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Mulling Over Local Enforcement of Anti-Littering Regulations in the Gambia: A Case Study of Brikama Area Council

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Abstract

This study identified the strategies put in place for local enforcement of the Anti-littering Regulations, assessed their effects and investigated the challenges confronting the enforcement in The Gambia with specific reference to Brikama Area Council. Primary data were collected using questionnaire and in-depth interview. Data were analyzed using descriptive statistical methods which include the use of frequency distribution and percentages. Findings revealed that the variables of the research have been agreed upon as the strategies put in place by local government in the enforcement of the anti-littering regulations in The Gambia. Findings also revealed that the strategies have positive effects on the enforcement of the regulations despite a number of challenges being faced. The study rejected the null hypothesis and accepted the alternative one, that local enforcement has a positive effect on Anti-Littering Regulations in The Gambia. The study concluded that although the LGA is not given the full authority to enforce the anti-littering regulations, it has put in place strategies that have allowed it to modestly manage and cope with the daily generation and littering of waste.

Keywords: *Local Government, Waste management, Waste collection, Anti-littering regulations*

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Background to the Study

Waste management is a problematic feature of urbanization all over the world. It remains one of the most pressing challenges that confront municipal councils especially those in the urban areas (GoTG, 2015). To Philipp (2021), the expansion of urban population, coupled with the high rate of consumption of industrial goods, and the broadening of the solid waste stream, escalated solid waste characterization, expanded forms of waste collection, the justification of recycling sites, and intensifying the search for more effectual forms of waste collection and disposal methods regarding waste management regulations and the environment. The Gambia, like many other countries especially in Sub-Saharan Africa, is grappling with the growing environmental problem of the daily generation and management of solid waste. The need to manage this waste effectively is undoubtedly a major issue, especially for the city and town dwellers. Although the government has put in place an anti-littering law in the country, however, waste collection and dumping in The Gambia continue to present some critical challenges (GoTG, 2015).

The Gambia is described to be one of the dirtiest countries in the world (Camara II, 2021), and there is enormous laxity in the enforcement of the law regulating waste management in the country. While improper waste management can be attributed to a number of factors, Dibba (2016) intimates the lack of proper final disposal sites, insufficient equipment for collection, storage, and transportation, and the low awareness level of waste collectors and that of the people that generate the waste, as some of the features that influence poor waste management in The Gambia, especially in the urban settlements.

Landfills are becoming the most popular form of large-scale solid waste disposal in The Gambia (Siegelman, 2014). Close to 500 tons of waste is generated and collected every day in the Greater Banjul Area, and these are mostly taken to a vast unregulated dumpsite usually within a residential community where there is no known leachate control or landfill gas removal. Thus, waste is left to rot, or oftentimes nearby communities are exposed continuously to toxic smoke from the burning rubbish (Hunt, 2015). The Bakoteh dumpsite, for instance, Hunt noted, is an open-pit mine that is situated in the center of Serekunda, one of the busiest urban sites in The Gambia, where waste is indiscriminately littered about, thus causing serious impact to the environment and constant threat to the health of the population.

Former President Jammeh's passionate commitment to a waste-free country and subsequent introduction of "Operation Clean the Nation", locally known as "Set-Setal", coupled with the ban on plastics and his continuous push to have legislation on waste management are said to be efforts that culminated in the enactment of the Anti-Littering Regulation (Dibba, 2016). Anti-littering regulation is a law that was enacted in The Gambia in 2007. The law derives its authority from section 46 of the Waste Management Act 2007. The main intent of the regulations is to make The Gambia a litter-free country, most especially on public roads and public places such as markets and car parks. As per section 15 of the Act, Local Government Administrations across the country are vested with the authority to implement the letter and spirit of the regulation. The law empowers a local authority to ensure that each public road or area within its jurisdiction is, so far as it is possible and practicable, kept free of litter and waste

by providing receptacles or waste bins across public places to facilitate the easy deposit, collection, transportation and overall management of waste.

Following the enactment of the law, the National Environment Agency (NEA) published a notice, detailing a ray of fines on offenders of the Regulation. The notice also apprised the public of the establishment of Special Magistrate Courts to try offenders. The fines are enumerated against the offences as presented in the table below.

Table 1: Anti-Littering offences and fines

S/No.	Offences	Fines
1.	Throwing of any litter from motor vehicles in the streets and along highways (**driver is held responsible**)	D1,000 – D5,000
2.	Spreading of litter by all waste collectors	D5,000 – D30,000
3.	Failure to keep the perimeter fence of one's property clean	D1,000 – D5,000
4.	Throwing of any litter or waste into public drain or gutter	D1,000 – D5,000
5.	Discharge of any form of liquid waste from one's property onto the public street or any gutter/public drain	D1,000 – D5,000
6.	Dumping of waste in vacant plots or properties	D1,000 – D5,000
7.	Throwing of any litter in public places	D1,000 – D5,000
8.	Littering by street vendors/sellers/shopkeepers	D1,000 – D5,000
9.	Failure to keep one's area of business clean	D1,000 – D5,000
10.	Urinating in the street or undesignated areas	D1,000 – D5,000
11.	Construction of soak ways or septic tanks in a public street/area	D1,000 – D5,000

Source: National Environment Agency (2007)

To this end, the focus of this study is to identify the strategies being used by local governments in enforcing anti-littering regulations; assess the effects of same, and investigate the challenges confronting local enforcement of the regulations in The Gambia with specific reference to Brikama Area Council (BAC).

Conceptual Review

Local Government

Thapa (2020) describes local government as a government body that is elected by the people, and as such, exercises administrative, legislative, and executive authority over the territories under its jurisdiction. Dugger (2021) defines it as the public administration of towns, cities, counties, and districts, emphasizing that local government includes both municipal and county government structures. Thapa (2020) considers local government as an authority that decides or determines certain measures within an administrative area. This submission resonates with the definition offered by Ray (2017) which suggests that local government is an entity that is vested with the legitimate authority to determine and execute measures within a specified area (locality).

In any country, local governments can be considered as specific entities at the sub-national level that are created by national or sub-national laws or statutes, and thus forms part of the

overall local governance system. By law, local government executes its mandate for local governance in accordance with the authority delegated to it by the country's parliament. Thapa (2020) opines that local government is the kind of government that does the so-called "housework" so that living in these areas could be affordable for its residents, and that it achieves this by keeping the roads clean, investing in children's education, leading in residential housing construction etc.

Judging by its nature, local government has three basic characteristics, which eventually define its role into executive, legislative and judicial. The executive role of local government is to effect, monitor, and supervise the execution and implementation of government programmes and policies. The legislative role of local government includes making the necessary by-laws, directives, and other plans and policies, and validating such plans, policies, and programmes of the local government. The third is the judicial role which ensures that there is increased access to the justice system of the country for the local people, effectively and efficiently minimizing petty disputes at the local level and encouraging the use of alternative dispute resolution structures to resolve such petty disputes (Thapa, 2020).

Local Government Administration and what obtains in The Gambia

Local government administration is the management and administration of local government affairs. It is also an instrumental process designed for the purpose of realising certain objectives of the local government as enshrined in the Constitution. This involves formulation and implementation of comprehensive programmes, projects and policies to deal with local issues for the benefits of the residents in terms of their well-being. This can be in terms of improving public safety, addressing poverty issues, protecting local environment, and improving access to primary healthcare and primary education, among others. Local government administration in The Gambia can be traced to the late 1980s when the government initiated a decentralization programme in the country. The initiative was explicitly expressed in the 1997 Constitution, which provided for the decentralization and devolution of government functions. This was considered a huge step forward that resulted to the promulgation of the Local Government Act in 2002 (Alam, 2009). While Section 192 of the Constitution establishes each of the local governments through a boundary demarcation by the Independent Electoral Commission, section 193 states that "local government administration in The Gambia shall be based on a system of democratically elected councils with a high degree of local autonomy." This means that local authorities shall be accorded, as much as the law requires, a certain degree of autonomy and freedom from executive control in its operations. Section 10(1) of the Local Government Act, 2002 reiterates the establishment of a Council for each Local Government Area.

The LG Act provides for one City Council, one Municipal Council, and six Area Councils in the country. The City Council (Banjul) and Municipal Council (Kanifing), are headed by Mayors while the Area Councils (Brikama, Mansakonko, Kerewan, Janjanbureh, Kuntaur, and Basse) are each headed by a Chairperson. Each of the Municipalities or area Councils is divided into wards and each ward is headed by a Councilor. The Mayor, Chairperson, and Councilors are all elected by people living in the concerned areas in accordance with the LG

Act. The Chairpersons (or Mayors) and Councilors work through specialized committees such as health, agriculture, environment, education, youth, women and children, and sports and culture (Sowe, 2017).

Waste Management

Solid Waste

The concept of solid waste has different interpretations. However, there is convergence in opinions as regards the generation of solid waste from residential, commercial, and industrial activities in an area. As LeBlanc (2020) puts it, solid waste refers to the amount of garbage materials—arising from animal and human activities—that are discarded as useless, and therefore, unwanted. Negative environmental impacts can be easily observed everywhere in the developing world, emerged as a result of improper solid waste damps and dumping (Ejaz, Akhtar, Nisar & Naeem, 2010). The United States Environmental Protection Agency (EPA) (2021) defines solid waste to mean any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, resulting from industrial, commercial, mining, and agricultural operations, and from community activities. The India Water Portal (2020) categorizes solid waste based on three distinct features: origin (whether domestic, industrial, commercial, construction, or institutional); contents (whether organic material, glass, metal, plastic paper, etc); and hazard potential (whether toxic, non-toxic, flammable, radioactive, infectious etc).

Liquid Waste

The European Environment Agency (2014) describes liquid waste to consist of sewage and domestic wastewater or processed water, or other liquids produced by industrial activity. According to the 2007 Anti-Littering Regulation of The Gambia, wastewater that flows from the bathroom or a laundry water that is deliberately poured or made to flow onto a public street/road constitutes a violation and it is a chargeable offense. In the context of the law, wastewater can therefore be considered as liquid waste. The United Nations estimates that about 80% of wastewater returns to the ecosystem without being treated or reused, and that every year, about 297,000 children under the age of five years die from diseases connected to poor sanitation, poor hygiene, or unsafe drinking water (Smith, 2020). Smith reveals that worldwide, around 2 billion people use at least a source drinking water that have fecal contaminants, emphasizing that contaminated water can harbor bacteria, such as those responsible for diarrhea, cholera, dysentery, typhoid, hepatitis A, and polio.

Waste Generation

Simply put, waste generation refers to the amount of waste produced by a given society. Waste generation is closely linked to the level of economic activity in a country and reflects society's production and consumption patterns (un.org., 2017). Also, the amount of people living in a given area determines the level and quantity of waste that they generate. Thus, the volume of waste that is generated in the urban settlements such as cities and towns where there are more economic activities cannot be compared to those produced in villages. This is corroborated by Sharma & Jain (2020) who contend that due to increasing population and prosperity, the generation rate of municipal solid waste has increased significantly, resulting in serious

problems on public health and the environment, adding that every single person in the world is affected by the municipal waste management issues.

Theoretical Framework: Efficiency Theory

This study is anchored on the efficiency theory of local government. The main proponent of this theory is Charles M. Tiebout, who introduced the concept in his 1956 article "A Pure Theory of Local Expenditures". The crux of the efficiency services theory is that the fundamental purpose of local government is to provide services to the local people (Majekodunmi, 2012). The scholars of this theory are of the view that the local government occupies the best position for the efficient performances of certain functions. This is made possible because of its closeness to the people, and the small size of the population. Although Brikama Area Council is the largest local government in the country, administering such an area would not still be compared to administering a whole country. The theory argues that what is central and important to the people is the knowledge and articulation of the problem confronting them and finding appropriate solutions to the problems (Bayo, 2020). And this is possible because the local government is much closer to the local people than the central government.

As Majekodunmi indicates, the local government does exist to promote the interests and aspirations of the people for better and more efficient services. However, from the opinions expressed by the efficiency-services school, the appropriate functional focus of local government should be to provide services, and its success or failure has to be judged by this responsibility. These services that the local government provides are numerous and varied. The theory is concerned that services must not just be provided but must be done with efficiency and effectiveness. Among such services that the LGA can provide include waste collection and management to ensure that the people live in a waste-free environment. Thus, the size of an LGA and the resources accorded to it to carry out its programmes and activities determine to a great extent the quality and timely delivery of its services. The efficient implementation of the anti-littering regulations requires the provision of cleansing materials and equipment as well as adequate protective gears and vehicles so that waste is not only collected and gathered at undesirable places but also transported for dumping at the required designated places. To have efficient services delivered in terms of waste collection and disposal within Brikama LGA requires that there is the provision of enough financial, material, and human resources to facilitate the collection of waste, and to also ensure that the process is being effectively monitored for efficiency of the service.

Methodology

Research Design

A descriptive research design was used for the study to collect data from authorities at the Ministry of Environment, Climate Change and Natural Resources, National Environment Agency, and Brikama Local Government Area using interview method; distribution of questionnaires among the waste collectors and supervisors, councilors, village heads (Alkalos), Chiefs and Executive members of the WDCs of the study area, and observation. The result was analyzed and presented to determine the level of implementation and enforcement of the Anti-Littering Regulations by the LGA.

Area of Study

Of the eight Local Governments in The Gambia, Brikama Area Council is one of the largest and most densely populated, comprising urban and rural settlements with varied levels of development, and therefore, varied needs and challenges (BAC Strategic Plan 2020-2024). The council is mandated by an Act of Parliament (Local Government Act, 2002) to be the tax authority of the region, and to manage and implement programmes for the betterment and social upliftment of its inhabitants. Section 90 of the Local Government Act, 2002 provides that:

> *"Every Council shall be the planning authority for its Area and may plan and implement any programme or project for developing the infrastructure, improving social services, developing human and financial resources and for the general upliftment of the community".*

Brikama Area Council makes up the West Coast Region. This area is also referred as Region II or Brikama Administrative Area. West Coast Region is located on the western part of The Gambia with an area population of 699,704 people and a total area of 1764.3km^2 (BAC Strategic Plan, 2020-2024). Brikama Town is the administrative seat of Brikama Area Council. The population of the LGA represents about 38 percent of the total population of The Gambia, with Kombo North, Kombo South and Kombo Central accounting for 18.7 percent, 5.9 percent and 7.7 percent of the country's population respectively (BAC Strategic Plan, 2020-2024). The LGA is divided into 9 administrative districts each headed by a Chief, 12 electoral constituencies each headed by a National Assembly Member and 28 Wards each headed by an elected councilor. The council is bordered with Kanifing Municipal Council on the west and Mansakonko Area Council on the middle eastern part of the country, with Cassamance on its south and River Gambia on its northern fringes, separating it from Kerewan Area Council in the North Bank Region.

Population of the Study

The total working population of this study is seven hundred thousand, three hundred and twenty (700,320). This comprised the senior and middle management staff of the Ministry of Environment, Climate Change and Natural Resources, senior and middle management staff of the National Environment Agency, district chiefs, village heads (alkali), Ward Development Committees (WDCs) and the entire population of Brikama Area Council. It was confirmed during a pre-field visit that there are twenty five (25) senior and middle management staff of the Ministry of Environment, Climate Change and Natural Resources, fifteen (15) management staff (executive director, deputy and three (3) supporting Directors, 2 Program Managers and 8 Senior Program Officers) of the National Environment Agency, nine (9) district chiefs, three hundred and forty three (343) village heads (alkalos), twenty eight (28) Ward Development Committees (WDCs) with two hundred and twenty-four (224) members and the entire population of Brikama Area Council which is six hundred and ninety nine thousand, seven hundred and four (699,704) based on GBoS (2013) census figure. The total working population is shown in the table below.

Table 2: Showing Total Working Population

Respondents	**Population**
Senior and middle management staff of the Ministry of Environment, Climate Change and Natural Resources	25
Senior and middle management staff of the National Environment Agency	15
The entire population of Brikama Area Council of The Gambia	699,704
District chiefs	9
Village heads (Alkalos)	343
Members of Ward Development Committees (WDCs)	224
Total Working Population	**700,320**

Source: Fieldwork (2022).

Sampling Techniques and Sample Size

To carry out this study, multistage sampling technique was adopted. First, the stratified sampling technique was used and the Ministry of Environment, Climate Change and Natural Resources, National Environment Agency, district chiefs, village heads (alkalos), Ward Development Committees (WDCs) and the entire population of Brikama Area Council were observed as individual strata. Secondly, the proportion to size sampling technique was used to determine the number of respondents in each stratum with regards to their respective population. Lastly, the simple random sampling technique was then used on each stratum with regards to the distribution of questionnaire to each respondent as shown in table 3 below. The population of the study was seven hundred thousand, three hundred and twenty (700,320), of which four hundred (400) were sampled using Taro Yamane (1967) formula. This was calculated thus:

$$n = \frac{N}{1+N(e)^2}$$

n = Sample Size

N= Population size

1= Constant

e= level of precision or tolerance level (=0.05 at 95% confidence level)

$$n = \frac{700,320}{1+ 700,320 \times (0.05)^2}$$

$$n = \frac{700,320}{700,321 \times 0.0025}$$

$$n = \frac{700,320}{1750.8025}$$

n = 399.9994288333492 (approximately 400).

This is distributed proportionally as follows: fourteen (14) middle and senior management staff of the Ministry of Environment, Climate Change and Natural Resources, ten (10) senior and middle management staff of the National Environment Agency, six (6) district chiefs, one hundred and eighty (170) village heads (alkali), eighty four (84) Ward Development Committee members (WDCs) and one hundred and sixteen (116) entire population of BAC (including top and middle management, councilors among others).

Table 3: Sampled Respondents

Category of Respondents	Population	Number Sampled
Senior and middle management staff of the Ministry of Environment, Climate Change and Natural Resources	25	14
Senior and middle management staff of the National Environment Agency	15	10
The entire population of Brikama Area Council of The Gambia (including top and middle management, councilors among others)	699,704	116
District chiefs	9	6
Village heads (Alkalos)	343	170
Members of Ward Development Committees (WDCs)	224	84
Total	**700, 320**	**400**

Source: Fieldwork (2022)

Data Presentation, Analysis and Discussions

This section is treated in the following sequence: social demographic characteristics of respondents, data presentation on research issues, test of hypothesis, and discussion of finding. A total of four hundred (400) copies of questionnaire were administered for the study. Of this number, three hundred and eighty-four (384) copies (representing 96%) were retrieved, and sixteen (16) copies were missing indicating the balance of 4%.

Socio-Demographic Characteristics of Respondents

This section covers the background information of the respondents in order to highlight the quality of the source of information. As a way of boosting the confidence of respondents in the confidentiality of the research, information such as names and telephone numbers were not taken. Our focus was on the gender, age, marital status, highest level of educational qualification, and position of the respondents.

Distribution of the Respondents by Sex

The data gathered on distribution of respondents by sex as in table 4 shows that 257 respondents (66.9%) were male while 127 respondents (33.1%) were female. The higher percentage of men over women showed that there were more men than women in the survey.

Table 4: Frequency Distribution of Respondents by Sex

Gender	Frequency	Percent
Male	257	66.9
Female	127	33.1
Total	**384**	**100.0**

Source: Fieldwork (2022)

Distribution of the Respondents by Age

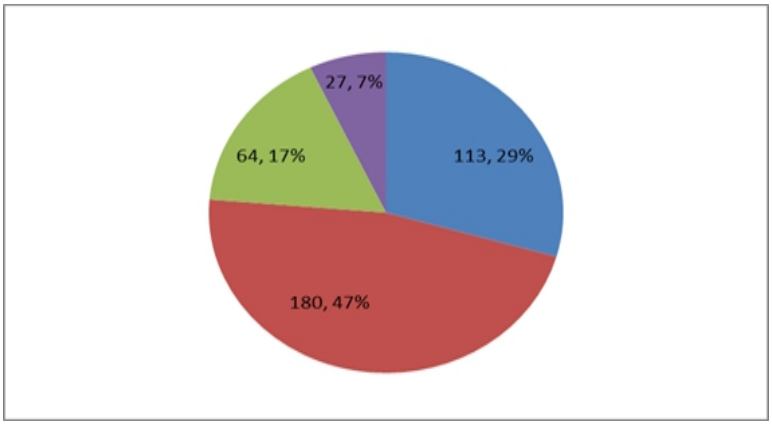
Table 5 shows the category of respondents by age. The result of the analysis indicated that 113 respondents (29.4%) were between the age ranges of 15-30 years, 180 respondents (46.9%) were between the age ranges of 31-55 years, 64 respondents (16.6%) were between the age range of 56-70 while 27 respondents (7.1%) were between the age ranges of 71and above years. This is illustrated below.

Table 5: Frequency Distribution of Respondents by Age

Age	Frequency	Percent
15-30	113	29.4
31-55	180	46.9
56-70	64	16.6
71 and above	27	7.1
Total	**384**	**100.0**

Source: Fieldwork (2022)

Figure 1: Frequency Distribution of Respondents by Age



Source: Fieldwork (2022)

Distribution of Respondents by Marital Status

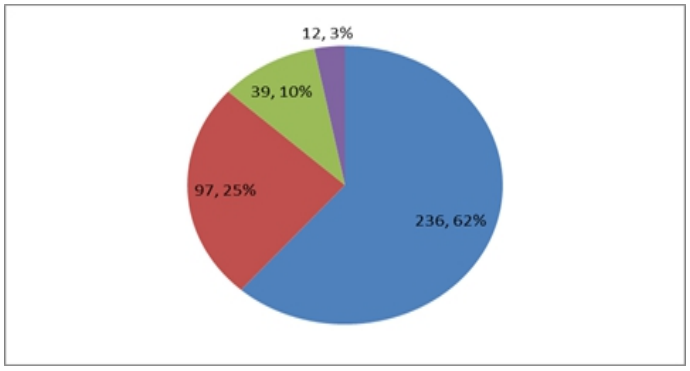
Table 6 below shows the category of respondents by marital status. The result of the analysis indicated that 236 respondents (53.9%) were married, 97 respondents (30.2%) were single, 12 respondents (3.7%) were widows/widowers, while 39 respondents (12.1%) were divorced.

Table 6: Frequency Distribution of Respondents by Marital Status

Marital Status	Frequency	Percent
Married	236	53.9
Single	97	30.2
Widow/Widower	12	3.7
Divorcee	39	12.1
Total	**384**	**100.0**

Source: Fieldwork (2022)

Figure 2: Frequency Distribution of Respondents by Marital Status



Source: Fieldwork (2022)

Distribution of Respondents by Highest Educational Qualification

Table 7 shows the category of respondents by their educational qualification. The result of the analysis indicated that 131 (34.1%) have a Diploma or its equivalent in various fields, 52 (13.5%) 11 (2.9%) and 1 (0.3%) have a bachelor's, master's and PhD degrees respectively, and others (49.2%) have qualifications that are not listed. This is illustrated below.

Table 7: Distribution of Respondents by Highest Educational Qualification

Educational Qualification	Frequency	Percent
Diploma/HND	131	34.1
BSc/BA	52	13.5
MSc/MA	11	2.9
PhD	1	0.3
Others	189	49.2
Total	**384**	**100.0**

Source: Fieldwork (2022)

Distribution of Respondents by Position/Cadre

Table 8 shows the category of respondents by position/cadre. The result of the analysis indicated that 14 respondents (3.6%) held senior and middle management position in the

Ministry of Environment, Climate Change and Natural Resources; 10 respondents (2.6%) held middle and senior management position in National Environment Agency, 107 respondents (27.9%) held top and middle management, councilors among others positions in Brikama Area Council of The Gambia, 6 respondents (1.6%) held district chief position in West Coast Region, 168 respondents, (43.8%) held village heads (Alkalos) positions while 79 respondents (20.5%) held membership positions in Ward Development Committees (WDCs). This is illustrated below.

Table 8: Distribution Respondents by Position/Cadre

Position/ Cadre	Frequency	Percent
Senior and middle management staff of the Ministry ofEnvironment, Climate Change and Natural Resources	14	3.6
Senior and middle management staff of the National Environment Agency	10	2.6
Brikama Area Council of The Gambia (including top and middle management, councilors among others)	107	27.9
District chiefs	6	1.6
Village heads (Alkalos)	168	43.8
Ward Development Committees (WDCs)	79	20.5
Total	**384**	**100.0**

Source: Fieldwork (2022)

Data Presentation on Research Issues

The strategies put in place by Brikama Area Council to enforce the implementation of the Anti-Littering Regulations

Table 9 below shows the respondents' views on the strategies being used by BAC in enforcing anti-littering regulations in The Gambia. A total of 237 respondents (61.7%) strongly agreed and agreed that communities are being sensitized by the Brikama Area Council on the anti-littering regulations, 20 respondents (5.2%) were undecided and could not comment while 127 respondents (33.1%) disagreed and strongly disagreed with the viewpoint. This implies that majority of the respondents are of the viewpoint that communities are being sensitized by the local government council on the anti-littering law.

On whether communities are involved in waste collection within the area council, 295 of the respondents (76.8%) strongly agreed and agreed that communities are involved in waste collection within the local government council, 17 respondents (4.4%) were undecided while 72 of the respondents (18.8%) disagreed and strongly disagreed with the viewpoint. This implies that communities are involved in waste collection in Brikama Area Council. When asked if local government council solely determines when and how waste is being collected within the communities, 222 of the respondents (57.9%) strongly agreed and agreed that local government council solely determines when and how waste is being collected within the communities, 15 respondents (3.9%) were undecided and could not comment while 147 respondents (38.3%) disagreed and strongly disagreed with this position. This implies that Brikama Area Council solely determines when and how waste is being collected within the communities within its jurisdiction.

Majority of the respondents (255), representing 66.4%, strongly agreed and agreed that there is a regular and consistent waste collection schedule by the council; 53 respondents (13.8%) were undecided while 76 respondents (19.8%) disagreed and strongly disagreed with the viewpoint. Therefore, it follows that there is a regular and consistent waste collection schedule by the council in the area of study.

On whether the community is responsible for collecting and disposing its own waste, 106 of the respondents (27.6%) strongly agreed and agreed that the community is responsible for collecting and disposing its own waste, 20 respondents (5.2%) were undecided while 258 respondents (67.2%) disagreed and strongly disagreed with the viewpoint. This implies that the community is not totally responsible for collecting and disposing its own waste. In the same vein, on whether community policing have been introduced to help monitor the enforcement of the anti-littering regulations, 216 respondents (56.2%) strongly agreed and agreed that community policing introduced has been active in monitoring the implementation of the anti-littering regulations, 25 respondents (6.5%) were undecided while 143 respondents (37.2%) disagreed and strongly disagreed with the statement. This connotes that majority of the respondents are of the opinion that community policing has been active in monitoring the enforcement of the anti-littering regulations.

On whether people have been reprimanded for breach of the anti-littering regulations, 220 respondents (57.3%) strongly agreed and agreed that people have been reprimanded for breach of the anti-littering regulations in the area, 55 respondents (14.4%) were undecided and could not comment while 109 respondents (28.3%) disagreed and strongly disagreed with the viewpoint. This implies that people have been reprimanded for breach of the anti-littering regulations in the area.

Most of the respondents (225), representing 58.6%, strong agreed and agreed that ward development committees are active in the enforcement of the anti-littering regulations in the area, 20 respondents (5.2%) were undecided while 139 respondents (36.2%) disagreed and strongly disagreed with the statement. This implies that ward development committees are active in the enforcement of the regulations.

Lastly, when the question whether councillors and ward development committees are actively involved in the collection and management of waste, 275 of the respondents (71.6%) strongly agreed and agreed that councillors and ward development committees are actively involved in the collection and management of waste in the area. 16 respondents (4.2%) were undecided and could not comment while 93 respondents (24.2%) disagreed and strongly disagreed with the viewpoint. This implies that councillors, together with members of their ward development committees are actively involved in the collection and management of waste in the area.

The grand mean was 4.29. This is a sign that responses tend towards the "agreed" option of all the strategies of the local government on the enforcement of anti-littering regulation in the area. However, out of the nine strategies outlined, five strategies had a mean score that is

higher than the grand mean, while three strategies had a mean score that is lower than the grand mean. Deductively, the strategies used by Brikama Area Council to enforce the implementation of anti-littering regulations in the administrative area, from the perspective of respondents, can be said to be positive. To complement these findings, the interviews conducted revealed that the strategies of the council include acquisition of fleet of vehicles that collect and dispose waste in the local government area, positioning of moveable waste bins in strategic locations within the local council in areas such as the motor parks, public markets, public hospitals, busy and crowded junctions etc, and enhance the services of environmental health and sanitation officers/workers in the area.

Table 9: Respondents' views on the strategies used by Brikama Area Council to enforce the implementation of the Anti-Littering Regulation in The Gambia.

Strategies on the enforcement of anti-littering regulation	**Strongly Agree**	**Agree**	**Undecided**	**Disagree**	**Strongly Disagree**	**Total**	**Mean**
Communities are being sensitized by the Council on the Anti Littering Regulations	180 (46.9)	57 (14.8)	20 (5.2)	7 (1.8)	120 (31.3)	384 (100)	3.26
Communities are involved in waste collection with the Council	195 (50.8)	100 (26)	17 (4.4)	48 (12.5)	24 (6.3)	384 (100)	4.01
Council solely determines when and how waste is being collected within the communities	150 (39.1)	72 (18.8)	15 (3.9)	97 (25.3)	50 (13)	384 (100)	4.73
There is a regular and consistent waste collection schedule by the council	155 (40.4)	100 (26)	53 (13.8)	70 (18.2)	6 (1.6)	384 (100)	4.26
The Community is responsible for collecting and disposing its own waste	26 (6.8)	80 (20.8)	20 (5.2)	56 (14.6)	202 (52.6)	384 (100)	4.68
Community policing introduced has been effective in monitoring the implementation of the Anti-Littering Regulations	116 (30.2)	100 (26)	25 (6.5)	75 (19.5)	68 (17.7)	384 (100)	4.56
People have been reprimanded for breach of the Anti-Littering Regulations	120 (31.3)	100 (26)	55 (14.4)	9 (2.3)	100 (26)	384 (100)	4.32
Ward Development Committees are active in the enforcement of the Anti-Littering Regulations	180 (46.9)	45 (11.7)	20 (5.2)	39 (10.2)	100 (26)	384 (100)	4.10
Councillors and WDC are actively involved in the collection and management of waste	180 (46.9)	95 (24.7)	16 (4.2)	73 (19)	20 (5.2)	384 (100)	4.70
Grand Mean							**4.29**

Source: Fieldwork (2022)

The effects of the strategies used by Brikama Area Council on the enforcement of the Anti-Littering Regulations

Table 10 below presents and summarizes the analysis of the findings on the effect of strategies on the enforcement of anti-littering regulation in the area. Efforts were made to gather information on whether the awareness level of the people on the existence of the anti-littering regulations has increased. To this statement, a total of 249 respondents (64.8%) strongly agreed and agreed with the statement that the awareness level of the people on the existence of the anti-littering regulations has increased, 19 respondents (4.9%) were undecided and could not make comment while 116 respondents (30.2%) disagreed and strongly disagreed with the statement. This implies that majority of the respondents were of the opinion that the awareness level of the people on the existence of the anti-littering regulations has increased in the area.

The respondents were asked whether there is widespread understanding among communities of keeping a waste-free environment, 243 of the respondents (63.2%) strongly agreed and agreed that there is widespread understanding among communities of keeping a waste-free environment, 30 respondents (7.8%) were undecided while 111 respondents (29%) disagreed and strongly disagreed with the viewpoint. This denotes that majority of the respondents were of the viewpoint that there is widespread understanding among communities of keeping a waste-free environment in the area.

Regarding whether the involvement of communities in waste collection has reduced the overall generation and indiscriminate dumping of waste, 217 of the respondents (56.5%) strongly agreed and agreed that the involvement of communities in waste collection has reduced the overall generation and indiscriminate dumping of waste, 60 respondents (15.6%) were undecided while 107 of them (27.9%) disagreed and strongly disagreed with the viewpoint. This suggests that the involvement of communities in waste collection has reduced the overall generation and indiscriminate dumping of waste.

The information collected showed that majority (206) of the respondents (53.6%) revealed that the regular and consistent waste collection schedule adopted by the Council has made the environment clean in The Gambia, 29 respondents (7.6%) were undecided while 149 of the respondents (38.8%) disagreed and strongly disagreed with the viewpoint. This implies that the regular and consistent waste collection schedule adopted by the Brikama Area Council has made the environment clean. When questions were asked if people are more cautious in the way they litter their waste because of the sanctions applied by the Council, 281 of the respondents (73.1%) strongly agreed and agreed people are more cautious in the way they litter their waste because of the sanctions applied by the Council; 5 respondents, representing 1.3%, were undecided while 98 respondents (25.5%) disagreed and strongly disagreed with the viewpoint. This implies that people are more cautious in the way they litter their waste because of the sanctions applied by the Council.

Majority of the respondents (270), representing 70.3%, strongly agreed and agreed that the introduction of community policing has reduced the indiscriminate littering and dumping of

waste in Brikama Area Council, 14 of the respondents (3.7%) were undecided and could not make comments while 100 respondents (26%) disagreed and strongly disagreed with the viewpoint. Therefore, it follows that the introduction of community policing has reduced the indiscriminate littering and dumping of waste. Lastly, on whether the Council's strategies of waste collection and enforcing the anti-littering regulations have made people more responsible in managing waste at home, 269 of the respondents (70.1%) strongly agreed and agreed that the Council's strategies of waste collection and enforcing the anti-littering regulations have made people more responsible in managing waste at home, 20 respondents (5.2%) were undecided while 95 respondents (24.7%) disagreed and strongly disagreed with the viewpoint. This implies that the Council's strategies of waste collection and enforcement of anti-littering regulations have made people more responsible in managing waste at home.

The grand mean was 4.24 and this means that responses tend towards the "agreed" option of all the effect of strategies of the local government in enforcing anti-littering regulations in the area. However, out of the seven effects of the strategies outlined, five had a mean score that is higher than the grand mean, while two had a mean score that is lower than the grand mean. By inference, the effect of the strategies of BAC in enforcing anti-littering regulations from the perspective of respondents can be said to be positive. To support the findings, the interviews carried corroborated some of the effects. For instance, it was affirmed that Gambians are more conscious of the need to manage their waste since they pay for the disposal of such waste. The level of consciousness on hygiene and sanitation has also increased, and let alone that people are also more aware now of the anti-littering regulations and its consequences, among others.

Table 10: Respondents' views on the effect of strategies of BAC on the enforcement of anti-littering regulation in The Gambia

Effects	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total	Mean
The awareness level of the people on the existence of the anti-littering regulations has increased	100 (26)	149 (38.8)	19 (4.9)	26 (6.8)	90 (23.4)	384 (100)	4.70
There is widespread understanding among communities of keeping a waste-free environment	143 (37.2)	100 (26)	30 (7.8)	100 (26)	11 (3)	384 (100)	4.31
The involvement of communities in waste collection has reduced the overall generation and indiscriminate dumping of waste	117 (30.5)	100 (26)	60 (15.6)	45 (11.7)	62 (16.2)	384 (100)	4.32
The regular and consistent waste collection schedule adopted by the Council have made the environment clean	106 (27.6)	100 (26)	29 (7.6)	84 (21.9)	65 (16.9)	384 (100)	3.52
People are more cautious in the way they litter their waste because of the sanctioned applied by the Council	181 (47.1)	100 (26)	5 (1.3)	78 (20.3)	20 (5.2)	384 (100)	4.34
The introduction of community policing has reduced the indiscriminate littering and dumping of waste	114 (29.7)	156 (40.6)	14 (3.7)	50 (13)	50 (13)	384 (100)	3.75
The Council's strategies of waste collection and enforcing the Anti-Littering Regulations have made people more responsible in managing waste at home	180 (46.9)	89 (23.2)	20 (5.2)	88 (22.9)	7 (1.8)	384 (100)	4.74
Grand mean							**4.24**

Source: Fieldwork (2022)

The administrative and logistical challenges confronting Brikama Area Council in enforcing the Anti-Littering Regulations

Table 11 below presents and summarizes the analysis of the findings on the administrative and logistical challenges that confront Brikama Area Council in enforcing the anti-littering regulations. The study revealed that majority (245) of the respondents (63.8%) strongly agreed and agreed that legal capacity is a constraint on local government in enforcing the anti-littering regulations, 33 respondents (8.6%) were undecided and could not make comments while 106 respondents (27.6%) disagreed and strongly disagreed with the viewpoint. This implies that majority of the respondents are of the viewpoint that legal capacity is a constraint in enforcing anti-littering regulations at the local level.

The analysis of the findings from the questionnaire on whether lack of human resources is a challenge for Brikama Area Council in enforcing the anti-littering regulations, 290 of the respondents (75.5%) strongly agreed and agreed that lack of human resources is a challenge, 37 of the respondents (9.6%) were undecided and therefore could not comment while 57 of

the respondents (14.8%) disagreed and strongly disagreed with the statement. This denotes that majority of the respondents are of the viewpoint that lack of human resources is a challenge on local government in enforcing anti-littering regulation. Regarding the legal authority of local governments to enforce the implementation of the anti-littering regulations, 115 of the respondents (29.9%) strongly agreed and agreed that local government does not have legal authority to enforce the implementation of the anti-littering regulations, 37 of the respondents (9.6%) were undecided and therefore could not comment while 232 respondents (60.5%) disagreed and strongly disagreed with the viewpoint. This points to the fact that a local government does have legal authority to enforce the implementation of the anti-littering regulations.

The information collected showed the majority (224) of the respondents (58.3%) revealed that the unrelenting poor attitude of people towards littering always derails the efforts of Brikama Area Council in combating indiscriminate littering and poor waste management, 4 respondents (1%) were undecided and could not make contributions while 156 of the respondents (40.6%) disagreed and strongly disagreed with the statement. This implies that unrelenting poor attitude of people towards littering always derails the efforts of the Council in combating indiscriminate litter and poor waste management in the study area. The high number of respondents who disagreed and strongly disagreed may not be unconnected with the fact that most of them might belong to the group of people who believe in putting every blame on government and excuse the people.

When questions were asked if lack of vehicles for waste collection is a critical factor that impedes the Council's efforts to regularly collect and dump wastes at designated sites, 315 of the respondents (82%) strongly agreed and agreed that lack of vehicles for waste collection is a critical factor that impedes the Council's efforts to regularly collect and dump wastes at designated sites in the Gambia while 69 of the respondents (18%) disagreed and strongly disagreed with the statement. This implies that lack of vehicles for waste collection is a critical factor that impedes the Council's efforts to regularly collect and dump wastes at designated sites. Majority of the respondents (225), representing 58.6%, strongly agreed and agreed that financial and budgetary constraints of the Council has not allowed it to deal with waste issues adequately, 66 of the respondents (17.2%) were undecided and as such cannot make comments, while 103 of the respondents (24.1%) disagreed and strongly disagreed with the statement. Therefore, it implies from the majority of the respondents that the financial and budgetary constraints of the Council have not allowed it to deal with waste issues adequately.

Lastly, when questions were asked if the lack of power to initiate sanctions contributes to the Council's poor enforcement of the anti-littering regulations, 256 of the respondents (66.6%) strongly agreed and agreed that the lack of power to initiate sanctions contributes to the Council's poor enforcement of the anti-littering regulations, 100 respondents (26%) were undecided and could not comment while 28 of the respondents (7.4%) disagreed and strongly disagreed with the statement. This implies that the lack of power to initiate sanctions contributes to the Council's poor enforcement of the anti-littering regulations. The grand mean was 3.60. This is a sign that responses tend towards the "agreed" option of all the

administrative and logistic challenges that confront local government administration in enforcing Anti-Littering Regulation**.** However, out of the seven administrative and logistical challenges that confront Brikama Area Council in enforcing anti-littering regulation outlined, six of them had a mean score that is higher than the grand mean, while one had a lower mean score. Deductively, the administrative and logistical challenges that confront local government in enforcing anti-littering regulation in the area from the perspective of respondents can be said to be positive.

To support the findings on the challenges that confront local government in enforcing anti-littering regulations as highlighted above, the interviews conducted corroborated most of the findings. The respondents affirmed inadequate waste collection vehicles, poor attitude of people leading to indiscriminate communal dumpsites, lack of manpower, lack of authority of the council to punish those who create those illegal dumpsites, lack of working materials like personal protective equipment (PPE) for waste management staff, lack of funding from the central government on waste management at the grass-root, among others, as critical challenges.

Table 11: Respondents' views on the administrative and logistic challenges that confront local government in enforcing anti-littering regulations in The Gambia

Challenges/Constraints	**Strongly Agree**	**Agree**	**Undecided**	**Disagree**	**Strongly Disagree**	**Total**	**Mean**
Legal capacity is a constrain on local government in the enforcement of the anti-littering regulations in The Gambia	75 (19.5)	170 (44.3)	33 (8.6)	6 (1.6)	100 (26)	384 (100)	4.04
Lack of human resources is a challenge on local government in enforcing anti-littering regulations in The Gambia	80 (20.8)	210 (54.7)	37 (9.6)	27 (7)	30 (7.8)	384 (100)	3.68
Local government does not have legal authority to enforce the implementation of the anti-littering regulations	80 (20.8)	35 (9.1)	37 (9.6)	27 (7)	205 (53.5)	384 (100)	3.68
The unrelenting poor attitude of people towards littering always derails the efforts of local government in combat indiscriminate litter and poor waste management	184 (47.9)	40 (10.4)	4 (1)	100 (26)	56 (14.6)	384 (100)	1.62
lack of vehicles for waste collection is a critical factor that impedes the Council's efforts to regularly collect and dump wastes at designated sites	215 (56)	100 (26)		12 (3.1)	57 (14.9)	384 (100)	3.63
The financial and budgetary constraints of the Council has not allowed it to deal with waste issues adequately	100 (26)	125 (32.6)	66 (17.2)	23 (5.9)	70 (18.2)	384 (100)	4.45
The lack of power to initiate sanctions contributes to the Council's poor enforcement of the anti-littering regulations	100 (26)	156 (40.6)	100 (26)	14 (3.7)	14 (3.7)	384 (100)	3.95
Grand Mean							3.60

Source: Fieldwork (2022)

Test of Hypothesis

The following hypothesis was formulated for the study:

H0: Local government enforcement has no significant effect on Anti-Littering Regulation in The Gambia.

Calculating the expected frequency (EF) = 384/3= 128

Table 12: Computation of Chi Square Statistical test

Responses	**OF**	**EF**	**OF-EF**	**(OF —EF)^2**	**(OF-EF)^2/EF**
Undecided	19	128	-109	11881	92.82
Agree	216	128	88	7744	60.5
Strongly Agree	149	128	21	441	3.45
Total	384				156.77

Source: Fieldwork (2022)

Degree of freedom = (R - 1) x (C-1)
= (3 - 1) x (2 - 1)
= 2 x 1

Therefore, degree of freedom for the hypothesis is: 2
Level of Significance = 5% (0.05)
Degree of Freedom = 2 under 0.05 = 2
Critical value = 91.183
Calculated value = 156.77

Table 13: Chi-Square Tests

	Value	DF	Asymp. Sig. (2-sided)
Pearson Chi-Square	91.183	2	.000
Likelihood Ratio	106.422	2	.000
Linear-by-Linear Association	17.763	1	.000
N of Valid Cases	384		

Source: Fieldwork (2022)

Decision Rule

Accept H0 and reject H1 if critical value is greater than calculated value and accept H1 to reject H0 if calculated value is greater than the critical value.

Discussion of Findings

In accordance with the results obtained from the Pearson Chi-Square tests, which has a critical value of 91.183 less than the calculated value of 156.77; the likelihood ratio is 106.422; while Linear by Linear Association is 17.763. Consequently, the study rejected the null hypothesis and accepted the alternative hypothesis. This means that local enforcement has significant effect on anti-littering regulations. This finding is consistent with the study of Chukwuemeka,

Ugwuanyi, Ndubuisi-Okolo and Onuoha (2014) which revealed that local government serves as a better channel through which policies and programmes from the central or state government are implemented at the grass-root. To this end local government has strong effect at the grass-root. The study enumerated some functions that are cumbersome for the state or central government to perform but are better and more conveniently performed by the local government. Such functions may include waste management, collection of rates, radio and television licenses, registration of births, deaths and marriages among others.

As it pertains to respondents' views on the strategies of local government, majority of the respondents (61.7%) are of the view that communities are being sensitized by the local government council on the anti-littering regulations. This is highly related to the activities of members of WDCs who are considered representatives of the council in their communities. Community involvement in waste collection with the council has also been hailed by the respondents. More than three-quarter (76.8%) strongly agreed and agreed that communities are involved in waste collection with the local government council, 17 respondents (4.4%) were undecided while 72 of the respondents (18.8%) disagreed and strongly disagreed with this view. Thus, this implies that communities are involved in waste collection within the local government council.

There seems to be a contradiction in the initial response that show respondents overwhelmingly agreeing that the community is involved with the council in waste collection, and whether council solely determines when and how waste is being collected. In the latter response, it is surprising to note that majority of the respondents, 222 (57.9%), strongly agreed and agreed that local government council solely determines when and how waste is being collected within the communities. This is to say that council is responsible for their schedule and gets the community involved either when they are on the ground for collection or before they arrived by telling the community to mobilise waste at collection points for easy access. Majority of the respondents (255), representing 66.4%, strongly agreed and agreed that there is a regular and consistent waste collection schedule by the council. This is not so in some communities that rarely saw a council vehicle to come for waste collection. There are others that pay private collectors for their waste to be collected. Thus, for such communities and individuals, 27.6% strongly agreed and agreed that the community is responsible for collecting and disposing its own waste. For most of the communities, community policing has either not been introduced to monitor the implementation of the anti-littering regulations or not effective where introduced. As such, when asked whether community policing introduced has been active in monitoring the enforcement of the anti-littering regulations, a whole of 143 respondents (37.2%) disagreed and strongly disagreed with the statement. This connotes that a high number of the respondents are of the opinion that community policing introduced to help monitor the implementation of the anti-littering regulations has not been active.

On whether people have been reprimanded for breach of the anti-littering regulations, 220 respondents (57.3%) strongly agreed and agreed that people have been reprimanded for breach of the anti-littering regulations. This includes taking offenders to anti-littering courts especially by the National Environment Agency, but that this has not been very effectively

enforced due to administrative and logistical issues. Most of the respondents (225), representing 58.6%, strong agreed and agreed that WDCs are active in the enforcement of the anti-littering regulations. This is due to the crucial role they play as liaison voluntary service officers between the community and the council. Thus, 275 of the respondents (71.6%) strongly agreed and agreed that councillors and WDCs are actively involved in the collection and management of waste.

On the effect of the strategies on enforcement of anti-littering regulation in the area, information was gathered to ascertain whether the awareness level of the people on the existence of the anti-littering regulations has increased. Most respondents (64.8%) seem to be aware of the existence of the anti-littering law. To this end, when the respondents were asked whether there is widespread understanding among communities of keeping a waste-free environment, 243 of the respondents (63.2%), strongly agreed and agreed that there is widespread understanding among communities of keeping a waste-free environment, and only 29% disagreed and strongly disagreed with this view, meaning that majority of the respondents were of the view that there is widespread understanding among communities of keeping a waste-free environment in the area.

Regarding whether the involvement of communities in waste collection has reduced the overall generation and indiscriminate dumping of waste, 217 of the respondents (56.5%) strongly agreed and agreed that the involvement of communities in waste collection has reduced the overall generation and indiscriminate dumping of waste. This suggests that the involvement of communities in waste collection is important as it helps the council in its management of waste. Despite the fact that council reported to be struggling under low vehicle coverage for the whole of its administrative area 206 of the respondents (53.6%) revealed that the regular and consistent waste collection schedule adopted by the Council have made the environment clean. Besides, most of the respondents (70.1%) believe that the Council's strategies of waste collection and enforcing the anti-littering regulations have made people more responsible in managing waste at home.

The study enumerated many administrative and logistical challenges that Brikama Area Council is confronted with in its efforts to enforce the implementation of the anti-littering regulations. The study revealed that a large number of the respondents (245), representing 63.8%, strongly agreed and agreed that BAC does not have the required legal capacity to enforce the anti-littering regulations within its jurisdiction. Besides, the council falls short of the required human resource such as enough waste collectors and council police to enforce the regulations. The study also revealed that 290 respondents (75.5%) strongly agreed and agreed that lack of human resources is a challenge to local government in enforcing anti-littering regulations in the country. The lack of enough vehicles to collect waste from all parts of the Brikama administrative area has also been identified as a challenge. An overwhelming 315 respondents (82%) strongly agreed and agreed that lack of vehicles for waste collection is a critical factor that impedes the Council's efforts to regularly collect and dump wastes at designated sites. This is coupled with budgetary constraints of the council as 58.6% strongly agreed and agreed that financial and budgetary constraints of the Council have not allowed it to deal with waste issues adequately.

To support the findings on the administrative and logistical challenges, the interviews conducted revealed that the challenges include: inadequate waste collection vehicles, poor attitude of people leading to indiscriminate communal dumpsites, lack of manpower, lack of authority of council to punish those who create those illegal dumpsites, lack of working materials like personal protective equipment (PPE) for waste management staff, lack of funding from the central government on waste management at the grass-root among others. McAllister (2015) equally agrees that financial challenges, poor coverage of service and operational inefficiencies, ineffective technologies and equipment, inadequate landfill disposal, and limited utilization of recycling initiatives are all found to be challenges to the infrastructure of waste management systems in developing countries. McAllister further acknowledges that, usually, it is not the environmental legislation itself that is at the heart of the problem; instead, it is the lack of enforcement that is the real issue that greatly contributes to the mismanagement of solid waste in the developing world.

Recommendations

Towards this end, it is imperative to recommend that:

i. The central government through the Ministry of Environment, Climate Change and Natural Resources and the National Environment Agency should work on the legal framework that would give legal capacity to local government to enforce the anti-littering regulations. The legal framework will grant local government the necessary power to initiate sanctions against those who run foul of the regulation in their domain.
ii. There should be adequate provision for human resources at the local government level to help in the administration and enforcement of the regulation as an overwhelming 75% have agreed to the inadequacy of human resource in the full implementation of the regulation.
iii. The local government council should actively involve district chiefs, village heads (alkalos), and Ward Development Committees (WDCs) in sensitization to strengthen and enhance enforcement of the regulations.
iv. Budgetary provisions should be made for enough vehicles and other working tools and materials like personal protective equipment (PPE) for waste management staff to cater for waste collection and disposal in the Council.
v. The enhancement of the physical infrastructure and technology within the waste management system should also take into account the need for a high community participation and involvement as well as educational and awareness campaign programmes in order to successfully create a sustainable waste management system (McAllister, 2015).

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