

**The Complexity of Agency and Solidarity in Community Development: Household Plastic Waste Management in the City of Buea, Cameroon.**

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## **Dedication**

This work is dedicated to God almighty for His grace and mercy towards me to make this piece a success.

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## **Abstract**

The topic of this master thesis is Plastic waste management on community level. Plastic waste generation is a global issue that calls for concern and action on a local level as well as on national and global policy level.

The study was aimed to explore household plastic waste management in Buea, Cameroon. It was conducted within Buea community. The research questions were as follows, How do households in Buea generate plastic waste?, What are the causes of poor disposal and challenges faced by households to manage plastic waste in Buea community? How does plastic waste affect the residents livelihood?, and lastly, What efforts have the municipal council put in place for a sustainable plastic waste management in the Buea?.

To grasp the complex issue, the concept of community development approach was adopted and to understand how communities can work together to solve problems through solidarity and agency. Also, the theory of Environmentally Responsible Behaviour was employed to approach individual's experiences and strategies in waste management and to understand how their attitudes and behaviour towards plastic waste disposal can affect the environment and community living.

The study employed the qualitative research methodology in data collection and analysis. Semi-structured interviews were conducted to understand the social realities of 20 purposefully sampled interviewees. The respondents consisted of 18households and 2workers at the Buea council from the department of hygiene and sanitation.

The study reveals that there is a lack of solidarity and no organised structures put in place to manage household plastic waste in Buea. Also, the inadequate provision of community dust bins and the inconsistent door to door collection of waste made people to adopt poor attitudes and behaviour as they end dump indiscriminately on the environment and even on prohibited site. In addition, poor and weak policies on plastic waste management and lack of public awareness also contributed to the poor attitudes and behaviour of plastic management towards their environment.

Overall, the study shows the complexity and interlinkage between solidarity and agency in council and amongst community members.

**Key words: Household, Plastics waste, management, Buea, community, development.**

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## **List of abbreviations**

CD	Community Development
SDG	Sustainable Development Goals
UNDP	United Nations Development Programme
ERB	Environmentally Responsible Behaviour
NSD	Norsk samfunnsvitenskapelig datatjeneste (Norwegian Social Science data Service)



# **1 Introduction**

In this thesis, I will explore the complexity of ecological and social development in communities by investigating the challenges of plastic waste management in the city of Buea, Cameroon. Generally, improvement of plastic waste management is required in Buea as everywhere is polluted with such waste. To achieve the goal of managing household plastics will involve general participation of both households and stakeholders in the country and community as a whole. Communities can build up by collaborating to bring social change and development where ever there is need in a community.

According to Bhattacharyya (1995), there must be a rethink to community development and for a people to achieve development in any area in need, can only be through solidarity and agency action. In this light, Solidarity increases social relationship while Agency gives the people the power to be able to define what their problem is and not by others and therefore, help them to understand the cause of the problem and what needs to done to come up with solutions (Bhattacharyya, 1995).

The above literature partly explains why solutions to household waste management are yet to be figured out. The researcher will use the present study to investigate household plastic waste management in the city of Buea in Cameroon.

## **1.1 Contextual understanding: The ecological challenge of Plastic waste.**

### **1.1.1 The global challenges of plastic waste**

Plastic waste is a threat in the globe (Azeez, 2019). The thoughtfulness towards plastic waste in general has increased in recent years especially due to concern over ocean pollution and air pollution that can change environments and natural processes As a result, reducing the ecosystem ability to adapt to climate change which affects millions of people's livelihoods, food production and social well-being(United Nations Development Programme, 2007).

Plastics are generated by households because of its durability, flexibility, lightweight and cheaper to afford. In addition, plastics are usually non-degradable and so has the tendency to remain in the environment for many decades, as a consequent, causing huge effects in the environment and human health.(Ngwome, 2022). These plastics generated by households

cause infections to human being. Accumulation of plastics and those littered indiscriminately or improperly can harbour pest such as mosquitoes which causes diseases such as malaria. Most of the plastics used in packaging food are harmful to human body causing some problems such as cardiovascular system damage, obesity, cancer and much more(Merino et al., 2018). Also, the improper disposed plastics on the environment affect all aquatic and terrestrial life that comes in contact with it. They are also toxic to livestock causing blockage in their digestive systems.

These livestock often mistaken these plastic bags for food which eventually leads to the animals suffocating(Nxumalo et al., 2020). In addition, plastic pollution can cause the environment to look very untidy in the eyes of the viewers and also cause blockage to storm drainage and sewage systems which leads to flooding, and standing water which creates an ideal breeding ground for mosquitoes causing the risk of malaria infection on people.

In this master's thesis, I look at the challenges concerning plastic waste management in a community level, by taking on the perspectives of community members in a specific community in Cameroon. The rise of production and consumption of plastic for its numerous uses such as food packaging, shopping bags etc. has increase generation and poor management has raised a general concern not only in particular community but to the world at large.

The activities of community development are complex and challenging and one of those areas is plastic waste management. The complexity here, involves the action and participation in the structures set in place, agency, stakeholders and local population in plastic waste management. People are interlinked to one another and so, the absence of one can definitely affect the whole process of change. Therefore, understanding the role of each person in the change process is a call for concern in executing community development projects.

In terms of environmental justice, green social works is a form of practiced that enhance individuals well-being and the environment(Wang & Altanbulag, 2022). Community development could adopt an Eco social innovation approach that reflects both sustainability of human centred livelihood welfare and contributes to the harmony between humans and nature, thus promoting the sustainability of ecological, economic and social welfare integration(Wang

& Altanbulag, 2022). Hence, Eco social sustainability should not only focus of humans but also include nature as a subject in the intervention process of eco-social work(Wang & Altanbulag, 2022).

Plastic production and consumption has increased yearly by 10 percent and from 5million tonnes in 2006 globally and since then the figure keeps increasing. Since 1970s the rate of plastic production has grown faster than the previous years and has become a global challenge(European Commission, 2018).

The speedy growth in the plastic producing industry has brought so much concern because of the harms caused by plastic waste. Plastic waste particularly single waste use plastics and specifically shopping bags, packaging bags and bottles have become a symbol of consumption and a throwaway society(Ritch et al., 2009).

According to the report from World Economy Forum (WEF) in 2016, plastic is a by-product from oil refining and around six percent of the world's total oil production is used for plastic. Further, more than 300million tonnes of plastic is produced yearly, and about 26 percent is used for packaging products(World Economic Forum, 2016). Still on the report on WEF in 2013, an estimated 14 percent of plastic packaging was recycled, while 40 percent went into landfills and 32 percent littered into the environment.

Single use plastics make up 50 percent of all aquatic litter which poses a huge threat to animals that eat plastic bags in water and living creatures (United Nations Environment Programme, 2017). This is a call for concern in 2017, when the United Nation Environment programme (UNEP) launched a declaration on “war on plastic” which aims to eliminate major sources of marine untidiness. In addition, bans and taxes on plastics bags are among the measures encouraged by United Nations. According to UNEP, over 7 billion of 9.2 million tonnes of plastic produced from 1950/2017 became plastic waste ending up in landfills or dumpsites (United Nations Environment Programme, 2017).

Equally, a report from Eurostat in 2018 states that more than 29.1million tonnes of plastic post-consumer waste were collected in Europe with only 32.5 percent was recycled whereas 42.6 percent being incinerated and 24.9 percent in landfilled(Eurostat, 2018). Also, the

European Union adopted a direct system requiring member states to reduce the consumption of plastics; this has become part of their strategy for plastics management (European Commission, 2018).

Also, since 2015 Africa generated about a total of 19million tonnes of plastic waste of which 17 million tonnes was misused in 2015 and one person consumes about 16kg of plastic(Zaynab Sadan and Lorren de Kock, 2021, p. 8). Recently, plastic waste management is a social, economic and environmental problem in Africa and the globe at a large. Several reasons have contributed for the poor management of plastic waste in Africa which include lack of appropriate skills, inadequate budgets, weak legislation, public awareness, conflict, political instability and failure in governance. However, these gaps have led to the emergence of many social and technological innovations to tackle the issue of waste management in general (Godfrey et al., 2019).

In Africa, the volume of plastic waste is increasing including other waste but there is very little awareness on how to manage the waste(Godfrey et al., 2019).

International, continental and regional policies has been put in place to manage waste problems in Africa, though it is not clear as to how these policies are implemented into action and progress so that governments of different African countries can achieve their objectives towards plastic waste management(Godfrey et al., 2019). The government in many African nations are not proficient to apply waste and environmental laws and this has led to freedom on implementing the proper ways of waste management. Therefore, has destabilized the effectiveness of waste management as a whole- The point here, is for the government and private companies including local populations to walk alongside with the growing plastic wastes problem and develop good policies and strategies to effectively deal with the crisis(Godfrey et al., 2019)

### **1.1.2 Plastic waste management and challenges in the context of Cameroon**

In Cameroon, there has been a continuous struggle against plastic waste pollution for many years. A report from the Cameroon Ministry of Environment, Nature protection and Sustainable Development, states that Cameroon produces about 6 million tonnes of waste each year, including 600.000 tons of plastic, and only 20% is recycled while the rest ends up in water bodies and landfilled (Kiven, 2022).

Many Urban towns in Cameroon suffer from the presence of plastic waste littered all over the environment. Buea being one of the urban cities in Cameroon is highly polluted with plastic waste as well. With the fast growing population in urban cities has led to high rate of plastic waste generation which most times are not co-ordinated by improvement in management and appropriate dumping of waste materials on the environment.(Albrecht et al., 2022) More people in Buea will literally imply high level of plastic waste generation, therefore, more waste to be managed in the community which has definitely becomes a threat to the city as the authorities and population are unable to effectively manage such wastes. Hence, the inability of societies to manage plastic waste generation effectively plays a great role in increasing environmental problems (Alam & Qiao, 2020)

Plastic waste is a growing concern in Buea, the volume of which is dumped on land, ocean, streams, unauthorized areas and dump sites. Huge amount of plastic waste usually come from households and industrial activities in Buea. Humans consume and generate more plastic waste and so generates a huge amount of waste as their waste management practices affects their environment and livelihood. Plastics are produced and generated mostly in urban areas in Cameroon due to the growth in population and changing lifestyle.(Eugene & Busch, 2011). People prefer to use plastics because of their more preserved, convenience and saved method of packaging items they get from shops and the market. As a result, the use of plastic has become very popular and most preferred packaging materials in both households and industries. Plastics are usually disposed and littered on the environment which calls for cleaning plastic waste in the surroundings, streets and general public.

In Cameroon, there are Laws and Acts that explains the general principles of international environmental law, precaution, prevention, polluter pays, sustainable development, public participation and cooperation are control under Law No96/12 of 5<sup>th</sup> August 1996 relating to environmental management policy were adopted under the ministry of Environment and Nature Protection(Etong, 2021). The laws take into consideration the natural environment and the biogeochemical balances as well as the economic, social and cultural aspects which help with the existence, transformation and development of the environment, the living organisms, human activities as well as participation by all citizens in the country. The government of Cameroon has adopted good laws for environmental protection. However, the degree of

enforcement of these laws are not yet effective and efficient due to some internal and external challenges such as lack of funds , corruption, political will lack of commitment, technology and science(Etong, 2021).

In Cameroon, the implementation and enforcement devices for the existing legislations are feeble because there is no appropriate comprehensive and holistic approach in combating and preventing the further spread of plastic pollution (Ngwome, 2022). Therefore, there is no complete legislature directly dedicated to solving the problem of plastic waste in an all-inclusive way in Cameroon. Also, Ngwome (2022) asserts that, the regulatory insufficiency is responsible for the increase in plastic pollution, because in Cameroon, the legislation the help to address plastic pollution have a limited scope of application as they do not control all types of plastic waste generated. In addition, the relevant legal instruments are split and dispersed, since there is no legal instrument that is specifically planned to fight plastic pollution and there is no particular legal mechanism that addresses plastic across it full development from manufacture to commercialization, use, disposal and waste management in Cameroon(Ngwome, 2022).

Several of such departments within the ministry have been created to protect the environment in Cameroon. The creation of the ministry of Environment and Forestry and the Development of National Environmental Management Plan have transformed into different other ministries which have regionalised powers linked to waste management in Cameroon(Manga et al., 2008). Consequently, it has led to uncoordinated course to planning which has no clear distinctions of individual's specific roles and responsibility to manage the social problem.

In Cameroon, the activities of waste management services are totally handled by the municipal councils of all urban towns. Their responsibility is to provide and maintain waste disposal facilities, collection and transportation and disposal of waste generated by households, and management of all public arenas across the nation(Oben Mbeng et al., 2012). It usually involves the movement of household plastic waste by children and women from homes to community dumpsites. Often times, the children dump waste by roadsides, bushes, farmlands. Thus indiscriminate dumping is very common in communities in Cameroon(Oben Mbeng et al., 2012).

In Cameroon, waste volume and disposal cost are increasing, therefore, putting much pressure on municipal councils in different cities to manage the problem as most of the councils have outsourced the collection and disposal of plastic waste to private sectors which still cause collection of waste to be slow and is not really effective (McKay et al., 2015).

According to McKay et al (2015), some of the factors that the sector of waste management is facing in Cameroon includes, the presence of inadequate organisation structures, poor logistic support, lack of capita and technical expertise, inhibiting government policy and legislations as well as low level of awareness and education at the level of the household not forgetting the lack of engagement and collaboration.

Also, in Cameroon, the lack of data in the quantity and quality from the different waste types regarding source, per capita generation and physical characteristics makes it difficult to develop local solutions promoting sustainable solid waste management in Cameroon (Oben Mbeng et al., 2012).

Manga et al (2008), asserts that power relations in Cameroon adopts the practice of top-down approach to decision making from the ministerial departments that exercise control over the municipal councils whose power to execute are limited. By this, the councils always wait to get instructions from the ministries responsible to carry out any execution to bring development. Thus assistance must come from the government before coming down to its representative at the bottom being the municipal councils (Manga et al., 2008).

Further, in Cameroon, plastics waste represents about ten percent of the six millions tonnes of waste produced every day (Kiven, 2022). Most of these plastic waste produced are used for packaging, such as, sachet water, bottled soft drinks and water, straws, body cream containers just to mention a few. They are carried by individuals from one place to another, which often ends up in water bodies, landfills and the surrounding environment. Consequently, the improperly disposed plastic waste becomes unregulated waste. The daily use of plastic products have become an integral part of daily lives in households and now constitute a major proportion of the plastic waste generated throughout the city of Buea in Cameroon.

It is estimated that, about 600,000 tons of plastics in different forms is imported into Cameroon annually and only an estimated amount of 200,000tons is recycled after use (Kiven, 2022). With the few recycling facilities in Cameroon, the problem of post- consumer household plastic waste is a huge issue of concern to the population and the council of Buea as well. Nonetheless, there have been several attempts by the council to address the issue. Some of the methods put in place to manage plastic waste, such as waste dump sites and open burning often ends up in streams, on streets and open places making the environment look polluted with plastics in Buea(Georges, 2015).

### 1.1.3 Context

Buea, the selected study location is one of the prominent urban cities in Cameroon and the capital of south west region and former capital of Southern Cameroon. It is located at the foot Of mount Fako, about 800m above sea level, with the height of 4.040meters and 0.7meter above sea level. It has a population of about 200000 inhabitants.(Eugene & Busch, 2011) The presence of the only Anglo-Saxon university in Cameroon including so many other institutions is a main factor for a geometric population growth rate. The expansion of Buea's population and its burgeoning economy has increased the quantity of waste generated and has a rural council that is responsible to manage waste in the city(Eugene & Busch, 2011).

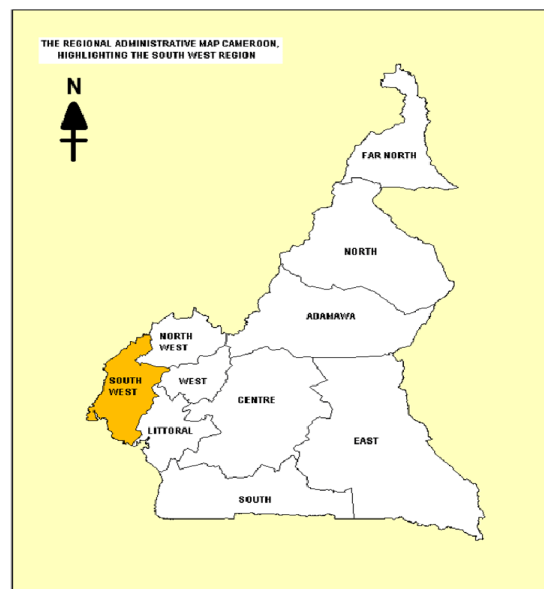


Figure 1 Map of Cameroon showing the study area highlighted in yellow (Tabah, 2010)



## **1.2 Problem statement and research questions**

The purpose of this research is to understand the complexity of community development and how the complexity appears within systems in Buea communities about plastic waste management. In view of this; I seek to investigate and understand how household plastic waste is managed in the city of Buea in Cameroon. To address the main theme of the study, the following research questions will be answered.

- 1) How do households in Buea generate plastic waste?
- 2) What are the causes of poor disposal and challenges faced by households to manage plastic waste in Buea community?
- 3) How does plastic waste affect the residents' livelihood?
- 4) What efforts have the municipal council put in place for a sustainable plastic waste management in the city of Buea?

## **1.3 Relevance of the study to community development (CD)**

During the master's program, we focused on different theoretical perspectives of community development. In this thesis, I show how plastic waste management is related to community development.

Based on the global statistics mentioned previously in the study of the effects caused by plastic pollution on the ocean, animals, human health and environment shows that proper plastic waste management is not just an individual issue but a need for everyone in the community to have concern in order to preserve and protect nature.

Plastic waste is an issue of deep concern and complexity that requires an urgent response which is involving the participation of stakeholders at all levels. For Participation to happen a bottom-up approach for change is suggested to be adopted. Universally, the target of Sustainable Development Goals (SDG) for reducing plastic waste and recycling have been formulated and , thus the authorities at both the local and national waste management are doing their best to engage more people at household level in collective effort to methods of managing plastic waste(United Nations Development Programme, 2007).

Community members minding their behaviour of disposing plastic waste is extremely relevant in their community because it will prevent their households from experiencing the terrible outcomes of plastic waste on the environment, ocean and to the animals(Hussein et al., 2020) This will help individuals to protect their neighbours and the environment as well there by, households in the community can emulate good behaviour to dispose, consequently protecting the nature for both present and future generation. Participation by all and adoption of an eco-social sustainable approach to help enhance cleanliness, healthier and more attractive community for people to stay safe(Wang & Altanbulag, 2022).

The United Nations Sustainable Development goals reaffirmed sustainable plastic waste management advocates for plastic management in the goal 12 which addresses environmental sustainability by preventing plastic in the environment, avoiding health risks and the absolute reduction of plastic.(Sustainable Development Goals (SDGs),, n.d.) The purpose is to promote the integration of the principles into country policies and programs (United Nations Development Programme, 2007).

The unrestrained and illicit disposal of plastic is affecting not only the social and economic well-being of people but, also, human health, wildlife, marine environment and the ecosystem. Plastic waste management is relevant to community development in that, it promotes community (people) engagement which is a very vital aspect to a sustainable plastic waste management and development. This pattern has emerged as a common way to implement waste management strategies especially in developing countries like Cameroon and Buea in particular where the study is carried out. Collaboration among citizens has shown to be a huge advantage due to implementation and adoption of the method of separation and recycling of plastics waste in the various communities(Rigasa et al., 2017).

Furthermore, communities can collaborate and participate by legislating environmental principles and plastic waste management policies which can help reduce the volume of too much plastic waste on the environment and sometime can create employment for the community people as plastic waste can be recycled and make them useful for another use(Zadeh & Ahmad, 2010). This can be a way of controlling their attitudes towards indiscriminate disposal of plastic waste on their environment.

In Practice of such activities will enhance the people's level of environmental awareness which influence their behaviour and attitudes towards realizing a sustainable plastic waste management in different communities. Collaboration between government agencies, citizens, private organizations and non-governmental organizations is good step to provide a lasting waste management service(Bhattacharyya, 2004). By collaboration and implementation of effective policy tools is an area not to be overlooked when intending to bring social change. Therefore, stakeholders at all levels in a community have to come together, take action and work cooperatively to look for solutions to plastic waste management from rural to urban towns in every country. During participation, everyone in the community should be included at all the stages of the process to realise a sustainable change towards plastic waste management.

Implementing policies such as imposing fees on plastic bags, bottles in shops can help community members to mind their behaviour and attitudes towards the use of plastic which can help to reduce them in the environment and in water bodies. Adoption of proper waste disposal policies such as reduce, reuse, recycling and sorting can bring awareness on how citizens can implement proper disposal patterns to avoid indiscriminate disposal of plastics in the environment(Albrecht et al., 2022). This can definitely avoid water and soil contamination, ill health on humans and the ecosystems and more. Educating people on the toxic nature of plastic waste to their health could help them to care of their immediate surrounding. Sensitization, public awareness on disposal and improve treatment methods will definitely help communities with such problems and could achieve lasting solution(Eugene & Busch, 2011).

In general, community participation in proper plastic waste management is very crucial for promoting a safe, healthy and sustainable community, hence, helping to protect the environment, promote public health and create economic assistances for the community people.

#### **1.4 Organization of the thesis**

The thesis is organised in five chapters. Chapter one presents the general introduction of the study which gives the background, objective of the study, study area, research questions, relevance of the study to community development and general effects of plastic waste on the environment and the definition of relevant terms in the study.

In chapter two I present the theoretical and conceptual framework I focus on understanding the complexities of plastic waste and community development. I focused on and the aspect of people's attitude and behaviour and attitudes towards the environment through the theory of Environmentally Responsible Behaviour was adopted to evaluate people's behaviour and attitudes and behaviour towards household plastic waste management.

The methodology I choose to use for data collection and data analysis, sample techniques, research positionality, validity and ethical consideration and limitations are explained and discussed in chapter three.

In chapter four, present and gives detailed analysis of the findings which attempts to answer the formulated research questions.

In chapter five, I present the discussion of findings, before I propose a conclusion and point at the need for further research on the topic.

Lastly, in chapter six, I propose some recommendations followed by a list of references which is the list of all the documents, articles consulted and the information used in the study and appendix presented at the end pages of the thesis.

## **2 Theoretical/ Conceptual Frameworks**

In this chapter, I will present relevant theoretical understandings of community development in relation to complex eco/social challenges such as plastic waste management. Theories and concepts regularly constitute a central part of a research process. According to Silverman (2015), whenever a researcher gets on a study, she can either be assessing the validity of a study or trying to create one. Here, I explain the concept of community development and how it is understood and used in this study of household plastic waste management.

### **2.1 Understanding the concept of Community Development (CD)**

The concept of community development is the empowerment of the community (people) as a way of meeting human needs. Often, community development projects are geared towards need-based, Asset-based and demand-based, which are developed towards the priority and needs of the community(Bhattacharyya, 1995).

Also, Community development(CD) encompasses of people coming together and working cooperatively towards finding solutions to the problems that affects them(Haines, 2009).

In other words, people come together to take action on what is vital to them. The actions could be addressing physical improvement, such as roads, pipe born water, housing and social activities like environmental hygiene, education, entrepreneurship and self-reliance projects. In this view, community is considered the group and development is the inclusion and freedom for all to involve without restrictions. Hence, human development can be viewed as the creation and development of people's choice and competencies. Community development is a process by which the effort of the people at grass root level is united with those of government to achieve success in a project (Ntini, 2006).

According to Bhattacharyya (1995), Community development is about improving living conditions and way of life to solve common problems. It could be done with such rational to change the economy such as socio-cultural and environmental situations that affects people in a particular community or place. He place emphasizes on the aspect of community development in the light of Solidarity and Agency(Bhattacharyya, 1995). Solidarity is the key element to every community and an important aspect to bind people together. In addition, it increases social relationships and act as an advantage of aligning community development with other disciplines such as intellectual pursuits in humanities and social sciences

(Bhattacharyya, 1995). Agency, on the other hand is the power of doing something different to bring development and increase living conditions in the community. People are giving the opportunity to define their problems, the cause and develop ideas on what needs to be done to bring solution (Bhattacharyya, 1995). Bhattacharyya's opinion is that, this process ignites the feeling of belonging, inclusion and recognition with the community a system of involving people to order their activities. Ibrahim (2006), concur that Solidarity are essential for the achievement of individual and community well-being, while agency is needed to achieve goals in the environment. Thus, people will have the knowledge to have a conscience of their behaviour and actions and can actually think about their daily activities as they mind their actions.

Solidarity and agency awakens the consciousness of the community people to think judgmentally about the problem they are facing and collectively act to resolve the problem in the community. According to Ibrahim (2006), agency can allow everyone in the community to collectively foster positive change in their individual lives and the community. That is agency stresses on the ability of the people to act and develop new ideas to bring social change and achieve the goals they cherish and leading to a further widening of development.

Hence, those carrying on community development can treat people as agent that is allowing people to develop new ideas that can help bring lasting solution to a problem by involving all from the beginning of the project till the end. Within this response, Bhattacharyya (2005), view on community development is that, it can be achieved by applying the following concepts which includes self-help, felt-need and participation. These three concepts of community development are applied to collective driven social work as it gives people ideas to come up with solutions to the challenges they are facing in their community.

The concept of self-help explains that, when humans are allowed to be productive, active and creative rather than to only consume or receive from others(Bhattacharyya, 1995). As a result, people are left to understand their issues and given the opportunity to work together to bring change by being self-reliant as they can use what they have (asset based) to add to what they need (need based) to help solve their problems(Deneulin, 2004). Self-help in community development is a collective activity for human capabilities to help people achieve the lives they value for their wellbeing and the community. Community wellbeing is a network of

social conditions which enables individuals and groups of people in a community to flourish and live a fully genuinely human life (Deneulin, 2004). In community development, self-help initiatives are defined as any informal income generating or social activity initiated by a community to achieve sustainable changes in their individual and communal well-being (Ibrahim, 2006). Self-help initiatives are vital for promoting change in any community as they allow individuals in the community to create and clutch new opportunities and collectively invest to bring change individually and to the general community. Also, self-help could be a way to enhance community participation and stakeholders to engage in collective active action to fight environmental problems such as house hold plastic waste management, thus helping communities to have the freedom to expand their capabilities to development (Sen, 2014).

Self-reliant and collaboration can be a product of development that can bring social change in a community. Such projects carried by the community helps them to solve common problems. By so doing, self-reliance communities will be capable of organizing themselves to carry out self-help action, under their own leadership, initiative and the local resources available in the community (Ibrahim, 2006). Furthermore, self-help programmes will help to enhance and expedite effective enactment of livelihood through this initiated projects for the social benefit of the people in that community. Therefore, people can act to develop themselves and the community (Ibrahim, 2006).

The concept of felt-need is also vital among people in a community and considered as basic for community development and changes deemed necessary by people to correct the differences they perceive in their community (Onyenemezu & Olumati, 2013). For Bhattacharyya (1995), felt-need is relevant in community development as it provides the ability of the community people to see the importance and priority of their problem and need to solve it and not to be defined by others who have little or no knowledge about it. That is, felt involves the process of identifying needs, prioritizing them and building programmes based on their priorities. He said felt-need helps to facilitates social networks, bond and trust that ensures coordination and corporation from mutual assistances which is a key element of solidarity in every community (Bhattacharyya, 1995). Felt needs is a force that stimulates intrinsic drive which in turn serves as a driving force that induces participation in community

development efforts, thus making people to see the project as “ours” not “theirs” (Onyenemezu & Olumati, 2013).

According to Onyenemezu and Olumati (2013), felt-needs in community development happens as a result of people’s awareness of the fact that they have the capability to confront the boundaries and solve their problems through their own individual or collective energies. Hence, it is a strong drive for change that is moving from an inferior situation to a healthier one in social economic, political, cultural and environmental setting.

Further, the third aspect is applying the concept of participation which is part of human development and the main symbol of community development in social science known as Agency(Bhattacharyya, 1995). The concept of participation in community development is relevant as community development cannot take place if there is no participation of community members. Thus, participation takes place when community organizes itself and engage responsibly to solve problems. Taking responsibility includes identifying the problems, developing actions, putting them in place and does a follow up (Zadeh & Ahmad, 2010). Besides, Breuer (1999), points out that, by participating, it help community members to get new opportunities for creative thinking and innovation planning and development. So, participation is actually understood as giving everyone a voice in local decision making and planning.

In community development, effective participation by everyone member in the community could help target resources more effectively and efficiently(Breuer, 1999). This view is supported by Arora, by asserting that participation promotes efficiency, effectiveness and equity the complete process of development and most of the technical assistance in planning and carrying out development programmes be provided by the government of each country(Arora, 1994). Hence, encompassing both stakeholders and community members in decision making could lead to better decisions being made which could be more appropriate and sustainable because the people feel they own the project(Breuer, 1999).

During Participation, people are permitted to be inclusive in every activity of a development process in a practical way which gives people the ability to live and speak out what is actually disturbing them(Bhattacharyya, 1995). Craig et al (2008), on their part, affirms that



community workers emphasized or stressed on the importance of more holistic, bottom-up approaches, focusing upon participation and inclusiveness and working in inter-disciplinary ways across professional boundaries(Craig et al., 2008, p. 16). Their opinion is that, participation can enhance collaboration and inclusiveness as both stakeholders and citizens can be able to identify and bring solutions to their problems.

In agreement, with the arguments presented above, it can be said that community development and people involvement may have an important role in development where community development workers can continue to make significant contributions as reflexive practitioners in the current context ,when drawing on lessons to be learnt from their own experiences of practice, to strengthen the roots of sustainable movement for social change(Craig et al., 2008, p. 28).

It is understood that when people work in solidarity, they can easily have access to ideas, information and resources that could promote their level of environmental awareness as well influence their behaviour towards a sustainable broadly approach of managing household plastic waste in the city of Buea in Cameroon

Community development screen through the concepts of Solidarity and Agency, Felt-need, self-help and participation will form the conceptual framework in this research.

Here, the study seeks to understand if community participation in identifying and seeking for ways to contribute to solve their own environmental issues troubling them can help improve the environment and livelihood of a people in a particular region.

## **2.2 The Theory of Environmentally Responsible Behaviour (ERB)**

The underlining goal of this thesis is to get household members on board, their collective efforts of increasing plastic waste management rate in the city of Buea. It suggests that in order for people's attitudes and behaviour to change, it is good to encourage them on how they can properly dispose plastic waste and to understand what could be their current thought towards the problem.

Based on the effects of plastic waste on both humans and the environment mentioned earlier the researcher deems it relevant to look into some factors that influence environmental attitudes and behaviours towards household plastic waste management. The aim is to examine how people's attitudes and behaviour can influence their actions. This approach was adopted to understand people and their environmental behaviours towards plastic waste management in Buea viewed through the lenses of the theory of environmentally responsible behaviour (EBR).

The theory of ERB argued that, possessing an intention of acting is a major factor influencing environmentally responsible behaviour(Hines et al., 1987). The model indicates that variables such as intention to act, loss of control, attitudes, sense of personal responsibility, knowledge and suggestion whether a person will adopt a particular behaviour or not(Hines et al., 1987). According to Hines et al (1987), the model considers the major variables that play a part in people's process of ERB adoption. Their opinion is that, the internal control centre has a very considerable impact on the intentions of acting which actually determines an individual's behaviour towards the environment. Further, they highlighted that, the model can be viewed in the lenses of the existence of a relationship between the control centre, attitudes of individuals and their intentions to act the way they do(Hines et al., 1987). Here, they emphasized that, the control centre directly affects individual's attitudes which can lead to improve intentions of acting. ERB theory therefore, focuses more on existing interactions between limitations that influence a person's behaviour than on the singular effect of a single variable(Akintunde, 2017).

In addition, in waste management processes, no single factor is responsible for individual's current behaviour or sufficient to initiate behaviour or cause one to change either positively or negatively. For example, in Buea, plastics are littered everywhere in the streets, and general surroundings. Waste are assembled up and thrown indiscriminately by individuals in the streets, compounds, uncompleted buildings and unused plots (land) etc. Here, I try to figure out what makes people in the community to act the way they do and what are some of the aspects responsible for the intended actions towards indiscriminate disposal of plastic waste.

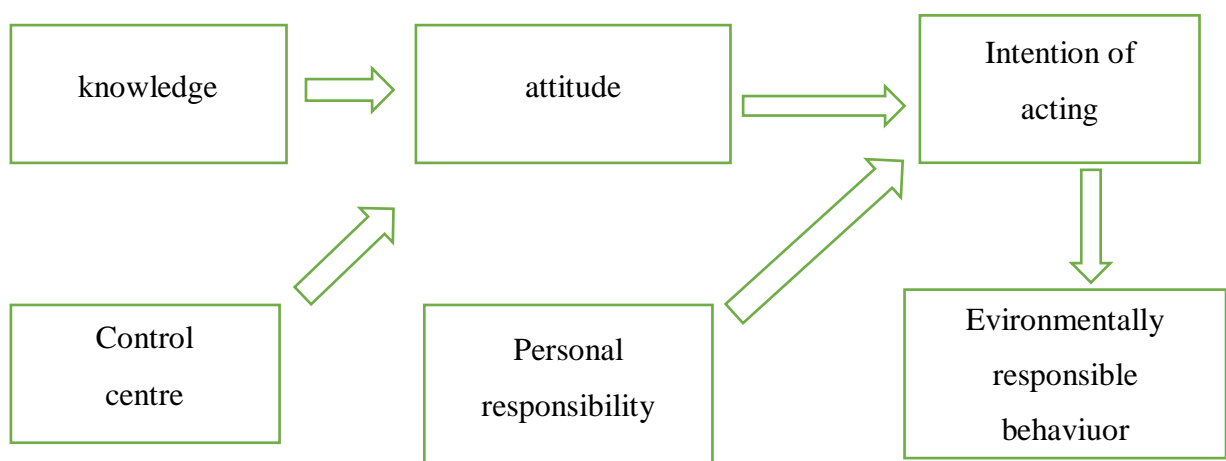
Is it the lack of control action from the waste management agency or authorities (Buea Council), ignorance with regards to their actions or the lack of information of the effects on the part of the people that affects their actions and behaviour towards waste management? People still dump on areas where they don't have to especially at night and when no one is looking at them. Some people emulate from others as they indiscriminately dispose their waste. Behavioural change model reasoning was directly associated with the assumptions that if people were better informed, they would become more aware of environmental problems and as a result, would be motivated to behave in an environmentally friendly manner(Akintunde, 2017).

Also, Barr (2007) highlights on individual behaviour in terms of the value they place on the physical environment. He further explains that if people have great value on their physical environment they will be more open to change. So, the understanding of individual value on environment can have a relationship between nature, culture and environment(Barr, 2007). Hence, the most leading element of environmental value pertains to those behaviours and attitudinal domains, which refers expressly to the way people treat their physical environment (Janmaimool, 2017).

Waste management explored through people's Behaviour and attitudes can have both positive and negative consequences on the environment. Here the study seeks to find out if individual's attitude and intentions to act towards their environment can be based on which pro-environmental behaviour can be created and to understand whether ERB has a profound effect of how households manage their plastic waste in Buea.

### **Environmentally Responsible Behaviour Theory**

**Source; Akintunde, (2017).**



In the diagram, knowledge alone is not enough to act responsibly towards the environment but internal control centre has a huge impact on the intention of an individuals. It explains the presence of a relationship between the control centre, attitudes of individuals and their intentions to act which affects people's attitudes directly(Akintunde, 2017).

### **2.3 Definition of important terms in the study**

This paragraph starts with definition of some important terms used throughout the study

#### **Plastic**

Plastics are organic polymeric materials consisting of a large collection of synthetic organic compounds that are produced by polymerization of many repeating units that come together to build copolymer(Hussein et al., 2020).

#### **Community**

This is a social or group of living things which have commonalities such as values, customs, religion or identities. Thus, community will mean a place, territorial or geographical area for example Village, town or neighbourhood (Green & Haines, 2015)

#### **Development**

Development is seen as a proficient use of resources and the ability of the community to build and improve on the quality of life by using already existing talents or skills. It is a process which enables human beings to realise their potential, build self -confidence and live a life of dignity and fulfilment (Rist, 2014)

#### **Community Development (CD)**

It can be defined as a planned effort to produce assets that increase the capacity of residents to improve their quality of life. In other words, it is a principle of empowerment, human rights, inclusion, self -determination and collective action amongst s members to become experts in their lives and communities.(Haines, 2009)

### **3 Research Methodology**

This chapter will also explore the qualitative tools and strategies employed in data collection, sample collection, data procession, analysis and discussion.

#### **3.1 Methodological approach**

Methods are procedures and techniques used for gathering and analysing data collected. Research methodology is set out systematically on how the researcher intends to solve the research problem underlining the study(Silverman, 2015).

The study adopts a qualitative approach. The choice of qualitative approach in this study is to fully understand the express views of respondents' real life in terms of words, experience in management of plastic waste. Therefore, a real world setting to find out the sequences in which participants meanings and practices that are deployed(Silverman, 2020). This helped the researcher to fully understand the express views of the households respondents demonstrated through their actions, activities, participation and knowledge as concern household plastic waste management in Buea. The advantage of the method in this study is to enable the researcher to discover the complications of everyday activities of people in the process of managing household plastics in Buea.

#### **3.2 Sampling and selection of informants**

According to Mason(2010), in research, sampling is the technique and principles that are employed to identify, choose and gain access to suitable data sources, from which data is produced using selected methods Based on the complexities in qualitative research, it is relevant to adopt the right sampling techniques(Mason, 2010) This method is to guide the researcher on a practical path and to help maintain a scientific research. The aim is not to generalise facts, but to gain a profound understanding of the awareness of my informants. The study employed the non-probability sampling in order to prevent the risk of generalising evidences. Therefore, the respondents were chosen, established on assured criteria that answered the objective and research questions of the study. The advantage for this type of method is that it enables the researcher to select groups and categories of persons on the foundation of their importance to the research questions, theoretical position and analytical structure(Mason, 2010).

### **3.3 Socio-democratic data of respondents**

Based on the study, respondents were both men and women. Amongst the 20 respondents for households 13 were women and 7 were men from different households. The gender aspect of the study population targeted by the researcher is because, women are more involved in household waste management than men, and more relevant information would be collected from them. The level of education varies amongst the respondents. Most had primary and secondary level education. A few had high school, college and university level education. Majority of the respondents have at least secondary education level which is a proof that the sample population is literate and definitely have concern of environmental hygiene. The age of the respondents ranges between 18 and 55 years, which apparently show that most respondents were within the adult age groups. Some of the respondents were involved in farming activities. Majority of them were in civil service, business and other occupations like driving. Therefore, most of them are engaged in income generating activities so, there is a tendency that these set of respondents has a high purchasing power, hence, generating more plastic waste since they are capable of buying them.

### **3.4 Data sources**

The study for the thesis sort information from both primary and secondary data sources. This data is collected from a first-hand source. Primary data collection for this study was collected with the application of semi-structured interview guide, whereas sample units were collected with the use of snowball. Besides that, observation was also used to understand the places and activities at the community dumpsites.

Interview is the gathering of information about human behaviour and motivation that allowed the researcher to gain deeper understanding of the history, culture and everyday aspects of participants process shaping social worlds (Brinkmann & Kvale, 2015). Also, it is a method that relies totally on face-face interviews to reveal the persons understanding on the subject matter under research.

Secondary data involved the consultation of government official reports, journals and articles relating to household plastic waste management in Buea were used in order to gather relevant data that enabled the researcher to understand back ground knowledge of the management of

plastic waste in Buea. Some of the articles and journals were accessed via webpages and school library.

### **3.5 Semi structured interviews**

The researcher used semi-structured interviews to gather information from 20 respondents, 18 household members and 2 workers responsible for environmental hygiene and sanitation in the Buea council on how they are able to manage household plastic waste. Semi structured interviews were used to get information that focused on respondents action, attitude and participation. Semi-structured interviews are simply conversations which a researcher know what she wants to find out about and so have a set of questions to ask and a good idea of what topics will be covered, but the conversation is free and can change substantially between participants(Fylan, 2005). During semi-structured interviews I talked to the respondents in order to find out about what they have experienced and what they think and feel about the topic I am interested to research on. The aim was to investigate their main efforts and consider different perspectives with regards to plastic waste management policies and services in the city of Buea.

Also, household heads were chosen and families with more than 5 persons per home were selected through the snow ball method where other households with more than 5 family members were identified by others. A face-to- face interviews were conducted amongst adults aged from 18+ at informants homes in Buea. The questions were related to household general understanding of waste management, plastic waste disposal methods, plastic waste generation, challenges they faced to manage plastics, effects to their livelihood and participation about disposal and efforts the council has put in place to manage plastic waste. Here, the aim was to understand how they generate plastics, reasons for preferred use of plastic, difficulties they face in managing plastics and how does it affect their livelihood. Further interviews were carried out at the level of the council. 2 workers at the department of environmental hygiene and Sanitation responsible for managing waste in Buea.

Interviews are very relevant in data collection because it is literally an inter-change of views between two persons about a theme of mutual interest (Brinkmann, 2015.p.2). This allowed the researcher to ask open questions which further allowed the formulation of follow/up questions that popped up during the interview process. Open questions gives the respondent

the opportunity to go in-depth where they have much to express and their experience about the topic as they come out with points the researcher had not thought about.

The advantage of me choosing semi-structured interviews is because first, it makes it easy to answer the why and how questions. It is also flexible and makes it easy for me to explore on the complex topic such as plastic waste management. Semi-structured interviews also provides a more suitable format to converse subtle topics that always comes up with a series of follow up questions which helps the researcher to get more inside of the phenomenon under investigation.

Another advantage of this method is to help the researcher get to understand the history, culture and everyday aspects of its respondents and was simple and practical to use. Here, people are able to express themselves about something deeply, which can help the researcher understand relevant issues concerning the knowledge he or she is consuming. Nevertheless, this method is time consuming and costly and if not well done can cause biases sometimes.

### **3.5.1 Snow-ball technique**

This is a non-probability sampling method in qualitative research. Specifically, this method is adopted when a researcher is studying a population that is hard to reach. Snowball sampling is a sampling technique in which the researcher samples initially a small group of people relevant for the study. A respondent recommends other respondents who have the same characteristics relevant to the research. Snow balling identifies cases of interest reported by people who know other people involved in similar cases of interest(Hay, 2016). That is selecting of all cases that meet the criterion such as large families of more than 5 members that generate much plastic waste and can give their response in their involvement in household plastic waste management in Buea. The advantage of this technique is that , it is low cost and less time consuming to recruit respondents as all the researcher needs is to identify someone willing to participate. A disadvantage is that, since the sample relies on referral it might lead to sample bias and in some cases respondents might not want to participate in the study.

### **3.5.2 Observation**

This is a method in qualitative research which involves gathering information by watching events, people's behaviours or noting physical characteristics in their environment by the



researcher. Observation allowed the researcher to familiarize and double check the problems on investigation. According to Hay (2016) the researcher watches over the events that are happening around the research subjects and how they engage.

Observation was made by visits at some dumpsites in the city of Buea. I visited the dumpsites twice, in the evening hours because that is the busy hour that many people throw their waste. I did this to understand the manner in which they are dumping at the site. This was to enable the researcher to understand how the waste at dumpsites surrounding is managed. Also, the distance to the dumpsites and the duration the waste stays at the dumpsites before it is removed and the effects it cause to the surrounding residents. The advantage of this technique is that, it takes a shorter time and I was more focused on what happens at the dumpsites during and after dumping of plastic waste. But, sometimes it is difficult to really observe people's attitudes and motivation as observer may affect behaviour if noticed.

### **3.6 Data Analysis**

Data analysis in this research is oriented around participation. The analysis depended on peoples responses from the interviews which are the primary data in the study and published books and articles served as data source. It is aimed to make sense of people's opinion and perceptions by looking for models and putting together differences. The interviews through facta face were with consent of the respondents were written down and transcribed word for word.

The researcher opted for a thematic analysis. According to Bryman (2012), it is a category identified by the researcher through her data that relates to the research focus and questions that is built on codes identified in field notes that provides the researcher with the basis of a theoretical/concept understanding of the data that can make a theatrical contributions to the literature relating to the research focus(Bryman, 2012) The data analysis for this research was established on the interpretive approach that relied on themes talked over. The themes of the research noted relied on the research questions.

During the process, the researcher read all the transcripts keenly and marks them in a set of codes and use different coloured markers for each theme and category with repetitive topic, similarities and differences in the way respondents express themselves during the interview.

With coding, the researcher break down, examines compare , conceptualize and categorized data (Bryman, 2012).

### **3.7 Validity of Data**

The major reason for any research work is to collect empirical data in a manner that is trustworthy. The collection must be done in a structured and reflective way so that those reading the results might have the chance to evaluate whether the results show what the researcher claim that they do. According to Twinn (1997) researchers are recommended to incorporate checking in to their study process by going back and forth into the research question in order to achieve a trustworthy result. Validity means to check whether the study truly measures that which was intended to measure(Twinn, 1997).

The validity of the results was enhanced first, the interviews guide question was pretested to ensure that the questions asked and information I got from the respondents was exactly to answer the research questions and objectives of the study. Second, I personally interviewed my respondents to properly understand their perspectives and at any point during the process where respondents do not understand a question clearly, I rephrased to ensure proper understanding to get the right answer to the study.

Also, follow up questions were asked which helped the researcher to make corrections or update some missing information relevant for the research. Sometimes, validation can be a difficult factor to measure in qualitative research where emotions, believes and moods of the interviewees can affect their responses(kome, 2012). However, the information gotten from the respondents is reliable and that is what I used to draw conclusion for this research.

### **3.8 Ethical Consideration**

Ethical guidelines were prioritized throughout the study. During research process, researchers are advised to avoid intruding into their respondent's privacy. Twinn (1997), argues that research ethics questions the behaviour of a researcher and his or her responsibility and commitments to the various actors involved in the research. To make sure I was working in line with the recommended ethics. First, I registered the study and followed ethical guidelines of the Norwegian Social Science Data Service (NSD).

After, I got approval from NSD, I wrote a consent letter which was served to all my respondents (**see appendix**). In the letter, I introduced myself and explained the purpose of the study, how the data was going to be used and how their identity will be protected and most importantly, that they have the right to withdraw from the interview at my point in time and their information and identity will be kept anonymous.

During the meetings, I took the consent letter with me for them to read and sign. In addition, I explained to them the reason I am taking down notes so they might not feel insecure, but to assure them that I don't want to forget and mix up ideas when transcribing the results. I did not record the interviews, something that made it a bit challenging having to write a lot during the interviews. However, to avoid the recording device was important to escape the sense of interrogation/ formality of the conversation. I wanted my informants to feel relaxed in the situation. Often times, I addressed the issue of invasion of privacy by reminding my respondents at the start of the interview that, they could answer or omit any question they don't feel comfortable to answer and can withdraw from participating at any time.

Also, respondents had the opportunity to revise the transcript or edit their statements if they really wished to. But none of them really bothered to do so. Lastly, I was also cautioned of the dangers to intrude in respondent's privacy. Therefore, I did my best to focus on just what I needed as well as respect the dignity and rights of the respondents throughout the process.

### **3.9 Personality and positionality**

The researchers position in any research is known to affect the information collected and the results (Cousins, 2010). So, it is relevant for me to reflect on my position throughout the study. Being a Cameroonian, I have lived in Buea and have some good knowledge about the city. As a resident in that Buea community, since 2001, I have noticed that plastic bottles, bags, buckets and more littered all over the streets in Buea. Whenever I am moving around the community, I see some hips of plastic waste in nearby farms, bushes, incomplete buildings, streams, streets and surroundings.

The observations of plastic waste on the environment, I must say was a motivational factor for this area of study. Based on the period of time I have lived in Buea, I become familiar with the people living in the city and was able to observe some of their activities. This helped me

to interact with people and thus made it easier for me to select my respondents and on the other hand they were not scared of me as they already knew me. This, I can attest gave me some degree of an “Insider” status in Buea.

The advantage is that I was able to use that relationship I had already had with the residents and environment to gain insight into their opinions. In addition, I can say this made the respondents to trust me to some extent since I was not considered a stranger especially as we could communicate in our local Pidgin English language that made understanding easy for both parties. However, the familiarity might have given me some blind spots which made me unaware of certain elements which a stranger might have spotted. Also, the respondents might not have explained to me everything in details because they would assume that I know from before. This is a challenge which should be reflected upon.

### **3.9.1 Challenges encountered during studies**

From onset of the study, I had some difficulties to find potential respondents for my research. Because I had some particular criteria of the kind of respondents I wanted for study. I aimed to interview households with more than 5 members who might definitely generate more waste. First, I thought living in Buea for quite some years and familiar with the area and people will make it easier to get the respondents I wanted. However, it turned out that, I had to convince one family to recommend another family with more population to be my respondents through the snow ball method.

Also, it is likely that families who do not practice the proper way of disposing plastics often not comfortable to participate in this kind of research as it is directly linking to people’s attitudes towards the environment. This was reflected in the findings where respondents acknowledged their weakness with the “throw away culture” of dumping in inappropriate sites. It may be difficult to interview such respondents, because they might think the researcher want to come and get information which they consider to be sensitive and might implicate them.

Some of them feared that information collected from them might be used for other purposes other than academic, which resulted for respondents to cancel appointments and refusal to answer some questions,

As a researcher and not a native of Bakweri tribe which is the main tribe in Buea. Bakweri language was not understood by me and some of the respondents could not well understand some of the questions posed in English language. Nevertheless, in such cases the researcher had to look for an interpreter, this could lead to possibility of distortion the information to an extent.

In addition, I faced challenges in rescheduling appointments for interviews with my respondents. Often times, respondents cancelled the appointments date and time for the interview at very short notice because they were very busy with their daily activities such as going to farms, offices and business corner. At times respondents complain of lack of time, others didn't keep their appointments time and date. However, I tried my best to get a satisfying number of interviews and data by following my respondents up. Also, I managed to do my observations at the dumpsites which helped in the analysis of the results.

There was a lack of availability of information from the Buea council staffs and ineffective basic statistics of the number of community dust bin containers of waste of weekly disposal and waste quantity were missing. But nonetheless, these limitations did not affect the validity and reliability of the result.

## **4 Findings**

### **4.1 Presentation and Analysis of Findings**

This chapter starts with the presentation of findings. The data was collected using the qualitative method, semi-structured interviews, and observation. All the interviews were collected face-to-face at the homes of the residents in Buea. The findings are responses from household heads and authorities in charge for waste management at the council in Buea. Also, the chapter presents the beliefs and answers collected from 20 interviews which portray a varied series of reoccurring themes. The responses were presented according to each research question in this study.

### **4.2 How do households in Buea generate plastic waste?**

The main finding here is that, plastics waste is generated by the modern food system that could not function properly without packaging and the its biodegradable nature makes it difficult to decompose and it is therefore bound to become an ever growing use of plastics without proper ways to be managed.

When respondents were asked how they generate plastic waste, most of them responded with certainty how they get plastics. These are some examples to the respondent's views to the question. Respondents 4 said that "plastic is the most preferred material used for packaging in my home. I always buy them from the market whenever I go for shopping as they serve as shopping bags to carry my things."

"Plastics are the best packaging bags because they are cheap, durable and light weight. There is no day I go out without purchasing a plastic as I use them to pack meat and fish I buy from the market" said respondent 10

Response from household 14 "I buy plastics from the super market, the ones sold there looks beautiful and more durable and are very comfortable to carry along "

Another respondent from household 9 added that "everyone buys plastic bags from market and even the small shops that operate in the neighbourhood where small items are sold. It obvious that, when I buy items for example salt, rice, etc. It is packed in plastics for the customer to comfortably carry to their destinations"

Also, a response from household 17 said, “as a trader that sells small items in the market, I buy plastics bags in dozens that I use to package items for my costumers. They really serve us because they are the best packaging bag one can comfortably use when doing this kind of business. Sometimes, I lose a costumer if I cannot provide a plastic bag to package her stuffs. Plastics are also generated from items we buy from the shops for example the powdered laundry soap packaged from the producer to the market for consumption”

Plastics are also used by producers to package their products to the market. The manufacture of plastic bags by producers for packaging their products such as groceries and other goods has also been a factor of plastic generation. These products are distributed to the small traders who do wholesale and retail of goods to consumers who also use plastics to package their goods bought from the shops and super markets. These plastics finally ends up on the environment after use as people dispose them indiscriminately in streets and immediate surroundings. It is a continuous process from manufactures, producers and to the consumers.

Other respondent mentioned that, “she always finds empty plastic bottles in every corner in the compound. During birthday parties, funerals and more, people are served soft drinks and water with the small bottles because is easy for the host to share them and most people carry them to their homes, easy for serving and prevent scrambling for drinks. I also use plastic bottles to preserve other liquid such as cooking oil.”

Majority of the interviewees attest that,” it is very impossible to survive without using plastic bags, bottles and more because they are very cheap to afford, easy and comfortable to carry them along as they are light and sometimes can be reused. It is used in packaging items we keep in the freezer. Plastics are so useful in our everyday life. It is actually a life style for us to leave the house for shopping without a shopping bag since it is easier to get from the market, shop and super markets at a very affordable price”.

Interviews were also asked about the difficulties in disposing plastic waste and the consequences faced by households to manage plastic waste in Buea community. Different answers were given in responds to research question 2 in the study.

#### **4.3 What are the causes of poor disposal and the challenges faced by households to manage plastic waste in Buea community?**

Here, the researcher tries to figure out what makes the people in the community to act the way they do and what are the factors responsible for these actions of disposing plastic waste indiscriminately.

The respondents presented these views for the poor disposal of plastic waste and the challenges they face in managing household plastic waste in Buea. Such views were the absence of dumpsite in some areas, the door to door collection of vehicles is not consistent and vehicles don't access all the areas in the community.

Most household's members said they store waste they generate in bags, plastic containers, on the ground close to their houses. Sometimes, collection of waste is scheduled to take place once a week by a private own company known as HYSACAM responsible to manage waste in the community as mentioned by some respondents. Often times, they don't even know when and what time the waste collection vehicles come around for the door to door collection. Some respondents said .in some areas, their plastic waste is not collected for more than a month because vehicles cannot access such areas in the community. Thus, in such places, residents make use of unauthorized dumps sites such as bushes, gutters, farms etc. And sometimes it takes a very long period to clear off the dumps at the authorised dump sites. Due to the limited provision of dumps and the delay to collect waste is a huge challenge faced by residents in Buea. Door to door collection is difficult especially during the rainy season when the roads are bad for the trucks to move into the interior of the quarters in the community. These seem to lead to poor attitudes and behaviour towards the environment and to the neighbourhood.

In addition, "the throw away culture" was highlighted as a cause of the many plastics littered on the environment in Buea. Respondents from households 3, 4, 6, 8, 10, 13, 15, 17, described this attitude of throw away after use as a conquer worm that has eating up in people in Buea



community. They said that “what most people do after drinking water soft drinks or juice and eating what was packaged in plastic bag is to dump them anywhere on the streets they can” Further a responded said that “I don’t care and not disciplined where to dump after using plastic because I can’t find dustbins placed on the streets even at strategic public places like motor parks”.

Other respondents in household 9 and 14 added that people throw plastic everywhere without caring about their neighbours. “I don’t care what happens with the plastic bottle I hold in my hands while at the street as I dump it in any close by bush without a second thought. I think is normal to do so because, I alone cannot solve the problem of plastic found in our environment”

“One evening I sat in front of my house and a mature person had a plastic bottle of water he was drinking. Immediately the bottle was empty, he threw it right in front of the house without a second thought that someone was sitting there that could see his action. Truly, no one cares about the environment as I really don’t know what people think and how they feel when they intentionally throw plastics indiscriminately” stated a respondent.

The throw away culture was expressed by respondents on street users and others. “I see motorists, pedestrians, students, taxi drivers and even private car owners along the road holding plastic bottles containing drinks or water and bags. Immediately they finish drinking, they throw it anywhere even in the middle of the road since no one can question their actions. I also practice this kind of attitude because I see others do it and no one is punished for such an action. Is just a normal behaviour for most people who move on the street in Buea”

Respondents from household 1, 2 and 18, added that, the throw away attitude is as result of poor implementation of environmental policies because there is no punishment or fines for those practicing such attitudes towards the environment. They said, “the system (Agency) has failed, institutions and governing bodies in their responsibilities for example the Buea council. Respondents stressed on the point that, the throwaway attitude is rampant because there is not enough trash cans to dump waste and I can dump anywhere provided no punishment will be levied on me”. A respondent asked “where do you expect me to trash the plastic bottles or bag if I am done drinking my juice”? Respondent 1 said “No one cares about how disgusting these used plastics are to the human eye”

Further, during the interviews, ignorance/unawareness was another noted major cause of plastic in the surrounding community of Buea. A respondent said many people in their neighbourhood don't care about others "he said some people dump their plastic waste in gutters mostly when it is raining, so that the runoff will carry the waste out of their compound but forgetting that these waste will end up in another person compound causing blockage, that is what I see in the gutters in front of my house when it rains". I also practice same attitude at times when it rains as a way of disposing the trash in my house" I think people do this when no one sees them". Interviewees continue to express similar views by saying that because of little or total lack of understanding people are not aware of the damages plastics can cause on the environment. "I don't care where I am supposed to throw my plastic waste. What I just want is to make sure I don't see them in my compound" reported by a respondent.

Because of ignorance people end up throwing these plastic anywhere in the streets. If they had the knowledge of the relevance of keeping their own environment clean they would have done so to protect the environment and that of their neighbours to avoid environmental pollution.

Several of the respondents also expressed their ignorance on the aspect of sorting plastic waste from other waste. They agreed that all waste including plastics are dumped in same dust bin. "I don't sort waste and I don't think anyone in this community does. Sorting might help in Buea but we don't have the knowledge of how it should be done, there is no resources allocated for that and no system has been set up to handle it" from a respondent.

Most of the respondents did not sort waste; they mix plastic waste with other waste together before disposal in the same trash container. The main reason most respondents did not sort waste before disposal was noted to be lack of awareness and provision for such activity (sorting) to take place. Some said the information about sorting waste has not been shared to them.

Enforcement and implementation of weak and poor environmental policies by the organization responsible (Buea council) was another important point raised by many households as a cause of poor disposal and challenge to managed plastic waste during the interview. The Buea council has an environmental policy in place and procedure on how the population should go about it. However, the policies are very weak because there are no serious sanctions and follow up to those who fail to follow the rules. There are no punishment

to those who litter or dump indiscriminately on the environment. Due to that, people still litter and dump plastic waste because there are no consequences they will face after their poor attitude on the environment and no follow up team from the council authorities to control the actions of community people. Some of the respondents said “If the policy had been enforced in the beginning and sensitization campaigns to enlighten people on environmental protection. It would have been helpful because people will have the knowledge on how to properly protect their environment for present and future generations”

Most of the policies are not implemented and there is no follow up team for such actions from community people. A respondent expressed her view that, “there are good laws to help the plastic crisis, but you know when people do something wrong and get away free without any punishment or sanction will definitely make others to copy wrong attitudes and so the problem continues”

Another respondent expressed his fears of what will happen if proper care is not taken to combat future problems that will be caused by plastic waste on the environment. He blames the government for not implementing strict policies and put good structures to manage the environment. He said “lack of law enforcement and corruption is the biggest issue in implementing policies and too much of bureaucracy involved in decision making. With such policies in place, a community cannot achieve development”

In addition, respondents mentioned industrialization and modernisation as another main factor that promote the presences of plastic in the communities. The production of plastics bags, bottles, straws and many others by some industries such as SUPERMONT in Cameroon to package food, water and soft drinks has increased the use of plastics. The presence of these plastics has made life comfortable especially for street users for example, they pick up bottle water or soft drinks from the shops, use immediately and throw on the street as it is cheap to afford and no risk in carrying them along. “Before now, we were using plantain or banana leaves to package our food corn (fufu) and meat sold in the market. But now plastic is the main packaging material that people use and everyone has switched to using plastic including me and my family since it is not difficult to find them. I think plantain leaves are the best because they are organic, safe for human health, can decompose and serves as natural manure to the soil” said a respondent.

#### **4.4 How does plastic affects residents' livelihood?**

A couple of respondents mentioned how plastics have affected their livelihood and environment. Different views expressed varied from diseases, deaths, loss of animals, land fertility. The most common traditional methods for managing plastic waste are done by landfilling and incineration. Also the poor habits of disposal in the community of Buea is usually done by dumping in gutters, unused lands, road side ,water bodies, burning and have caused a huge effects on the people and the environment.

Some of the consequences presented by most household respondents is that plastics are found everywhere in Buea community as littering is done by a lot of people which actions are sometimes intentional and unintentional. Plastic on the environment could alter natural habitats, climate change as well as food production yield, people's livelihood and their social-wellbeing.

Respondent 15, said "plastics are very dangerous to the soil because they don't decompose quickly. I see them in my farm land when I am doing clearing, weeding and tilling for planting. The amount of plastics I gather during the process is unbelievable, I find some that have stayed in the ground for decades but has not decomposed. This makes my farming activities too slow and I don't get high yields in sections that these plastics are many as it affects soil fertility".

Another respondent expressed that, "I noticed these plastics are very poisonous to animals because I'm rearing some goats and pigs. So, one day I noticed one of the goats was crying while the mouth was open. When I checked I saw something in the throat and after a long struggle the goat threw up and what came out was a plastic bag. I think the goat mistakenly ate the plastic as food and that caused problems with the digestive system and death sometimes". Environmental degradation has led to loss of many animals and other species.

Plastics affect water quality as plastics chemicals enter the water. Illegal dumping of plastics in rivers, oceans, streams and lakes has a huge negative effect on wildlife, humans and water

creations that depends on this water for survival. Some of the fishes and other aquatic species mistakenly eat up particles of plastic for food and distort their habitat.

It was reported by many respondents that plastics makes the community to look unclean and carries unpleasant smell in the atmosphere to their nostrils which makes surrounding very uncomfortable to even take a walk. Since they don't degrade (rotten) fast, particles affect soil fertility which also affects food production yield, thus causing hunger. "Plastics have huge impact on human health, old bottles, plastic bags littered improperly affects our environment and even create a breathing ground for insects such as mosquitoes that leads to high percentage of people sick of malaria disease and cholera. This dirty and smelling environment often attracts animals like rats and snakes, in our homes" stated a respondent.

Some respondents cited environmental problems they face is as a result of the few dumpsite containers provided by the Buea council for the population to dump all their waste. According to them, the dumpsites are sparsely distributed and are far away for some community people to access the site. "Because of the distance from my house to the dumpsite, it is difficult to carry these plastics waste (unsorted) to the far dumpsite point, as it is usually very heavy for any member in the house to lift it up so, this makes people most times to dump their waste in the closest place they could find. Places such as uncompleted buildings, private unused land, farm lands, in gutters and streams especially at night when no one can see them. These accumulated waste smells and are unpleasant to the nostrils that cause people to suffer from headache and nausea". Stated a respondent

Also, some respondents explained that they suffer a lot because of the long distance from their homes to the dumpsite. To some, the issue is not the distance to trash at the dumpsite but the plastics are sometimes burnt and the toxic emission that comes out of plastic as a result of burning pose a major health risk to them and the general neighbourhood. It was reported by a respondent that "my house is close to the dumpsite. Sometimes I woke up to see toxic smoke emission coming from the burnt plastics covering my house, as a consequence, I and my children got sick of cough which led to tuberculosis of the lungs. That caused me a lot of money to treat the whole family, all because of poor management of waste and no mechanism to control the toxic smoke that comes from the burnt plastics".

Further, respondents mentioned that, these dumpsites have become a hiding place for the underworld men who usually come out late at night to carry out their illegal operations. A respondent recounts her story from the experience at the dumpsite “Thieves usually hide themselves by the dumpsite which cause environmental chaos and insecurity, One evening I was coming back from a birthday party, on passing by the dumpsite I heard some noise and when I looked keenly, I saw a lady weeping and when I asked why is she crying she said she has just been raped and collected all her money at that place by some men”

The effects of plastic waste on people livelihood and environment were perceived by the interviewees as dangerous for their total wellbeing and the entire environment.

#### **4.5 What efforts has the Buea municipal council put in place for a sustainable plastic waste management in the Buea community?**

The council as the custodian of the city is responsible for the well- being of the people and its environment. With the increase in population in Buea, the council is faced with many challenges with one of which is waste management. From observation on the environment and interviews conducted with the council staff, the respondents had the following to say.

Respondent A said, the council at the moment is not handling the waste problem but has handed the responsibility to a private company known as HYSACAM to manage the waste in Buea community. According to the respondents, she said that HYSACAM is making efforts to handle the crisis but the situation is not getting better. She further explains that, there is a door to door collection of waste which is not specifically plastic waste, thus there is no sorting of plastic from other waste.

She explained that, “the council is still thinking and planning to enter into partnership with another agency that has tabled their proposals to the council on how they want to collect, sort and recycle plastic into useful building materials such as concrete bricks which are less heavy and cheaper to produce. The council don’t actually have any plan as at the moment towards managing plastic waste in the community especially in the areas of collection, sorting and recycling of plastic waste”.

Also, respondent B said, the council has a waste management policy at the moment but this is solely managed by a private company. The company do a door to door collection of waste and dump all the waste in an open land where they later burn. The council has also provided the

population with waste containers located at some areas in the community. Also, they try to sensitize the population not about sorting but how they should try to pack the waste in bags and wait for the private company trucks to come and collect the waste.

The council is still struggling to set waste management policies in place, but at the moment it is looking forward to collaborate with the Master Plan Foundation for Africa (MPFA) where they aim to collect and transport plastic bottles to their own site and recycle them to produce an eco-friendly recycle pavement bricks an action they claim to protect the environment from pollution in Buea. The council plans to assist the organisation by providing them with some recycling machines that will ease the process.

According to the response from the interview, it is seen that the council is not really having a concrete plan and not doing much effort to manage plastic waste in the community.



Figure 2 Pictures taken during field work

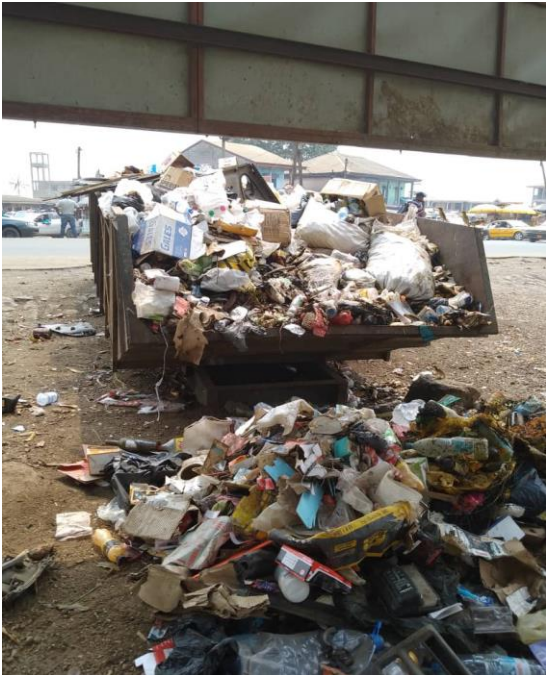


Figure 3 Pictures taken during field work

Picture 2 shows the waste dumpsite in an open area that is prohibited for dumping waste. But people still dump at this particular area because that is the only place for them to dump their waste as some respondents claim. As seen in the picture all types of waste including plastic waste is dumped together at the dump site. Thus no sorting of waste is done.

Picture 3 shows a community dust bin container where the community people are dumping their waste. As seen in the picture, the people litter waste when dumping in to the community dust bin container that doesn't have a lid. When the dust bin container is full, people dump besides the dust bin container which most often stray domestic animals disseminate the waste, thus making the environment to look nasty and sometimes produce pungent smell especially when it takes long time for the waste collection truck to empty the dust bin container. This dumpsite becomes very ugly to the eyes view especially during the rainy season when collection is very slow or not done at all in some areas.



## **5 Discussions of Findings**

In this chapter, the data presented in chapter four will be analysed through the lens of the concept of community development with regards to Solidarity and Agency and within the theory of Environmentally Responsible Behaviour (EBR).

This will be discussed in line with some of the reoccurring themes in the findings which include the importance of plastic waste in everyday life, the experienced lack of solidarity and sense of agency amongst community members and city council representatives as well as the consequences this have on the community. Towards the end of the chapter, I discuss challenges and opportunities related to a top-down approach as well as a self-help approach.

### **5.1 The importance of plastic in everyday living**

The complexity of plastic waste challenge is limited to the fact that plastic has an important value for everyday activities in households as well as shops and to retailers and wholesalers. The steady increase in the use and generation of plastics by individuals is due to its inherent characteristic which includes, its light weighted, durable; it protects the product packaged in it, resistant to water, cheap to afford, comfortable to carry around etc.

This value in plastics is not easily replaced by other more renewable materials. It was noted that, plastics were generated by respondents as it was an easily available materials to satisfy their everyday needs. Such plastic include plastic bags for packaging, shopping bags, plastic bottles , straws, cream containers etc. it was noted that respondents can afford them at a very cheaper rate especially the plastic bag and bottles when buying goods from the super markets, shops and from informal retailers and wholesalers in their various residential areas. Also, it was noted that respondents generated plastics bottles from birthday parties and funerals they attended where a plastic bottle of soft drink and water is shared to the guests and most times they take them to their various homes. In addition, manufacturer's produced bottled water and soft drinks were also identified as generators of plastics to environment.

In this view, respondents in trying to help themselves, see no other alternatives for plastics as they use them for packaging their items and as shopping bags. These characteristics of plastic influenced people to continue use them to satisfy their needs. Therefore, influence their attitudes and behaviour as they intentionally act in a way to satisfy their needs and don't care how they dispose it after using them. Respondent's behaviour towards satisfying their needs

made them generate plastics for their use and do not care what happens to the environment after disposing the. Peoples attitude and behaviour is viewed by the EBR theory which states that the internal control centre in humans has a very considerable impact on their intentions of acting which actually determines an individual's behaviour towards the environment(Hines et al., 1987). The attitude and behaviour of people can change towards plastic generation and waste management as their demand and need changes which influence their actions, because when people are in need of something and think there is no alternative to replace what they need at the moment. Changes in habits are difficult, while if alternatives are easily accessible and affordable people would be more open to change their habits. Hence, the level of generation of plastics waste from household members comes as no surprise since there is no control of their use of plastics.

Public initiatives could be to control and influence on peoples everyday choices by levying taxes on plastic use. Plastic tax could help to reduce generation of plastic as people have to properly take care of the already bought ones, so, they can reuse them when next they go for shopping, For example in Ireland the government introduced a plastic bag tax of 15euro cent in 2022 as a result 90 percent usage reduction and decline in plastic bottles was noted(Convery et al., 2007). Adjusted to the context of Cameroon, there might be possibilities of introducing plastic tax; this could be done to control people's behaviour and attitudes causing them to take a pause in purchasing, which could help to reduce the amount of plastic littering on the environment. This might not be effective because the relevant legal instrument are fragmented and dispersed, so, there is no particular legal instrument structured to address the plastics across it full lifecycle which begins from manufacturing to commercialization, use. Disposal and waste management (Ngwome, 2022).

## **5.2 The absence of Solidarity and Agency among community members and Council authorities in Buea community**

In this paragraph, I want to show how I discuss how the lack of solidarity and agency is experienced on different levels in the community. Hence, it illustrates how connected and complex it is to initiate change from one part, at the same time as it show how change at one part might also move the sense of solidarity and agency for the other.

### **5.2.1 Lack of solidarity and Agency amongst community members**

The informants expressed in different ways the complexity related to the challenges of disposing plastics indiscriminately on the streets, unused plots, nearby bushes, gardens and gutters in the community of Buea. According to the informants of my study, most people store their waste in plastic bags and kept it at a corner in their compounds for a long period before collection. Reason being that, HYSACAM, the private waste collection company schedules to collect waste ones in two weeks but this is not predictable and sometimes it takes more than two months before collection is done. It so unpredictable because the waste collection vehicles don't have access as the roads are damaged or difficult to drive on and that makes it difficult to reach to some areas in the quarters/neighbourhoods, this remains a problem as accessibility for plastic waste collection vehicles lack access and thus, waste deterioration and pungent smell at certain spots of collection.

Another reason informants expressed sadly is that, the council has made provision for only few dumpsites in the community which are also too far from their homes. Some expressed that, the bags where they pack waste are too heavy for them to carry to the provided dumpsites because of the long distance. "I prefer to dump on the unused land, plots and in gutters especially when it is raining" expressed a respondent. Hence, the distance from a residence to waste dumpsite is vital and has a negative impact on waste management in communities (Wang et al., 2018). The absence of solidarity and agency is visible amongst the community members as they don't really care about what happens to their neighbours and environment. In every society and community, the concept of Agency is the power for every member to do something different to bring development and increase living conditions in the community while solidarity means the willingness and readiness for a people in a community to engage in collective effort to bring social change in the society they belong without discrimination (Bhattacharyya, 1995). The community members' show limited or no solidarity shown towards the other residence not feeling responsible for the environment or the comfort for the others in the community, just leaving their litter around.

The throw away culture was noted as another cause of improper disposal of plastic on the environment and even on prohibited areas in the community. Respondents expressed how some street users don't care what happens to their neighbours and to the environment. People intentionally dump used plastics anywhere holding on the excuse that, there is no dust bin

placed at certain points on the street and even at strategic areas in the city. “I don’t really care where I dump my used plastic bottle because I don’t find dust bins to throw it when I am in the street or even in the shop or an office” a respondent stated. Here, there is a clear indication of the lack of solidarity amongst individuals as they don’t care about what happens to their neighbours. Thus, people minding their actions towards one another and what becomes of the environment in future could be a great step to bring change in the community. This is equally championed in the eco-social work in a sense that the clients can achieve sustainable development for the next generation with their natural ecosystem values, which requires social workers to focus on interdisciplinary teamwork to realize the organic combination of scientific knowledge and indigenous ecological knowledge to develop effective intervention approaches and techniques (Wang and Altanbulag).

Also, ignorance was noted as a cause for improper disposal of plastics and don’t care are of the damages plastic can cause on the environment. This was seen on the aspect of sorting plastic waste from other waste. The reason is because people lack information on sensitization on waste sorting and the negative effects of improper disposal of plastics in open places have never been shared to them in Buea community (Albrecht et al., 2022), In addition, the aspect of agency is lacking as the council has not been able to organise educational talks and seminars on the effects of plastics if not properly disposed and also not been able to make provisions of adequate dust bins that can support the population which makes people to dump beside the bins as they get full very fast. Again, they have not been able to improvise new strategies that could help to enhance development in this area. Therefore, that lack of public awareness, behaviour and attitudes to plastic waste can affect the people’s willingness to cooperate and participate in proper plastic waste management(Eugene & Busch, 2011).

The attitude of the respondents towards plastic waste disposal is requested for citizens to retain an intention of acting properly which could be the major factor influencing environmentally responsible behaviour. The theory explains that, the internal control centre in every human has a very considerable impact on the intentions of acting which determines an individual’s attitude and behaviour towards the environment(Hines et al., 1987). So, if people can consciously be aware of their internal control centre, their attitudes and behaviour towards the environment could be improved as they will be apparently minding their actions. The results are very much in line with the observation of the researcher in this study that

uncontrolled and indiscriminate dumping and littering anywhere in Buea community are a concern and crucial part of the challenge and perhaps the solution.

### **5.2.2 Lack of solidarity and agency amongst council authorities**

The council workers seems not to feel enough solidarity towards the community, when taking decisions that merely serve their own interests, hence showing little solidarity towards the community as a whole or for the physical environment. The lack of solidarity is also intrinsically connected to the sense of agency. The community members seem to feel left out in the process of change. The council also lack the ability to employ different strategies such as plastic sorting and recycling to manage these littered wastes which could bring development and increase people's living standards in the community.

The structures (laws, regulation and services) put in place by the council seem to lack the ability to implement rules of how plastics can be managed in the community. On the other hand, individuals don't care where they dump plastic waste due the inadequate provision of dump sites in the community.

The insufficient dumping facilities provided by the council influenced people to practice poor attitudes and behaviour towards indiscriminate disposal of plastic waste on the environment. This view was supported by Parrot (2009), that distances and lack of infrastructure have a major impact on waste collection. Dust bin containers are noted to be the only mentioned method for the population to manage the waste in all areas and few of community dust bin containers found in Buea are not seen at the far ends of all the quarters in the city (Parrot et al., 2009).

In addition, solidarity and agency is lacking at the level of the council who is responsible to manage plastic waste and do something different and bring development in Buea community. From the findings, it was noted that, they are not persistent in emptying the community dumpsite on time and also take a very long period to do the door to door collection of waste from households and which sometimes, the people are not aware of the time the waste collection vehicles (trucks) will pass to collect the waste. The more the waste stays in people's compound and at the public dumpsites, leads to negative effects on the people's health and to the environment. Agency is about building the capacity and the power to do something different to understand and to create and act to bring solution to a problem and

increase living conditions in the community(Bhattacharyya, 1995). Therefore, the aspect of solidarity and agency for one another can help solve problems communities face. Solidarity and agency is about building a deeply shared identity and a code of conduct by all(Bhattacharyya, 1995).

Another aspect that shows the absent of solidarity and Agency within the council is because the structures put in place are not taking in to consideration the dangers that may befall the people and find a new way to act differently to bring new solutions to the problem of plastic waste on the environment in Buea. The decision taken at the level of the council does not give the people the power to participate to bring change and to increase their living conditions in Buea. Hence, people's will to bring development should be respected not manipulated or imposed on them against their wish(Bhattacharyya, 1995).Therefore, the council lack solidarity and agency towards each other in that regard. In similar view, social work advocates for a human-centred helping activity but also a process of intervention practice, whose core value is the harmonious coexistence of human and natural ecology (Wang and Altanbulag 2022).

In addition, poor implementation of existing laws by the council as most of the laws guiding plastic waste management which starts from disposal to punishment are not respected by the community members. Notice or sign boards placed by the council, warning people in the community not to dispose on such prohibited areas are hardly respected by people due to negligence on the part of the council authorities who don't do a follow up on those violating the laws as fines are not levied on defaulters in the community. In Cameroon, the environmental law states that defaulters are to pay fines, this will serve as an example towards eliminating the waste from the prohibited areas to create awareness to the entire population in the community(Albrecht et al., 2022)

Also, it was evident during observation and interview that, the poor and weak policy implementation for proper plastic waste management by the Buea council was limited to actions that connected to prevention, attitudes control, fines, discipline and policies. But the people indicated that, no individual has been punished or levied a fine for not practicing the right way to dispose waste. Here, the lack of agency on the part of the council to adopt new ways to bring solution to the problem such as that of plastic waste affecting the Buea

communities. This made people to have the freedom to dump plastic waste where ever they want without taking into consideration the effects it may bring upon them and to the environment. So, plastic waste can be solved only if better laws are put in place to achieve a sustainable plastic waste management in Buea. The formulation and implementation of good and appropriate policy should be done with adequate capacity building initiatives which is based on best practice measures in countries which will enhance the community to achieve a sustainable plastic waste management in Buea(Manga et al., 2008). It could be through leadership development and planning for future collaboration. That is, within the community level, individuals could be involved in activities of training and mentorship on how the management of household plastic waste to be carried on in Buea.

In community development, solidarity demands that people feel a concern for every person in the community, that is extending solidarity to those you know and don't know(Bhattacharyya, 1995). The aim is to fight social exclusion through participation in bringing development in a community facing waste management problems. Everyone in the community should be given the opportunity to share activities and events that could bring change such as that of plastic waste management in Buea community, Therefore, solidarity and agency helps to develop meaningful connections and collective actions amongst everyone which could help individuals to mind their behaviour on how they can dispose of their used plastics in the neighbourhood.

For any community to achieve development, people should be able to care for one another including their immediate environment expressed through participation by working together to keep their environment clean and preserve it for future generation. Bhattacharyya (2005) expressed the importance of Solidarity in community development, as a major indicator to enhance development and bring change. He stresses on the point that, solidarity amongst people increases social relationship and is key element to every society to work together in care to bring development in an environment suffering from social challenges such as plastic waste disposal in Buea. In view of this, it stands out that Solidarity is a key component in every community that can help people to think about the well-being of others before taking any action(Bhattacharyya, 1995). And this is what eco-social work seeks to realized, solve individual and social problems related to green development (Wang and Altanbulag 2022).

### **5.3 Consequences of the lack of solidarity and Agency in the community**

The absence of solidarity amongst the council authorities and the community people towards plastic waste management has led to some negative effects to the health of the people and to the environment as a whole. The poor attitude of individuals not minding their actions towards the environment and to their neighbours as they dispose indiscriminately and to the council neglecting her duties in areas of reinforcement of the laws and provision of sufficient dumpsites that fits the population size.

The effect of plastic on the environment is huge on the soil as the respondents expressed the difficulties they encounter especially when tilling the soil for planting. The fact that plastics don't decompose even after staying in the soil for so many decades affects the fertility of the soil and thus causing low food production and thus hunger to the inhabitants in Buea (Jalil et al., 2013). These plastics dumped indiscriminately by individuals, did not only affect the soil but also has an enormous effect on the lives of animals, fishes in oceans that mistaken them for food and same time distorting their home leading to environmental problems.

In addition, plastics were noted to have vast effects on human health. Those plastics found in hips along the streets and bushes and at the dumping containers which usually stay for long time before collection often becomes breeding ground for mosquitoes and cholera diseases which cause malaria parasite on the inhabitants of Buea (Manga et al., 2011).

Some other health problems were noted that affects the lungs and causing difficult breathing in the life of people after inhaling the toxic emission coming from the burnt plastic waste.

Also, plastic waste has a huge negative impact on human's health, environment, ecosystem and sustainable development in the entire world. It was noted that plastics can change habitats and natural process, climate change which is directly affecting millions of people livelihoods, food production yields and their social well-being. The results stated that, the major problem associated with managing plastic was the poor method of littering, dumping and disposing, landfill and incineration which have negative effects on people's livelihood. Respondents expressed that at the landfills site the plastic bags are blown all over the community by heavy winds. The problem regarding plastic bags and bottles sometimes rise from the landfill site located close to the major road. The plastic hipped together with other waste is burnt and the



toxic smoke that comes as a result of burning makes it difficult for homes around that area uncomfortable and disturbs the clear visibility of vehicles that plough that major road to other cities, which cause road accidents especially when drivers are on high speed.

Consequences of poor environmental choices are often than not suffered mostly by locals. Wang and Altanbulag (2022) stressed that; the interest-impaired group suffers from both individual life crises and social structural problems and bears the natural costs of environmental damage. For change to be realised, community development could be conceptualised as a process and a practice that enhance the collective actions based on the needs and concerns of the community(Wang & Altanbulag, 2022). Thus, the council workers who practice within the different disciplines of community development who are also well trained could pay attention to the needs of the all members in the community. For example, household members who have to walk for a long distance to access the community dust bin and those whose houses are closer to the dust bins experience the toxic smoke from burnt waste and the pungent smell from the waste especially as sometimes it takes two to one month before the council empty the dust bins. Wang and Altanbulag (2022) agrees that, communities should adopt an Eco social innovation approach that reflects both sustainability of human centred livelihood welfare and contributes to the harmony between humans and nature, thus promoting the sustainability of ecological, economic and social welfare combination.

Further, the attitudes and behaviour of individuals towards indiscriminate dumping of plastics is having effects on the residents' livelihood and environment in Buea as some individuals intentionally dump on prohibited areas while some emulate others to practice indiscriminate dumping. Individuals dumping their waste in uncompleted building, farmlands, gutters and more, theses accumulated waste smells to the nostrils cause people to suffer from nausea and headache. The burning of plastics emits toxic smoke poses a major health risk to the community causing people to be sick of cough which led to problems in their lungs and difficult breathing. Further, it was noted that dumpsites have become a hiding place for the underworld men who usually carry out their operations at night causing environment chaos and insecurity in the community.

Nature is actually suffering due to the people's poor attitude in the way they carry out their activities on the environment. Here, community practice and concern for one another could be

relevant for all to bring social change where they adopt eco social practices that bring people into contact with nature Bringing people together to engage in social actions to create social care through solidarity and agency could be a step to enhance the well-being of the people in a society. Inside the Eco-social lens, it recognises the interconnectedness of all life in our ecosystem and therefore, there should be a fair and sustainable use of resources to promote these relationships and well-being of everyone in the community(Rambaree et al., 2019)

#### **5.4 Application of Top-down approach in community development**

The top-down approach structure in managing household plastic waste in Buea is affecting the possibility for change to be realised. In such a system, the council have to wait and receive orders from the ministry before implementing change and so the community too will wait from the council to execute change. Respondents claimed that the system has failed (Council) in their responsibilities towards plastic waste management in Buea community. The community people of Buea believe and know is the council that is responsible to manage waste of all kinds in the city. Most of the laws guiding waste management often starts from sensitization, disposal to sanctions are never respected by the people and not implemented by the Buea council(Albrecht et al., 2022).

Political structures and policies affect governance and management of environmental issues in Cameroon where the top-bottom approach is practiced instead of the bottom-top approach. This kind of structure often affects or slow down development to be realised since decisions usually comes from the top before execution and in most cases they don't understand the problems communities might be facing. It is argued that, the power structures within the nation are unreasonably affecting the unfair environmental activities by the citizens and creating social and ecological problems (Rambaree et al., 2019).

Household plastic waste problem is likely to be solved only when very strict policies are implemented(Manga et al., 2008). These are factors that could influence individuals behaviour and attitudes towards waste management which can only be viewed in the decisions that individuals make on where and how to dispose of plastics will have a great importance of effective management of plastic wastes in any community(Barr, 2007).

From the findings, people still dump on such areas despite the restrictions put by the council and the council never do a follow up team work at the dumpsites to make sure people do not repeat such actions. But, it is not effective because the laws are weak, fines and sanctions are not given to those who practice illegal dumping of plastic in the said areas. More to that, the council does not give value to its own duty, hence, no disciplinary sanctions were placed against recalcitrant people towards indiscriminate dumping which could serve as a deterrent for others. If the laws, penalties, sanctions of improper and illegal dumping are not enforced, indiscriminate dumping will continue as people are not afraid of what happens with regards to their poor attitudes and behaviour on the environment. Household plastic waste problem is likely to be solved only when very strict policies are implemented (Manga et al., 2008). These are factors that could influence individuals behaviour and attitudes towards waste management which can only be viewed in the decisions that individuals make on where and how to dispose of plastics will have a great importance of effective management of plastic wastes in any community (Barr, 2007). Adoption of the bottom-top approach by the stakeholders and residence in implementation of measures such as waste reduction, recycling, sorting and appropriate training for better plastic waste disposal could go a long way to bring change on the environment in a community facing such problem (Manga et al., 2008). In addition, Barr (2007) supports this view that, for any community to achieve the goal for proper management of plastic waste, there must be a structure put in place and implementing the aspect of agency which can help examine the environmental behaviour with specific emphasis on waste management behaviour relating to recycling, reuse, reductions and sorting of household plastic waste.

Also, if adequate measures and mitigation measure are implemented on the community dumpsites and the method of open burning, this can be one effective method to manage plastic waste in Buea. The complex challenge would need a holistic approach where both bottom-up initiatives, act of solidarity are needed as well as the act of top-bottom down structures and predictability is crucial. Wang and Altanbulag (2022), suggest that Eco social work and its relationship practice lay emphasizes on fundamental ecological values such as holistic perspectives, cultural diversity and sustainability, promoting a reconceptualization of ecologically relevant holistic well-being which in turn expands the individual collective community and political dimensions of ecologically relevant social work practice. Hence, the handling process of collection, transportation and disposal of plastic waste requires the action

of community development through solidarity and Agency in the implementation of a sustainable and integrated plastic waste management solution in Buea.

Knowledge of how households dispose plastic waste and how the council manage plastic waste in Buea community is an important function in the effective management of plastic waste. Based on the interview with a staff at the council in Buea acknowledge the presence of plastics found in the environment is causing pollution. However, at the moment the waste is being managed by a private company known as HYSACAM. In addition, she said at the moment the council does not have a plastic waste management policy. Meanwhile the population believe that is the total responsibility of the council to single handle and manage the plastic crisis in the city of Buea. Further, the council is planning to collaborate with other partners in future towards plastic waste management. Therefore, from the observation and interviews by the researcher, there is no sensitization and collaboration between the population and the council to manage plastic waste in Buea committee. The situation is not getting better because the community lack the knowledge and awareness of the danger of plastic waste on the environment and how to manage the plastics they generate in their various households(Oben Mbeng et al., 2012).

Plastic waste management in Buea cannot be the sole responsibility of one party. The council and the local population could collaborate and take responsibility to bring change. Sensitization could remain one of the main tools towards a positive and effective sustainable management of plastic waste. When people lack the public awareness, their behaviour and attitudes towards plastic waste can affect their willingness to cooperate and participate in proper plastic waste management(Eugene & Busch, 2011).

The absence of public awareness on plastic waste management was noted as a factor that can influence individual's behaviour towards the environment. Lack of control actions, weak enforcement of rules and regulations and sensitization on how people should cater for environment is vital in controlling people's attitudes and behaviour in a community. In view of this, Akindule (2017) agrees that, if people were better informed they would become aware of the environmental problems and as a result would be motivated to behave in environmentally friendly manner. Also, placing more emphasizes on education and

communication between council leaders and local population can help to improve their behaviour and attitudes towards environmental degradation(Mbeng et al., 2009).

Therefore, if individuals can change their behaviour and attitudes towards the environment, when they are given sufficient knowledge about the consequences of their behaviour, but also knowledge about alternatives habits and also the more accessible and affordable alternatives of plastic bags and wrapping , bottles and other articles. They will be apparently minding their actions towards disposal of plastics indiscriminately on the environment in Buea. Also, building the sense of common interest and common future within the community members might influence on their choices in everyday life.

### **5.5 Significance of the concept of self-help, self-need and participation in community development**

The three overlying concepts of self-help, self-need and participation could be appropriate ways for the practice of community development and how they can be an influence to enhance development and bring sustainable change towards plastic waste management and how it can affect people's attitude and behaviour in Buea(Bhattacharyya, 1995)

In community development the concept of self-need, self-help and participation are the main drive to bring social change. These three concepts could be a force to promote a collective driven social work as it does give people ideas to solve their own challenges in their different communities.

Holding educational talks with the people in Buea could help the people to understand the consequences of poor disposal of plastics and effects on the environment. If people are aware of their problem, they will definitely see the purpose to adopt the principle of self-help which explains how humans are allowed to be productive and active as they work together to bring change by being self -reliant (Bhattacharyya, 1995). Hence, when people are quite aware of their problems, they will definitely see the need to work hard to get solution to any problem they are facing such as plastic waste management. People will use their available resources (asset based) and add it to what they need (need based) to bring a lasting solution to the problem (McKnight & Kretzmann, 1993). Based on this, the people of a community will be able to organise themselves to carry out self-reliant actions under their own leadership,

initiative and the local resources available in that community to solve common problems such as plastic waste in Buea community.

Self-reliant programmes could help bring effective change on people's livelihood in Buea. Such initiatives are relevant for promoting change in any community as they enhance community participation and stakeholders to take collective action to fight environmental issues such as household plastic waste management in Buea (Ibrahim, 2006). If individuals are aware of their actions in their community, definitely they will mind their attitudes towards the environment. Thus, it could help to enhance a sustainable change towards managing plastic waste in their environment as they will be too conscious to protect the environment for the future generation. In this view Eco social work is not only concerned with the development needs of the present generation but also with the sustainable development of society and nature for the next generation(Wang & Altanbulag, 2022).

With more awareness, people could see the reason to avoid environmental problems, by adopting the principle of felt-need. People could see the importance of noticing their problems and so will see the reason to prioritize it by themselves rather being defined by others who don't have knowledge of the problem. When people in a community identify their problem and the negative effects it brings in their livelihood, they will definitely be open to ways that could bring lasting solution to the problem they are facing. Hence people can work together in solidarity by taking into consideration what happens to the environment, neighbours, health and more (Onyenemezu & Olumati, 2013). They will actually mind their disposal attitudes of plastic waste in their community especially when the structures set in place are that which considers the bottom-top approach. Therefore, with the application of felt-need principle, people can be able to work together to bring change to the social problems they might be facing. Also, the use of felt-needs concept in community development practice involves the process of identifying their needs, prioritizing them and building programmes based on their priorities, thus felt-need should be the basis for community development action (Onyenemezu & Olumati, 2013). Bhattacharya (1995) argues that, felt-need helps to facilitate social networks, bond and trust that ensure coordination and cooperation from mutual assistance which is a key element of solidarity that could help to solve environmental problems in every community.

So, if the residence in a community collaborate with the council authorities could help bring sustainable change towards plastic waste management, because when one party is absent in the process of change, it might lead to failure to achieve solution. Communities should be built up with the aspect of solidarity where members share identity and a code of conduct both deep enough that the breakdown of one will definitely affect the whole members and the activities that they are engaged in (Bhattacharyya, 1995). This view is also supported by Ibrahim (2006), that solidarity and agency amongst individuals could help community people to actually mind their behaviour towards the environment and to their neighbour.

The absence of sensitization and participation were noted to be lacking to achieve a positive and sustainable management of plastic waste in Buea community. Some of the households are not aware of the consequences of their attitudes to dispose plastics indiscriminately on the environment. In addition, the implementation of poor and weak policies by the council authorities towards household plastic waste management mentioned earlier in the study contributes to the environmental problems etc. The absence of collaboration and participation between the community people and the council authorities to handle the plastic crisis was noted as factors that influenced people's attitude and behaviour in Buea. It is important for any community to involve the participation of everyone at all levels, if they aim to achieve development of any kind, as people can be more concern and effective when they work together to achieve success. Solidarity and agency concept awakens the consciousness of the individuals to think critically about the problem they are facing and collectively participate to resolve the problem in the community(Ibrahim, 2006).

Participation by all is a way of ensuring local people to cooperate and collaborate with external programs to foster the effective implementation of an initiative to achieve the objective. During participation, people are empowered to engage in greater responsibilities for their development through the acquisition of new skills (social innovation), knowledge and experience(Hamilton, 1992).

Community participation and agency is one of the core values of active community development for both stakeholders and community people(Bhattacharyya, 1995). It is vital to discuss participation and agency which is the new innovative ideas for change. This idea should be shared to everybody in the community and agree on how the new ideas will

contribute for development. Both the council authorities and community people can talk about the problem and look for solution to solve it. This is a process of working collaboratively with groups of persons associated in a community to address issues affecting the well-being of those people such as household plastic waste management. Participation and agency are powerful drivers for bringing about environmental and behavioural changes which could be based on the areas of people, policy, practice and performance for a sustainable change to be realised (Bhattacharyya, 1995).

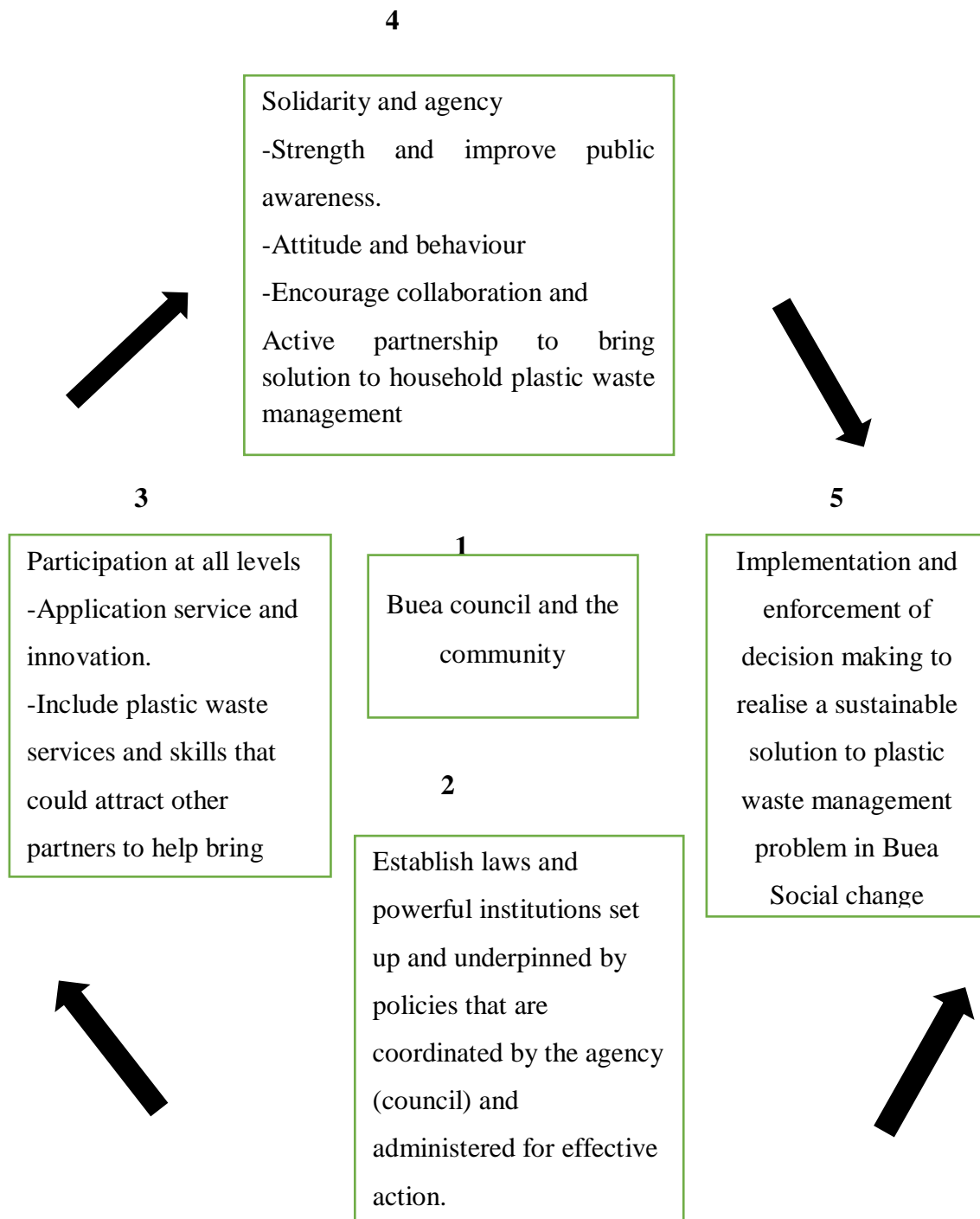
Such ways could be through sensitization, awareness campaigns and implementation of strict rules and policies by the Buea council towards people attitudes and behaviour to manage household plastic waste in the environment. It could be in the form of citizens taking part in the development process and not exclusive from action. This implies every member in community should participate at all levels, from planning, management, and training, identification of the problem, implementation, monitoring and evaluation to bring solution. People need to know and identify what exactly is the problem they are facing in their various communities so, that they can take part in the change process. To Bhattacharyya (2015), participation means that stakeholders shouldn't start a project with a preconceived notion of it and solution but, to see the felt-needs of the people in that community and involve them in the change process.

These three concepts of self-help, self-need and participation offer the necessary direction for practice of community development. Through participation people could have the opportunity to own the problem by feeling and defining it, apply their knowledge and resources for solution and also by acting as agents from the beginning till the end of the project (Bhattacharyya, 2004). Therefore, this could help people to regain their solidarity and their agency responsibilities in the community facing the problem of household plastic waste as the case in Buea.



## 5.6 Participation and inclusion by all towards a sustainable change to household plastic waste management Authors own source, 2023

In the diagram below, I have shown the principle of Participation between the council, private company and the local population in managing the problem of indiscriminate disposal of household plastics waste in Buea.



In the paragraph below, I will give a description of the activity of each box and also explain the movement of the arrow.

In a nut shell, the activity in all boxes interconnects with the other following the direction of the arrows showing that management should involve both the bottom–top and top-bottom approaches in the change process. Therefore, all must work together for a community to realise change, so the breakdown of one will distort all efforts to bring development.

Based on the diagram, in box 1, the council and the citizens of Buea community represents those to participate, the actors are able to show agency in carrying effective management of household plastic waste in Buea. Then followed by box 2 which represents the established laws and policy by the government that are coordinated by the council for effective action. Moving to the left box 3 explains inclusion and participation by all in the achievement of change. In box 4, council should holding educational talk and public awareness in active collaboration by showing solidarity and agency in the process of development. Lastly, box 5, implementation of policies and enforce decisions so as to realise social change in plastic waste management in Buea.

Participation in its widest intellect in community development means inclusion in the change process of defining the problems and how to solve them, thus, making people to own and be part of the problem they are facing(Bhattacharyya, 2004). The above approach will ensure the strengthening of public awareness and education through sensitization, collaboration and active participation by all. In addition, implement good laws and strong institutions and build up underpinned policies and application of services and innovation and better skills in inclusive plastic waste services that could attract other partners to achieve the goal of plastic waste management in Buea.

Participation at all levels is vital and ensures that people are provided with the necessary information to make realistic choices towards their environment. Mbeng et al (2009) agrees that, education, publicity and sensitization, communication and participation are fundamental for the success of any waste management scheme in any community. The participatory approach plan is taking forward the combine efforts of the community, government and private organizations for a successful development of household plastic waste management in the city of Buea in Cameroon. Participation could be a major indicator for community

development, Ntini (2006) views community development as a process by which effort of the people at grass root level is united with those of government. In practice, community development approaches can go beyond implementation of rules and regulations from the government but by collaboration and participation of government, private sector, non-governmental organization and the local population in solving and managing environmental problems from the initiation to the completion of the project. Participation and collaboration aims at ensuring that decisions affecting the community should be taken by all members in the community from the beginning to the end of the project.

## **6 Conclusion and suggested recommendation**

The last chapter presents a summary of the answers to the research questions and suggestions on how the council in Buea and the community could adopt ways that may enhance the management of household plastic waste in Buea.

### **6.1 Conclusion**

This study has explored on household plastic waste management in Buea. The central research objective of this thesis has been to understand the complexity within systems illustrated through the household plastic waste challenge in the city of Buea. To understand the complexity of plastic waste management and how everyone in the community is supposed to interact and manage this problem. The study set to answer the following four research questions.

#### **6.1.1 How do households in Buea generate plastic waste?**

First of all, the informants in the study made it clear that, the challenge is real, big and complex when it comes to plastic waste management. The value of plastic and the lack of alternatives keep the volume of plastic waste to increase with time. Therefore, people should adopt life style changes which could help reduce the rate of plastic generation in the community of Buea.

#### **6.1.2 What are the causes of poor disposal and challenges faced by households to manage plastic waste in Buea community?**

Secondly, the study found out that lack of tax levy systems on plastic generation, lack of educational talks for the people in Buea on how they can properly dispose of plastics waste, coupled with their poor attitudes and behaviour requires Buea council consider an approach that will involve all stakeholders in the plastic waste management problem. Structures and policy approach like the top-bottom and bottom-top approaches could be considered to achieve effective management of plastics waste on the environment. If this is well implemented could help both government and the community people to take responsibility to manage plastics crisis and achieve a sustainable solution to the problem. A community development based approach to plastic waste management in which responsibilities are shared

by households, municipal council authorities, producers, private companies and non-governmental organisations is needed.

### **6.1.3 How does plastic waste affect the resident's livelihood?**

Further, it was found that households generate their waste from the market, shops, super markets as they are available affordable, light weighted and durable to satisfy their needs. Most of the household members dispose their waste indiscriminately in any available spaces like bushes, unused lands, farms etc. Some challenges households faced in managing plastic waste in the community identified were lack of dumpsites, sparsely and inadequate distributed community dust bins, distance to the dumpsites, irregular door to door collection by those responsible and lack of accessibility to some areas for plastic waste collection.

The attitudes and behaviour of the people in Buea have contributed to the cause of much plastic wastes littered all over the environment.

### **6.1.4 What efforts have the municipal council put in place for a sustainable plastic waste management in the Buea?**

Also, the study found out that household plastic waste was managed by a private company and very little contributions from the council, an organization that the people relied on to manage plastic waste in the community. Also, lack of sensitization and public awareness about plastic waste management and poor and weak implementation of rules and regulations was noted to influence people's poor attitudes and behaviour towards the environment. Due to poor management of plastic waste on the environment, led to environmental pollution, human and animal health issues were noted by indiscriminate disposal of such material in the environment in Buea. In addition, the study reveals there is no strict control and sanctions when citizens disposed of their generated plastics even in the prohibited areas in the community.

The findings revealed that improper plastic waste disposal generates problems on the environment which actually need collaboration and participation between the council and the community people to look for solutions to save lives and protect the environment for both the present and future generations. Public awareness is vital for any community to take into deliberation on how and where individuals dispose their plastic waste. For change to be effective councils and community people could collaborate, participate and work together in

solidarity to bring development and social change to the problems they are facing such as that of household plastic waste management in Buea.

## **6.2 Suggested recommendations**

The study only has a limited number of informants, and it would have been interesting to follow up with more research on the topic and for example try an action research approach where some specific new practices were tried out and monitored during the process. However, this present study does indicate some ideas and suggestions for improving policy and implementing (innovative) methods that can promote development in the area of household plastic waste management in the community of Buea.

First, the Buea council could provide big community disposal dust bins in all areas in the city that could support the population. Also in public places like, the market, offices and educate and encourage people about sorting to make the recycling process easy. These bins could be placed both at the major road sites, roundabouts and also into the interiors of the quarters so that people can have them closer and avoid taking the trash to the long distances bins. Hence, it could help them not to dump indiscriminately and on prohibited areas in the community.

The Buea council could hold educational programs, awareness campaigns and teach the people innovative ways to dispose plastic waste by minding their attitudes and behaviour to reduce reuse and recycle to mitigate the use of plastics. People and manufacturing industries could be advised to reduce the use of plastics. Plastic manufacturing companies could encourage the people in Buea to pack their used plastics in bags and bring to them in exchange of incentives to individuals. The plastic producers can partner with private companies such as HYSACAM earlier mentioned could be assigned to collect the plastic bottles from individuals before it ends up on prohibited sites and general environment. Additionally, some individuals in the community of Buea could be appointed who are willing to coordinate the process of collecting the piled up plastics bags and bottles from individuals in exchange of small amount of money, this could help and motivate people to change their disposal attitudes since they know that pilling up the plastic bottles together and give to collectors will fetch them some money in return.

The government could implement new policies that are aimed to protect the environment and to fund the projects for the proper and sustainable management of plastic waste and the natural environment. This could be done by setting up environmental initiatives strategies such as recycling programmes to bring remedy to the plastic waste management in any community.

Moreover, people should be encouraged to use alternatives such as banana leaves, paper and biodegradable bags to the plastic ones. Households can be encouraged to reuse their plastic bottles and bags as a way to reduce generation of plastic and prevent indiscriminate dumping on the environment. For example, plastic bottles could be reused to putting cooking oil, serves as water bottles and container to other liquid.

Also, the aspect of plastic waste management could be added to the school curriculum so it could be taught in schools beginning from kindergarten right up to university level. This will help learning and awareness as well as minding the attitudes of disposal from a younger age to a mature person. Therefore, as a kid, individuals will start to mind their behaviour towards the environment and so promote solidarity amongst people in a community as they will mind their actions towards household plastic waste mitigation practices to close the information gap they claim is lacking.

Moreover, the Buea council could collaborate and work with other partners operating to manage plastic waste such as local NGO, private and public organization to create awareness and develop new ideas (innovation) about household plastic waste management in the community of Buea. This could be achieved by going into concrete agreements where activities of each partner could be monitored for a sustainable change to be effective in communities facing a problem such as household plastic waste management.

Political will and attitudinal change could be vital tools in managing the problem of household plastic waste management in Buea. It could be to formulate and implement national policies and respect environmental laws and regulations for better ways of disposal, collection, sorting of different waste types and burning of plastics. Also, in community development to manage plastic waste activities that are complex, communities could embrace the Eco social sustainability that is not only human centred but help people to take harmony

between humans and nature focusing on ecological aspect to achieve a sustainable development of the society and nature for both the present and future generation.

A holistic view in that everyone has to participate to achieve individual well-being taking in to consideration the economic, social, political and environment aspect to realise change.

Community's leaders could encourage individuals to be mindful of their behaviour towards the environment so as to combat the growing environmental problems caused by humans' activities. Minding their behaviour and activities is a way for humans to consciously seek ways to minimise the negative impact of ones action on the natural environment and build a community of plastic waste reduction. This could be by enlightening people on environmental awareness, values and education and more.

Community aspects concerning waste management decision such as transparency, networking, collective action, cooperation, communication and information, Public participation and empowerment are key elements of social change. All of these could be applied to encourage the communities' acceptance of plastic waste management in Buea.



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## **Appendix**

### **CONSENT INFORMED LETTER TO RESEARCH PARTICIPANTS**

Ekumbe Mabel Mesoe,  
Master's student in Community Development and Social Innovation (Specialisation in Value Based Leadership)  
VID Specialized University in Oslo

Dear participant,

You are being selected to participate in a research study on Household plastic waste management in the city of Buea in Cameroon

I am interested to investigate on Household Plastic Waste Management in the city of Buea in Cameroon.

The study will require about 1-2 hours of your time. During this time, you will be interviewed about your experiences with plastic waste and how you manage them being a user of them.

The interviews will be conducted wherever you prefer (e.g. in your home, office) and field notes will be taken down by the researcher.

You may also find the interview to be very interesting and satisfying, as many Households heads will be interviewed on how they manage plastic waste in their homes. By participating in this research, you may also benefit others by helping people to better understand how you manage plastic waste and the challenges faced to manage them.

Several steps will be taken to protect your anonymity and identity. During the interviews field notes will be taken down and will be destroyed once the information has been transcribed.

The typed interviews will NOT contain any mention of your name, and any identifying information from the interview will be destroyed. The written field notes will be kept at the students' research and stored at the VID university one drive area.

All information will be destroyed at the end of the project in June 2023. Your participation in this research is completely voluntary. If you decide to participate, nevertheless, you may withdraw from the study at any time you wish. If you do this, all information from you will be demolished and will not bind you to any lawsuit.

The results from this study will be presented in writing in a thesis read by other researchers; and students to help them understand how you managed plastic waste in your home. In no time during the research your name will be mentioned in the research.

If you require any information about this study, or would like to speak to the supervisor please contact Benedicte Kivle through email [benedicte.kivle@vid.no](mailto:benedicte.kivle@vid.no) at the VID Specialized University in Oslo and through my email [mabelmesoe@yahoo.com](mailto:mabelmesoe@yahoo.com) and data protector representative at VID university by name Nancy Yue Liu through this email [personvernombudatvid.no](mailto:personvernombudatvid.no) The research will end on June 30<sup>th</sup> 2023.

I have read the above information regarding this research study on Household plastic waste management in the city of Buea in Cameroon and consent to participate in this study.

Name \_\_\_\_\_

Signature\_\_\_\_\_

Date\_\_\_\_\_

**B. INTERVIEW GUIDE FOR WORKERS AT THE MUNICIPAL COUNCIL IN BUEA**

Name.....Position.....Occupation.....

- 1) Do you have a waste management policy as an organization?
- 2) What policies have you in place towards the management of plastic waste?
- 3) What are the efforts the council is doing to manage plastic waste in Buea?
- 4) If the council have put any effort to manage waste, how are the efforts effective?
- 5) What are the challenges the organization face in managing plastic waste?
- 6) What do you think is your goal with household plastic waste management?
- 7) Do you have anything else to add?

**C. SEMISTRUCTURED INTERVIEW FOR HOUSEHOLDS IN THE COMMUNITY OF BUEA**

**Name.....Position.....Occupation**

- 1) What does waste management mean to you?
- 2) What is plastic waste?
- 3) Where do most of the plastics in your house come from?
- 4) Why do you prefer to use plastics?
- 5) After you have used them, what do you do with them?
- 6) Where do you dispose them?
- 7) How do you dispose the plastics?
- 8) How do these plastics affect your livelihood and environment?
- 9) Do you dump plastics with other waste, or you separate them?
- 10) What are the challenges you faced in managing plastic waste
- 11) Has the Buea council provide some solutions on how household plastic waste can be managed, if yes state some of the efforts they have made/?