

# The Legal Aspect of Waste Management in Cameroon with Focus on the Buea Municipality

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**How to cite this paper:** Albrecht, E., Nkem, A. M. A., & Ernest, E. (2022). The Legal Aspect of Waste Management in Cameroon with Focus on the Buea Municipality. *Journal of Geoscience and Environment Protection*, 10, 9-23.

<https://doi.org/10.4236/gep.2022.108002>

**Received:** March 15, 2022

**Accepted:** August 7, 2022

**Published:** August 10, 2022

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## Abstract

Waste production remains an inevitable part of human activity on earth. The history of waste reveals that high levels of urbanisation, sustained urban growth and increasing residential neighbourhoods remain commensurate to poor sanitation and quality of life if proper measures are not taken. This paper therefore examines the legal practices involved in waste management and to understand the challenges faced as well as propose solutions towards an improved waste management system. The work constitutes mainly secondary source data that includes the existing laws on waste management in Cameroon and other documents relating to waste from different ministries. The residents of Buea and workers of the waste management company were interviewed to get their views on waste management in Buea. Also, field observations were made to compare results with field realities. The collected data was analysed using the content analysis and descriptive techniques. Results obtained proved that there exist well stated laws for waste management in Cameroon. However, there is poor implementation of the existing laws with evidence of waste littering within neighbourhoods and along the streets. This study concludes that there should be proper sensitization of the public about existing laws and to strengthen the waste management process with use of the laws. An all-integrated approach with active community participation was recommended as a way out towards sustainable waste management in Buea.

## Keywords

Waste Management, Legal, Buea Municipality, Sustainability, Environment

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## 1. Introduction

Waste production remains an inevitable part of human activity on earth. As the activities increases, so do the amount of waste produced increases. Therefore,

highly urbanised environments with diversified and numerous activities will, of course, produce more waste than their corresponding rural counterparts with less activities (Fombe & Balgah, 2012). The history of waste production reveals that high levels of urbanisation, sustained urban growth and increased buildup of residential neighbourhoods remain commensurate to poor sanitation and quality of life if proper measures are not taken (Barbalace, 2003). This forms the basis on the need to provide access to all neighbourhoods and residents, waste management options for disposal and/or recycling.

Waste in recent years has been on a rise as economic development is also increasing (UNEP, 2020). Domestic waste for example has increased to extend where access to trash has remained disturbing. In most developing nations, there have been both health and environmental challenges caused by indiscriminate disposal of waste, which have inversely affected human health and the environment (Achankeng, 2003). To this effect, health risk may be transmitted through waste scavengers like flies, dogs, rodents among others.

Conclusions of the UN Report of the World Commission on Environment and Development: “Our Common Future (1987)”, reiterates the need for proper environmental quality as poor human environments constitute areas of environmental stress manifested through disease prevalence, pollution among others. From this period to the Rio 1992 Conference on Environment and Development, a pace on environmental sustainability was set. The conclusion was jointly signed as a declaration charging each nation and its local government authorities the responsibility of implementing these declarations to ensure a safe environmental condition for its citizens. Most countries have been able to enact environmental laws to govern their specific environments together with the ratification of other international conventions relating to environmental protection. These laws/conventions are set as guides to govern the collection, storage, transportation and disposal of waste. Cameroon is no exception to these national and international environmental laws. The laws/conventions exist in the country but challenges of implementation apparently remain a herculean task for councils to undertake (Lambi & Eze, 2001).

The town of Buea, capital of the South West Region of Cameroon, has witnessed a high rate of urbanisation within the last two decades. From the creation of the University of Buea in 1993, the population has increased unprecedentedly till date. From a small indigenous population of over 25,000 inhabitants in the 1940s and 1950s to about 150,000 inhabitants in the late 1990s, to a cosmopolitan population that stands at over 200,000 inhabitants with an annual growth rate of 5% (UN Projections/2010 est. Census). With such increasing population growth, high amounts of waste generated becomes inevitable and a call for concern. As this population kept increasing over time, the increasing waste generated became a problem to the local council as disposal means were highly lacking.

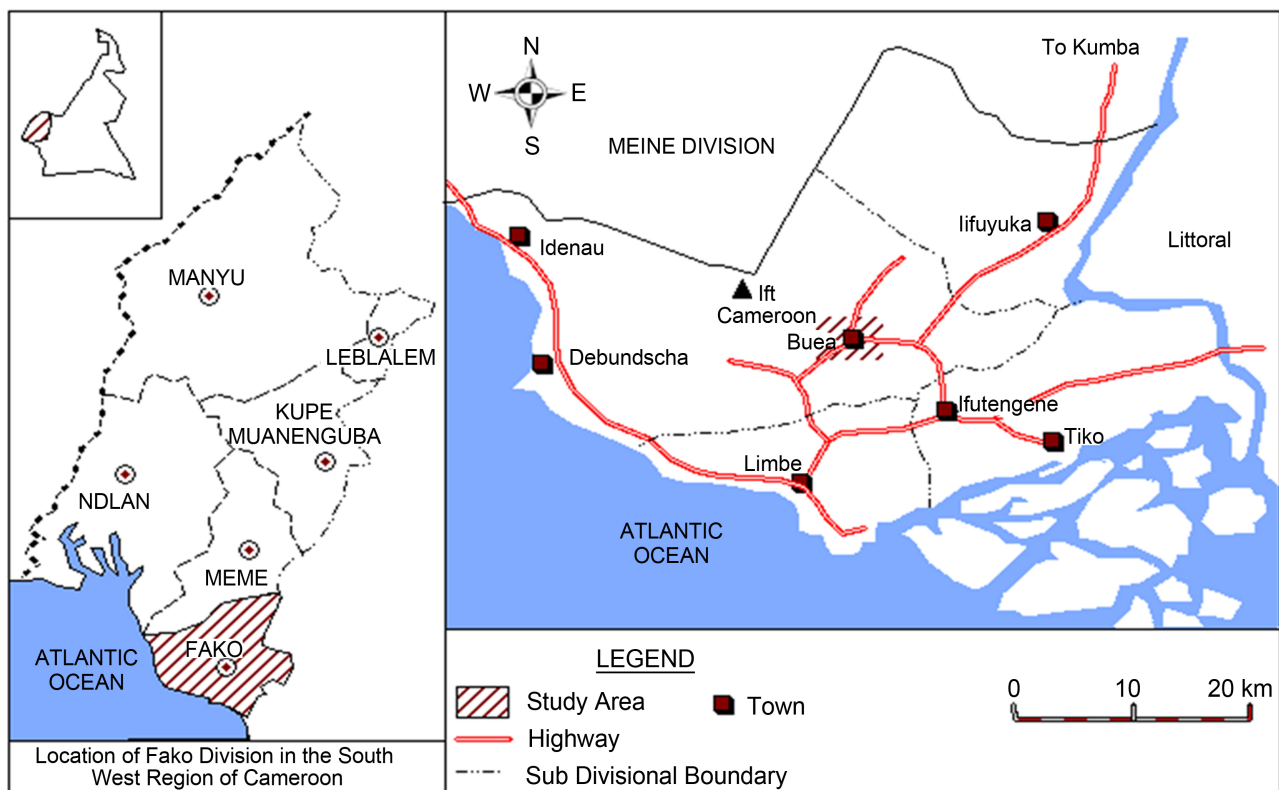
As a response from the inability of the local council to manage the waste gen-

erated by the population, the service of the Hygiene and Sanitation Company of Cameroon (HYSACAM) was contracted in September 2010. Before this contract, heaps of gabbages, mostly domestic waste could be seen accumulated along the main roads or neighbourhood sidewalks waiting for the gabbage carrier which most often at its earliest will take about two to three weeks. The coming of the HYSACAM was therefore seen as a sign of relieve solution to waste collection and disposal within the Buea Municipality and to provide a facelift for the council in meeting the environmental needs of its inhabitants in terms of safety and quality. However, this situation seems bleak as the population does not either have access to the company's trash or deliberately dump wherever they find available.

From studies related to waste management in Buea, authors have been able to present an understanding of the collection, storage, transportation and disposal of waste. This paper therefore examines the legal practices involved in waste management and problems arising from implementing these legal practices and way forward for better waste management options in Buea.

## 2. Study Area

Buea is an urban settlement situated at the foot of Mount Fako. It is located between latitude 4°14" North of the equator and longitude 9°20" East of the Greenwich Meridian. **Figure 1** illustrates the location of Buea in Fako Division, South West Region, Cameroon. Besides being the capital of the Southwest Region,



**Figure 1.** Location of Buea in Fako division, south west region, Cameroon. Source: Adapted from the Administrative Map (2020).

Buea is a university and colonial settlement which has grown to attain a current population of over 200,000 from 46,000 in 2000 (Fombe & Balgah, 2012; Buea Council, 2013).

Generally, parts of Buea are built on the risk zone of Mount Fako. This region is characterized by various physical pressures of hazard phenomena with soils composed principally of volcanic bombs and scoria that render the region rough and stony. Buea is situated along the Cameroon Volcanic Line; some 30km from the Atlantic Ocean (Gulf of Guinea).

The rainfall pattern is modified in the Mount Cameroon area by the highland which interrupts the movement of air masses causing considerable orographic rainfall. Buea records an annual rainfall of 3500 mm (IRAD Ekona, 1993). Temperatures are considerably high with low annual variations. The mean annual temperature is 23°C while the monthly temperature reveals a minimum of about 20°C in the month of June and July accounted for by heavy rainfall in these months.

### 3. Research Methodology

In order to meet up with the study objective, a multidirectional approach was adopted for data collection. Both secondary and primary sources of data were collected. The secondary source data included legal documents collected from the Buea Council and from different government ministries including the Ministries of Town Planning, Urban Development, Environment and Nature Protection and the Decentralisation Ministry. Also, some international conventions like the Basel and Bamako conventions related to waste management were made use of. More so, printed material from the Waste Management Company (HYSACAM) also constituted data for this research.

Primary sources on the other hand included field observation and direct interviews. The interviews followed a stratified sampling approach where the sampled population was stratified into three; the administrators (Regional Delegates of Urban Development, Town Planning, Environment and Nature Protection, the Lord Mayor of the Buea Council, and top management of the HYSACAM Company), the HYSACAM workers and the local population of Buea. The administrators were questioned on the effectiveness of the implementation of waste management laws, the challenges faced in implementing these laws and policy options taken to ameliorate and fines levied to defaulters. The employees of HYSACAM were interviewed on their activities, their challenges and motivating factors in the waste management sector. Residents on their part were questioned about their knowledge on waste management, issues of waste dumping, waste sorting and challenges faced in waste dumping. Data collected was analysed using the content analysis for secondary sources and descriptive techniques for field data and interviews.

## 4. Results

### 4.1. Laws Guiding Waste Management and the Environment

Laws governing waste production, treatment or disposal in Cameroon generally,

can be traced as far back as the 1970s with laws relating more on industrial location and pollution. On August 20 1980, Notice No. D69/NC/MSP/DMPH/SHPA relating to industrial and household waste was enacted and emphasised on the necessity of safety in the collection, transportation and treatment of industrial waste, household waste and sanitary sewage in Cameroon. However, a new law governing environmental management was enacted in the country and has a broader view on issues relating to the entire human habitat as stipulated by the Rio 1992 Declaration. Law No. 96/12 of 5 August 1996 Relating to Environmental Management in Cameroon was adopted and Article 42 to 53 is tied to waste management practices.

Article 42 of the 1996 law states that, waste shall be treated in an ecologically rational manner to eliminate or curb their harmful effects on human health, natural resources, the fauna and flora and on the quality of the environment in general. Article 46 (1) points out that decentralised territorial councils shall eliminate household waste, possibly with the competent state services, in keeping with the laws in force while Article 46 (2) adds that the decentralised territorial councils should ensure that all midnight and abandoned dumps be eliminated with assistance of the competent authority.

More so, Article (48) of the law adds that when waste is abandoned, dumped or processed in violation of the prescription of this law and its enabling regulations, the authority vested with police powers shall automatically eliminate the said waste at the expense of the said producer, after charging the producer to pay.

In addition to the above mentioned laws in Cameroon are other degrees and circular letters for the management of waste. Good examples include the Interministerial Commission for Municipal Waste Management in Cameroon (ICMWM) which was created under the Prime Minister (Decree No. 95/230/PM of 31/04/95) and charged with formulating policy development for appropriate municipal solid waste management strategies in the country and Law No. 89/27 of 29 December 1989 to regulate toxic and dangerous waste. Also, Order No. D67/N6/NN/ST/SG/BMPHP/NNPA of 11/08/87 and Circular Letter No. D69/N6/NMHK/SHPA of August 1980 creating Hygiene and Sanitation Units in councils by the Ministry of Public Health for the proposal of waste collection, transportation and treatment norms of industrial, domestic waste and emptying of septic tanks. More so, the Ministry of Urban Development and Housing signed Order No. 00072/MINAT/MINVILL of 21/05/00 for the development and implementation of urban restructuring, management strategies, sanitation and drainage as well as defining and enforcing norms of hygiene/sanitation, collection and/or treatment of household waste. And more recently is the Prime Ministerial Decree No. 2012/2809/PM of September 26<sup>th</sup> 2012 on the use of non-biodegradable plastics for manufacturing, importation and commercialization in Cameroon. This decree was later elaborated by the Joint Ministerial Order No. 004/MINEPDED/MIN Commerce of 24<sup>th</sup> October 2012.

Besides these national laws, degrees and orders, Cameroon has ratified some international conventions governing waste management. Amongst these are the Basel Convention on the control of Transboundary Movements of Hazardous Wastes and their disposal in 1989 and the Bamako Convention banning the importation into Africa and the control of Transboundary Movement and Management of Hazardous Wastes within Africa in 1991.

With all these laws and conventions, Cameroon can be said to be a nation fully equipped with all the legal instruments for successful collection, transportation and disposal of waste from within the areas of production. However, the 1996 law relating to environmental management which is supposed to set the pace for environmental control has the section for waste highly inadequate to articulately define procedures for waste management and control in the country. Notwithstanding, the laws can still play a recommendable role in the process of waste management. However, escalating challenges brings to mind the missing link between the laws and the community of implementation.

## 4.2. Waste Management in Buea Municipality

Data on waste management in Buea was gotten following the administration of interview guides to workers of HYSACAM and residents of the Buea municipality. Based on this, a number of variables were examined. These include, the daily collection of waste, motivations of work by HYSACAM workers and issues of waste sorting and dumping.

### 4.2.1. Daily Collection of Waste

Data collected provided an insight on the different activities of the HYSACAM workers. Based on this, **Table 1** illustrates the activities in terms of time and frequency of collection of waste from the different neighbourhoods of Buea. This is done from Monday to Sunday. The frequency, however, changes based on yearly events within the city. Events like the mountain race, the university graduation, among other important government activities necessitate an added frequency in their daily activity within that period.

The workers also revealed that, the crisis in the North West and South West Regions has hampered their daily activities which before will run till 11:00 pm at night. According to them, working late in the night was preferred because of the scorching sun during the day.

**Table 1.** HYSACAM activities in Buea.

Period	Time of Work	Activity
Morning	5:00 am to 8:00 am	Cleaning, gathering and transportation of waste
Evening	4:00 pm to 7:00 pm	Cleaning (sweeping of streets and gutters), waste gathering and transportation.

Source: Field data (2022).

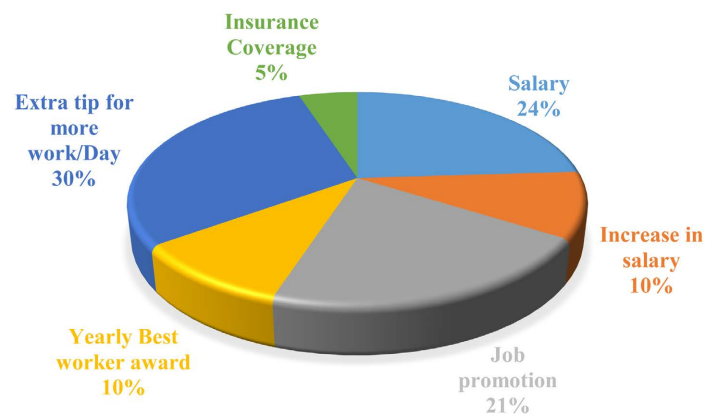
#### 4.2.2. Workers' Motivation

Field data revealed that, the workers have a series of motivational factors influencing their job performance. These factors include, salary, increase in salary, job promotion, yearly best worker award, extra tip for more work/per and insurance coverage. These factors are distributed in a pie chart as illustrated in **Figure 2**.

From **Figure 2**, it is evident that extra tip for more work/day is ranked first. This, as explained, was a newly introduced system as some workers complained of others not working as compared to what they do. As a result, the management designed the system to provide extra tips to those who are able to meet up with extra hours of work and this is noted per day. This was closely followed by the salary (24%), job promotion (21%), increase in salary and yearly award of best worker both at the same rating of 10%. These different motivations have, however, jointly contributed to their drive towards putting the effort needed to take care of the waste in Buea municipality.

#### 4.2.3. Waste Sorting and Dumping

Waste management in Buea is regarded to be at a rudimentary level with no sorting at both the household level or at the waste management company's level. Waste is collected as mixed (as seen in **Plate 1**) from household, construction,



**Figure 2.** Respondents' Preference on motivations within HYSACAM. Source: Field data (2022).



**Plate 1.** Mixed waste collected in Buea Municipality. Source: Field data (2022).

agricultural among others and transported to the open dumpsite located some 5 - 6 km away from the Buea city centre.

The waste seen in **Plate 1** is found to have a mixture of different waste from different sources. This does not conform to Article 42 to 53 of Law No. 96/12 of 5 August 1996 Relating to Environmental Management in Cameroon.

### 4.3. Challenges to Sustainable Waste Management in Buea

Following the challenges of managing the growing urban centres in Cameroon directly by the central government, Law No. 2004/017 of 22 July 2004 on the Orientation of Decentralisation was adopted in Cameroon. Section 3 (1) of this law defines the regional and local authorities of the republic to be the regions and councils. Section 4 (1) adds that, the regional and local authorities shall be corporate bodies governed by public law and endowed with administrative and financial autonomy for the management of regional and local interest. This law further stipulates that in such capacities, the mission of councils should be to promote economic, social, health, educational, cultural and sports development in their respective areas of jurisdiction. Perhaps, it is acceptable to say from this law that local councils are managers of their environment and responsible for the execution of environmental projects in their areas of jurisdiction. With this in mind, waste management challenges can therefore be viewed from the perspective of the local council's procedure or ways of managing wastes in the municipality. The challenges are considered from the perspective of poor accessibility within quarters, lack of public sensitisation, inability to recycle and/or reuse and poor implementation of stated laws on waste management. When asked to rank the challenges with respect to their effect on the efficiency of waste management within the municipality, sensitization was ranked the first 41% followed by accessibility, inability to recycle and/or reuse. This distribution can be seen in **Figure 3**.

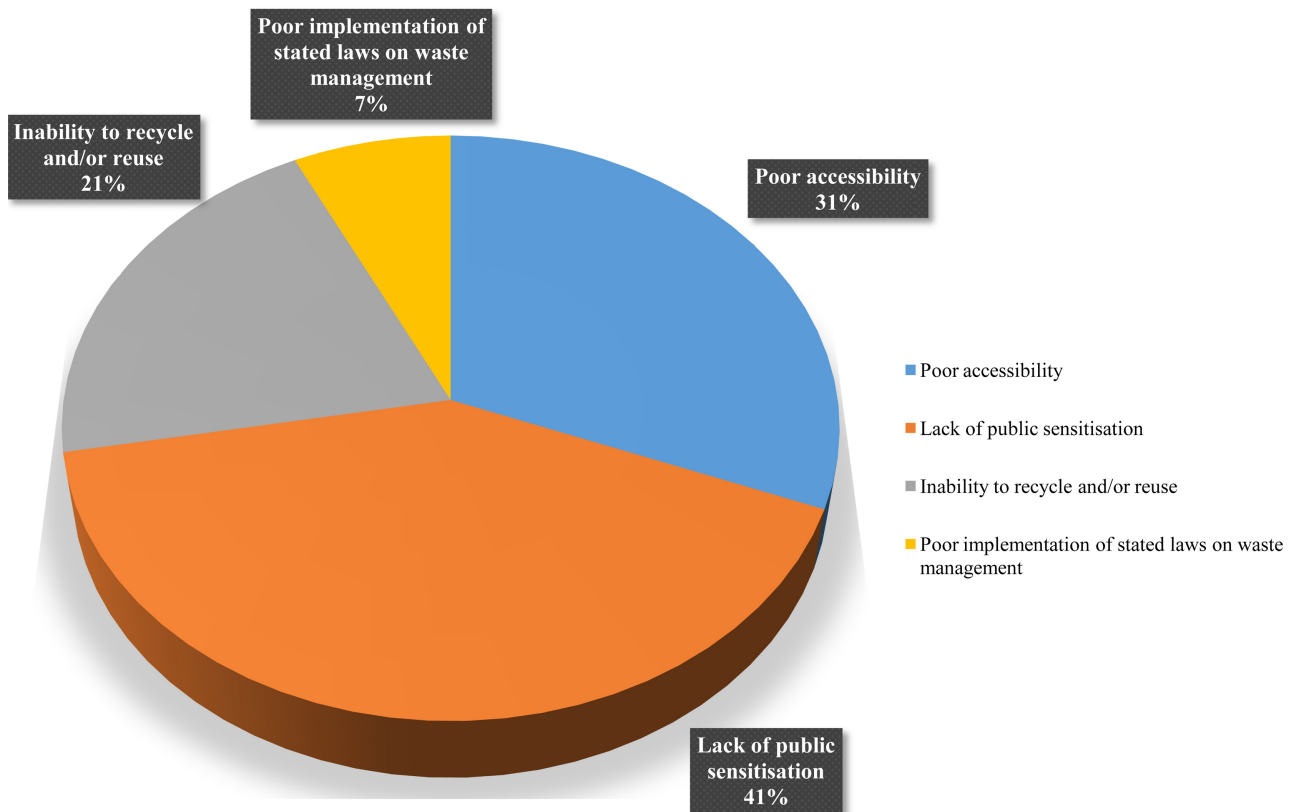
**Figure 3** presents a typical challenge within the municipality of Buea as most of the residents have little or no knowledge about the organisation and activities of the HYSACAM Company. Most of them expressed knowing the company as a private company that is out to generate its income and not working for the good of the inhabitants.

These challenges are discussed in the subsequent paragraphs:

#### 4.3.1. Poor Accessibility

Buea is a town constituting mainly of a major road that cuts across the town unilaterally. However, in preparation of some recent government celebrations like the reunification celebrations in 2014, the council was assisted by the central government in constructing other subways to ease mobility within the town. Nonetheless, these subways do not provide access into the neighbourhoods for the HYSACAM trucks to adequately evacuate waste. It is a common place to find abandoned waste along neighbourhood sidewalks and the banks of River Ndongo. Based on Law No. 2004/003 of 21 April 2004 to Regulate Town Planning





**Figure 3.** Challenges to waste management in Buea. Source: Field data (2022).

in Cameroon, Section 11 (1) stipulates that, except specially prescribed by town planning documents or by the Mayor of the council concerned in particular with regard to urban renewal, land shall be approved for building purposes only where it is served by a public or private road at least seven (7) metres wide. Section 11 (2) adds that in all cases, for any piece of land to be built on, there must be provision for the intervention of emergencies (fire-fighting units, sanitation), refuse collection and other related services. Based on field studies, this has, however, not been the case in Buea especially within neighbourhoods of Ndongo quarter, “Dirty South”, Malingo quarter amongst others with houses constructed haphazardly without defined use of city landuse plans as stipulated by Section 32-43 of the Town Planning Law. To this effect, accessibility for the waste collection trucks remain problematic and often waste decay at intended spots of possible evacuation.

#### **4.3.2. Lack of Public Sensitisation**

Waste management in any city cannot be looked upon as the responsibility of the council alone, but as a concerted effort between the council and the entire population. It is common to find empty trash cans with dirt littered around it. Field studies also reveals that inhabitants dump waste at intended spots of trash cans that have been removed for disposal. Most of the inhabitants are unaware of the environmental implication of waste disposal within open spaces. Some of

them ask children who cannot reach up a trash lid to go dispose waste in the trash cans. This has resulted in these children dumping waste besides the trash cans as seen in **Plate 2**.

Also, most of the cans are not collected on time leading to spillage of waste within the surrounding can as illustrated in **Plate 3**.

Article 74 of the Environmental Management Law stipulates that in order to strengthen environmental awareness in the society and increase sensitisation on the participation of population in environmental issues, the administration in charge, as well as other administrative units and public bodies concerned shall launch information and sensitisation campaigns using the media and other means of information. Data from field sources illustrate one out of 20 inhabitants have an idea about the functioning of HYSACAM in terms of their time of work, particular rules and regulation governing their activities as well as fines placed in case of violations like dumping in wrong places, removal of temporary trashcans from HYSACAM location among others. Sensitisation was never done in Buea and the population remain insensitive to the ills related to poor disposal of waste (Mofor, 2010).



**Plate 2.** Dumping of waste besides trash Cans.  
Source: Field data (2022).



**Plate 3.** Abandoned waste bins in neighborhoods and roadsides in Buea. Source: Field data (2022).

### 4.3.3. Inability to Recycle or Reuse

The manner in which waste is disposed in Buea makes it difficult for it to be sorted for possible recycling either for energy production or otherwise. Being a waste collection unit, the HYSACAM Company works solely on the provision of trash cans on one hand and the collection of the trash cans after it must have been filled with trash. These cans provided do not take into account the idea of sorting from the source thereby creating huge problems to soil microbes and soil aeration. The non-degradable for example constitutes a serious problem for agricultural lands. Though focus of the company is not on recycling or reuse, during periods of burning and compaction by this company in dumpsites, the mixture of waste after burning makes the residue difficult for local agricultural uses for example.

### 4.3.4. Poor Implementation of Existing Laws

Though well stated for public consumption and implementation by authorities concerned, most laws guiding waste management beginning from disposal to sanctions are not respected. In some situations, council notices that warn against dumping in particular areas like the banks of River Ndongo and along the streets are hardly respected by some inhabitants. Following Article 48 of the Environmental Management Law of Cameroon, such defaulters are to pay fines and procedures towards eliminating the waste from the area done to create awareness to the entire population.

### 4.3.5. Other Challenges

Field data proved that other challenges do exist in the waste management sector of Buea. These challenges range from the current Anglophone crisis plaguing the region, irregular evacuation of trash cans, as well as provision of trash not commensurate with waste production.

Based on the current Anglophone crisis, most quarters have remained inaccessible. Quarters like Muea, Bomaka, Mile 16, Bwitingi and Ndongo have remained inaccessible as HYSACAM workers have been kidnapped, tortured and sometimes killed within some of these areas. This has restricted their work along major roads considered safe during this crisis period.

The irregular evacuation of trash remains a major problem as the frequency of evacuation is not respected. Trash are allowed for weeks without evacuation to extents of wastes accumulating metres away from the trash can. This is very common in many neighbourhoods in Buea.

Furthermore, the provision of trash cans is supposed to be commensurate to the population size of the area. Most often, trash cans meant for home use, are seen at major junctions of quarters as evident in **Plate 4**. This poses a lot of problems as they get full within minutes of placing them by the HYSACAM workers. The only option left is for residents to place the waste besides these trash cans. This has, in most situation, led to pungent and toxic smells along these junctions and a general despoliation of the natural aesthetic of the area.



**Plate 4.** Use of Small-sized trash cans in Buea. Source: Field data (2022b).

## 5. Discussions

Waste collection, source separation, transportation and recovery constitute an entire process which can either affect the environment positively or negatively. It all depends, however, on the knowledge and perception of what waste is being made to signify especially through sensitisation campaigns and strict implementation of laws guiding waste management. Sensitisation remains one of the most important tools towards a positive effect of waste to the environment. *Mofor (2010)*, in his work on community participation and solid waste management in Buea points out that, the major problem of waste collection and disposal in the city is the lack of sensitisation. This is also supported by a similar work in Kampala, Uganda where the Plastic Recycling Industry attest to a positive correlation between sensitisation and waste collection (The Plastic Recycling Industry, 2009). They also added that, little incentives within the sensitisation process instilled discipline and help people develop a culture of cleanliness and avoid littering of waste.

Accessibility on the other hand and its consequences to waste disposal to the health of settlements where waste is disposed of is not to be overemphasised. This finding is similar to the works of *Buibwa et al. (2014)*, *Gowda et al. (2013)* and *Kumar and Pandit (2013)* who pointed out that the uncontrolled proliferation of settlements and absence of paved roads in most parts of the communities they worked on constitute the basic factor that hinders the waste collection process. More so, the inability to recycle and reuse remains a problem especially in cities of developing nations. However, beginning the simple process of sensitisation as argued by *Manga et al. (2007)* will go a long way to assist in the sorting and basic ways of recycling. Furthermore, the poor implementation of certain laws governing waste management as evident in the situation of Buea can be related to the findings of *Ymelé (2012)* which indicates that there is a lack of political commitment as the process of waste collection and disposal is rarely a priority for political leaders. He also adds that, the high taxation system of the country has not been able to assist in the development of compost plants for the recycling of biodegradable materials. Therefore, they attend to those that provide

strong public political interest than for waste disposal with an inactive public interest. Furthermore, the problems of recycling have remained persistent mainly due to the composition of the waste. According to the *HYSACAM Annual Reports (2016)* on waste generated and its composition, over 60% of the total volume is biodegradable material but compose of a mixture of different waste like plastics, broken glasses among others since items like iron and bottles are recovered by waste pickers.

## 6. Conclusion

Waste production in our cities today has continued to increase especially with our changing consumption patterns. New dressing materials, foods, electronics, packaging amongst others remain tied to the new lifestyles. Therefore, a zero waste goal in our cities can never be achieved. Working towards measures of sensitisation which could lead to source sorting, proper disposal and consciousness on waste implication on the environment and human habitat can help improve the process. Also, the implementation of existing environmental laws relating to waste should not act entirely as a way forward in command-and-rule but as a way to strengthen the waste disposal process through discussions with communities and accepting proposals that can help propel the disposal methods.

## Recommendations

Considering waste as a problem to our environment, reducing their negative effects should remain a priority. This paper therefore provides the following recommendations as a way forward:

- Massive sensitisation should be carried out in the entire municipality as prescribed by the 1996 environmental management of the country. This will help educate the inhabitants on the necessity of cleanliness and pollution-free environment. Their contribution towards waste disposal can also be gotten through the process.
- Creation of community groups to coordinate waste collection within their local communities.
- The existing environmental laws especially the section relating to waste management, sanctions and duties of the community in partnership with local councils should be made available to the entire community for better participation.
- Source separation of waste should be considered an option in the Buea Municipality. Urban agriculture is gaining a higher toll as vegetables, fruits amongst others are being produced in large scales. Recycling domestic waste for manure production and or energy for heating will be of great importance to the community. To this effect, the HYSACAM through the Buea Council should provide labelled trash cans to enable source sorting of waste.
- There is a need for the creation of an entire law on waste management in Cameroon. With the increasing quantity of waste generated, the creation of

new laws that insists on waste recycling and procedures, community waste management and construction of landfills is highly recommended.

- The Buea Council should carry out a constant annual analysis on the extent to which waste disposal is being done within neighbourhoods. This will enable the council understand the challenges faced like accessibility and seek ways forward like creating road tracks or alternative sites for waste disposal in such neighbourhoods.
- The Buea Council should develop a suitable waste management policy that suit the environment. This can be done by taking note of the dominant waste generated and ways towards its separation and possible recycling.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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