to be a collective responsibility for the government and the community, though then Bauchi city and environs had a manageable population but today things have changed completely (Umar O.I, 17/10/2019).

Bogoro (2010) noted that the policies and programs of federal and state governments were aimed at giving a sustainable solid waste management plan for Bauchi state, to have a lasting solution to its SWM problems. Another oral source Danlami Ilelah, a local resident in Bauchi said that; Usually, people expect the government to review its policies and program on SWM in order to have a clean environment like other states, but BASEPA seems to uphold the old policies which do not stands to fits in the demand of contemporary situation. (Ilelah O.I, 15/10/2019)

Furthermore, Adewole (2009) noted that bribery and corruption have made Lagos and Bauchi states' solid waste management agencies not to offer effective service delivery, as the staff is known to be collecting some amount of money before discharging their responsibilities. He maintained that, in some instances, informal solid waste management actors were demanded to pay some cash as a bribe before they could be allowed to use the government dumpsites, which as a result led to illegal and indiscriminate waste dumping.

Ahmad Muazu Dallari, director Basepa in Bauchi observes that;

Yes, generally all over the world it is a challenge to manage solid waste, so Nigeria is not an exception, and so is Bauchi State, due to the geometric increase in population, the recess in Nigeria and also the case of hostility in the North East. These reasons put together and the indiscriminate disposal

of solid waste is becoming a problem, therefore government need to increase the budgetary allocation to the agency so that we can take care of the looming issues in SWM in Bauchi (Dallari, K.I.I, 08/10/2019).

Roughly, more than four hundred and ninety thousand metric tons of solid wastes are generated within Bauchi city and environs every year (BASEPA, 2013). There has been a series of approaches to SWM, such as the monthly operation keep Bauchi clean, street cleaning exercises and environmental sanitation programs, and mobile courts on environmental sanitation. These programs were in place since the early 1990s during the military era to mid-2000's during the civilian government rule where most of the dump spaces (Bingi) were evacuated by BASEPA, an approach that seemingly assumed like a snail's pace. Ineffective solid waste management strategies, poor policy implementation, lack of political commitment coupled with recent increase in population and improper town planning have become a serious problem to the entire SWM system (Ogwueche, 2013; Bogoro, 2012 and Usman, Sa'adiya, 2017).

4.5 Conclusion

Chapter four presents various actors in solid waste management in Bauchi state, that is, formal private, informal private and unregistered actors between the periods of 1998 to 2015. It notes that despite the state government resources being spent on BASEPA very little success was recorded. The introduction and incorporation of formal private and other unregistered players into the SWM system by the agency also show minimal achievements due to incessant increase in population, maladministration, corruption, military in politics, archaic policies, and politicization of the sector. The chapter also reveals that the conversion of major dump spaces to banks, schools, shopping malls, residential and worship centers within the city wall without reparation were politically motivated.

The chapter establishes that the policies and regulation of BASEPA since its inception have not been reviewed, and that mixed policies of decrees and legislation failed to address the contemporary and emerging issues in SWM. The chapter also reveals that Cosmopolitan Cleaners Company as a major formal private partner to Bauchi state government was contracted to take care of cleaning the major roads in the city, but performed below average, although there has been a problem of underpayment, delay in payment and sometimes delay in renewal of contract agreement. The informal private solid waste management actors who were said to be politically connected such as National Union of Road Transport Workers (NURTW), Ken-Hedges, Talatu Ventures, among others were expected to complement the government and the Cosmopolitan Cleaners Company but restricted their operations in the less populated areas of government quarters (G.R.As) and estates, ignoring the most densely populated areas of the city where the problem is enormous.

Additionally, the findings of the research noted that the principal actors in SWM in Bauchi that is, the state government, Cosmopolitan Cleaners Company Limited and the informal private actors have all dwelled on the management aspect of SWM which is profitable, but none had focus on the root cause of the problem in the entire SWM system in Bauchi city and its environs. Finally, the chapter reveals that overpopulation, unplanned settlement and corruption have been a major hitch to SWM, because most dump spaces were converted to shopping malls, worship centers, schools and banks, leaving populace with no options than to dump their solid waste on the streets and major roads in Bauchi city and its environs. The commons and actor oriented theories shows that human beings lack the knowledge on how to utilize and sustain their environment so that they can live and settle in big cities.

Therefore, all the stakeholders such as the government, community leaders, NGOs, local groups, political parties, private practitioners and environmental civil activists should be involved in SWM decision-making policy.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides a summary of the major findings of the research, the conclusions originating from the findings, and the recommendations, giving suggestions from the findings. The summary covers the earlier chapters of the research, and conclusions are drawn from the research premises in chapter one. Recommendations cover areas that were not fully studied in this research hence they are suggested for further study.

5.1 Summary and Conclusion

This research has examined solid waste management practices from global, regional, continental and Nigeria perspectives. Bauchi city and its environs was chosen because there was little literature on the politics of environment such as political ideas and theories, the stances of both political parties and environmental activists as well as analysis of policy making and implementation affecting SWM 1976-2015. Particularly the population expansion which led to the complete conversion of dump spaces and dumpsites to residential, bank, shopping malls and the like.

In chapter one of this study, the background shows the intensity of the problem affecting solid waste management in Bauchi state and how the successive efforts made to resolve the problem failed. The research also revealed that several studies on solid waste management were carried out but little was done on the politics of solid waste management, particularly on dump spaces and dumpsites in Bauchi city. Similarly, in chapter one, the research objectives, research questions and the research premises of the study were

outlined. Moreover, the research addressed the following questions: What issues affected solid waste management in Bauchi in the period to 1983? What efforts were made by state and non-state actors in solid waste management in Bauchi 1984-1997? What were the politics in solid waste management in Bauchi in the period 1998- 2015?

The limitations section shows that language barrier was a major challenge. Respondents suggested that researchers should always provide interpreters for the smooth conduct of research. Also, the chapter indicates that ethical issues were adhered to because respondents were assured of utmost confidentiality, in that the research was meant for academic purposes only.

In chapter one, the literature reviewed and the theories used show that numerous gaps needed to be filled as far as solid waste management is concerned. The review demonstrates that many studies have been conducted on solid waste management but no single study was carried out on the politics of solid waste management in Bauchi city and environs. The theories that guided this research have been clearly explained in the same chapter. This research is significant because of the scarce scholarly knowledge on environmental politics in the realm of study area. It also contributes to the limited literature on the politics of SWM in Bauchi which have so far, not received serious scholarly attention. Methodologically, this research employed a question guideline and oral interviews as well as focus group discussions to collect primary data. Secondary data was also obtained from published materials.

In chapter two the study reveals that in southern Nigeria, before the coming of the Europeans (1800-1861) land was owned by natives and groups, while in northern Nigeria

‘Gandu system’ was the practice, where land issues were controlled by the chiefs and emirs, although the demand for land was not high. During the colonial period (1861-1900), in southern Nigeria a treaty was signed between the colonialists and the natives. Europeans now had relative control of the land although individual rights still existed. In the northern part of Nigeria, the Royal Niger Company through indirect rule signed agreements with the traditional chiefs and emirs implying that land administration should be controlled by the company. By 1910, all land issues were transferred to the British governor-general who was given the power to revoke any land without compensation. Between 1960-1975, land administration and management were relatively controlled by the natives and chiefs in southern Nigeria but in the north, all land management and administration issues were control by the governors at the state level and their chairmen of local government areas. While chiefs and emirs were made to control the customary issuance of a certificate of occupancy, the state governments controlled the rights of issuance of the statutory certificate of occupancy (C of O).

The chapter demonstrated that from 1976-1979, during the government of colonel Bello khaliel first military governor and the fall of 1979 a civilian governor of Bauchi state Tatar Ali SWM was handled majorly by the government and the community with little issues. Governor of the state was the chief custodian and administrator of land. It was also established that government is the sole actor in SWM in Bauchi state.

The chapter concluded that the military junta has set a pace for communal SWM in Bauchi. this made it easier in managing SM. the chapter also concluded that between 1976-1983 there was no decree/edict, legislation or policy review concerning the allocation of land for SWM in Bauchi city and its environs despite the growing population.

Chapter three explores the politics by state and non-state actors in solid waste management in Bauchi between 1984-1997. It has been noted that 1983-1985 Solid waste management under brigadier Sani Sami's regime Military Governor Bauchi state was well organized. It has demonstrated that SWM completely transferred to special task force on environmental sanitation committee from local government and BSUDB. The committee comprises the police, wai brigade, civilian technocrats and it was headed by senior military officer. The chapter noted that special task force last for ten (10) years uninterrupted. This gave the committee ample time to strengthen SWM in Bauchi city and its environs.

The chapter concluded that special task has gone beyond ten (10) year of operation; it has lasted up to 1997. However, between 1983-1997 there were several changes in government due to military coup. This made it easier for the military to maintain their decree/edict in SWM. The chapter concluded during the military there was little corruption this made it possible for the task force committee to record a tremendous success in SWM in Bauchi city and its environs. Although, the military use their popular adage "Obey before complain" at all the time. The chapter concluded that despite the effort by the military government and the task force committee people are showing lackadaisical attitude in SWM in Bauchi city and its environs. More so, Military decree did not permit or provided any edict for incorporation of private actors into SWM system in Bauchi.

In chapter four, the research focuses on the changes in politics in solid waste management in Bauchi in the period 1997-2015. This period witnessed the establishment of BASEPA as a new institution to replace the special task force committee on environment sanitation in SWM Bauchi. In addition, the chapter noted that multiple non-state actors into SWM system have emerged. The chapter demonstrated that there was a shift in government in

1999 shortly after the establishment of BASEPA. But, the new government have upheld and recognized the agency. The chapter examines the population increase which resulted to unplanned settlement and subsequent lost of dump spaces within Bauchi city and its environs. It also noted that SWM policies were not fully implemented.

Chapter four concludes that SWM in Bauchi was more successful in the military era than the civilian administration. This is evident because of corruption, poor policy making and implementation. Environmental social movement or activists were either silent or pocketed by the government. It also concluded that there is no single legislation on SWM in Bauchi and some of the military decrees and policies were not reviewed by the civilian administration. 1999-2015 has been a consistent civilian administration in Bauchi. Yet, the politicians and political parties are yet to prioritize SWM. The chapter concludes that despite the presence of BASEPA and other multiple non-state actors in SWM in Bauchi. It is evident that SWM has outweighed their capacity.

5.2 Recommendations

Based on the findings, this study makes important recommendations: There should be a holistic and effective policy review in SWM. The programs of SWM in Bauchi state in areas political, social, financial and administrative should be inclusive, not exclusive. The state government as a matter of urgency should also review the land use policy to spell out the allocation of land for dump spaces and dumpsites in Bauchi city and environs and how it should be managed. All the SWM policies, legislations and regulations should be revisited and reviewed; stringent measures should also be taken in enforcing them. Professionals, community leaders, NGOs, youth leaders, traditional rulers, individuals,

corporate entities, business people, businesswomen, community-based organizations, should be formally incorporated as actors in the SWM system in Bauchi. All the informal and unregistered SWM actors should be formalized. The government should establish solid waste management research institutes to enhance services in the sector. Government should keep an eye on SWM system to eschew Corruption. Political parties should include SWM as part of their manifesto in order to save the environment and the society.

Finally, solid waste management education should be introduced in the educational curriculum, from nursery, primary and secondary schools in Bauchi state and Nigeria as a whole.

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3.	Tanko Isa	Basepa Staff	20/09/2019
4.	Sani Sambo	Former politician in Bauchi	21/09/2019
5.	Simon Zango	Local Resident in Bauchi	22/09/2019
6.	Jacob Ali	Trader from yelwa in Bauchi	23/09/2019
7.	Sani Gwallaga	Youth leader in Bauchi	25/09/2019
8.	Sulaiman Wunti	Expert in Bauchi	27/09/2019
9.	Ado Zakari	Expert in Bauchi	28/09/2019
10.	Bako Abdullahi	Ilelah in Bauchi	29/09/2019
11.	Isa Hardo	Community Leader in Bauchi	01/10/2019
12.	Nurudeen Ahmad	Expert in Bauchi	02/10/2019
13.	James Yakubu	NGO Expert	02/10/2019

14.	Nurudeen Ahmad	Expert in Bauchi	04/10/2019
15.	FGD	Elderly Lady in Bauchi	05/10/2019
16.	Sulaiman Habu	Expert in Bauchi	05/10/2019
17.	Ahmad Muazu Dallari	Director Basepa	06/10/2019
18.	Ajiya Daudu	FGD in Bauchi	07/10/2019
19.	Ahmad Muazu Dallari	Director Basepa	08/10/2019
20.	Isyaka Baba	Expert in Bauchi	10/10/2019
21.	Musa Umar	Trader in Bauchi	12/10/2019
22.	Muazu Dangari	Expert in Bauchi	14/10/2019
23.	Danlami Ilelah	Local Resident in Bauchi	15/10/2019
24.	Mustapha Idris	Expert from Railway in Bauchi	16/10/2019
25.	Umar Musa Ado	Ttrader in Bauchi	17/10/2019
26.	Sagir Bello	Elderly Retiree FGD in Bauchi	18/10/2019
27.	Dandada Ahmadu	Community Leader in Bauchi	19/10/2019
28.	Maryam Sani	Elderly Lady in FGD in Bauchi	20/10/2019

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GLOSSARY

Bola-Jari: These are scavengers, usually boys between the age of 5 to 12 years, who move around from house to house, dump space to dump space searching and sorting solid waste for sale.

Bingi: This is a solid waste collection center also known as dump space.

Dogari : Traditional ruler's palace police men.

Ganuwa: Ancient or traditional wall that surrounded ancient cities in Hausa land, northern Nigeria.

Dungulbi: This is the biggest dumpsite of Bauchi city.

Appendix I:

INTERVIEW GUIDE FOR THE PARTICIPANTS OF BAUCHI STATE ENVIRONMENTAL PROTECTION AGENCY (BASEPA), COMMUNITY LEADERS AND LOCAL INHABITANTS.

1. How can you describe the way SWM was handled before the creation of Bauchi state 1976?
2. Who are the actors in SWM in Bauchi during 1976?
3. How did land was administered in respect to SWM in Bauchi city and its environs?
4. What can you say about SWM under the new civilian administration of governor Tatar Ali of Bauchi state from 1979-1983?
5. What are the differences and similarities between the first military governor of Bauchi state in 1976 and the civilian governor of 1979 for handling SWM?
6. What are reasons for population expansion in Bauchi city and its environs between 1976-1983 and how does it affect SWM?
7. Are there measures taken by the previous governments to overcome the population influx into Bauchi city and its environs?
8. How effective SWM was during the first two past administrations in Bauchi between 1976-1983?

Appendix II:

INTERVIEW GUIDE FOR THE PARTICIPANTS OF BAUCHI STATE ENVIRONMENTAL PROTECTION AGENCY (BASEPA), COMMUNITY LEADERS, LOCAL INHABITANTS AND NGOS.

1. 1983-1985 was an era of the military. How can you compare SWM with the previous regime and administration?
2. Are there new SWM policies and programs under the leadership of military governor sani sami of Bauchi state between 1983-1985?
3. For how long does special task force on environmental sanitation committee last in Bauchi state?
4. How successful the task force committee is in SWM in Bauchi city and its environs?
5. Are the functions and compositions of the special task force on environmental sanitation committee in Bauchi city and it's environ?
6. Are there any protests or rebellion faced by the task force committee in Bauchi city and its environs during the period under review?
7. Between 1985-1997 there was another military coup in Nigeria. New military governor has emerged in Bauchi state, are there shift or changes in SWM in Bauchi city and its environs?
8. What role did war against indiscipline and corruption and the WAI brigade played in SWM in Bauchi city and its environs under the new military governor?
9. 1994 was another year of military coup which brought General Sani Abacha into power and colonel Adisa Raji military governor Bauchi state. How can you described SWM under their regime?

10. Generally, how did the military regimes differ from civilian administration in handling SWM in Bauchi city and its environs?

Appendix III:

INTERVIEW GUIDE FOR THE PARTICIPANTS OF BAUCHI STATE ENVIRONMENTAL PROTECTION AGENCY (BASEPA), FGD, PRIVATE WASTE ACTORS, LOCAL INHABITANTS AND NGOS.

1. 1997 was the year when the Nigerian military president died in power. What happened to SWM afterward in Bauchi city and its environs?
2. What are the roles played by the NGOs in SWM in Bauchi city and its environs?
3. Why are there multiple non-state actors in SWM in Bauchi city and its environs especially from the year 2000 to date?
4. How successful is the presence of multiple actors in SWM in Bauchi city and its environs?
5. BASEPA was created in 1997 and came into operation in 1998. How can you assess its performance?
6. How can you compare and contrast between special task force on environmental sanitation committee with BASEPA under the military regime and civilian administration?
7. As a private waste actor, what are your challenges in SWM in Bauchi city and its environs?
8. Why are there indiscriminate dumping of SW in major streets of Bauchi city and its environs in recent years unlike before?
9. What are the roles played by political parties and environmental civil societies in addressing the challenges of SWM in Bauchi city and its environs?
10. From 1997- 2015 there were significant population increase in Bauchi city and its environs. How did cope with SWM?

11. Finances have been the bedrock of any organization. How did BASEPA cope with multiple issues such as the incorporation of multiple private waste actors into SWM system in Bauchi city and its environs?
12. Community leaders are part of the actors in SWM in Bauchi city and its environs. What role have they played in addressing SWM challenges?
13. The biggest dump space (Jakara) at the heart of Bauchi city has been converted to shopping mall and a bank without alternative dump space despite the public outcry. What went wrong?

Appendix IV: Research Budget

ACTIVITY	QUANTITY	COST	TOTAL COST
Transport	9	4,000	36,000
Research assistants	4	20,000	80,000
Thesis preparation	1	30,000	30,000
Miscellaneous	1/flash and miscellaneous	30,000	30,000
Grand Total	-	-	176,000 kshs

Appendix V: Work Plan

Activities	2016	2017	2017	2019	2019
Proposal preparation	■				
Proposal writing		■			
Proposal Defense			■		
Data collection, analysis and research report preparation				■	
Report writing, submission and final defense					■

Appendix VI: Acknowledgement Letter

KU/GS/ARRP/1



KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: kubps@yahoo.com
dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 020-8704150

Internal Memo

FROM: G.S DATE: 08/08/2019

TO: Name: SAIDY OMAR MOHAMED

eg. No. CSOF/33279/2014

Department: HISTORY, ARCHAEOLOGY & POLITICAL STUDIES

SUBJECT: ACKNOWLEDGEMENT OF RECEIPT OF RESEARCH PROPOSAL

This is to acknowledge receipt of your Research Proposal for your Masters/Ph.D programme.

You will soon be informed of the Graduate School Board Decision, once your Research proposal is considered.

Thank you.

J.N.M. ODONGI
R: DEAN, GRADUATE SCHOOL

Chairman, Department of: _____

Appendix VII: Approval Letter



KENYATTA UNIVERSITY GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 020-8704150

Website: www.ku.ac.ke

Internal Memo

FROM: Dean, Graduate School

DATE: 10th September, 2019

TO: Mr. Saidu Umar Mohamed
C/o Department of History, Archaeology
& Political Studies

REF: C50F/33279/2014

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

=====
This is to inform you that Graduate School Board, at its meeting on 4th September, 2019, approved your Research Proposal for the M.A. Degree entitled, "Politics of Solid Waste Management in Bauchi State, Nigeria, 1976-2015."

You may now proceed with your Data collection, subject to clearance with the Director General, National Commission for Science, Technology & Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

HARRIET SABOKI
FOR: DEAN, GRADUATE SCHOOL

CC. Chairman, History, Archaeology & Political Studies Department

Supervisors:

1. Dr. Peter Wafula Wekesa
C/o History, Archaeology & Political Studies Dept.
Kenyatta University
2. Dr. Susan W. Mwangi
C/o History, Archaeology & Political Studies Dept.
Kenyatta University

Appendix VIII: Authorization Letter



**KENYATTA UNIVERSITY
GRADUATE SCHOOL**

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100

NAIROBI, KENYA

Tel. 020-8704150

Our Ref: C50F/33279/2014

DATE: 10th September, 2019

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,


**RE: RESEARCH AUTHORIZATION FOR MR. SAIDU UMAR MOHAMMED
REG. NO. C50F/33279/2014**

I write to introduce Mr. Saidu Umar Mohamed who is a Postgraduate Student of this University. He is registered for M.A. degree programme in the **Department of History, Archaeology & Political Studies**.

Mr. Mohamed intends to conduct research for a M.A. thesis Proposal entitled, **“Politics of Solid Waste Management in Bauchi State, Nigeria, 1976-2015.”**

Any assistance given will be highly appreciated.

Yours faithfully,


PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL

PH/10/001

Appendix IX: BASEPA Approval Letter

SECRET

**BAUCHI STATE ENVIRONMENTAL
PROTECTION AGENCY
(BASEPA)**

No 4 GRA Sokoto Road
P.O. Box 195, Bauchi
Tel: (077) 542721
Fax: (077) 542721

Our Ref: HAS/EPA/ADM/XXX

Your Ref: _____ Date: 16th Sept, 2019

The Dean Postgraduate School,
Kenyatta University,
Kenya.

**APPROVAL IN-RESPECT OF SA'IDU UMAR MUHAMMED TO
UTILIZED SOLID WASTE MANAGEMENT FACILITIES FOR
RESEACH PURPOSE**

The Agency [BASEPA] is receipt of your request to conduct research on "Politics of solid waste Management in Bauchi State, Nigeria from 1975 to 2015". Considering the importance of these research work attached the knowledge and lesson to be learn, the Bauchi state Environmental Protection and Conservation Agency has approved your request.

Therefore, you are granted permission to use the Agency** solid waste management facilities for your data collection and processing.

Accept the esteem regards of director general, please.


AHMED MUAZU DALLARI
FOR : DIRECTOR GENERAL

SECRET