

UNIVERSITY OF EDUCATION, WINNEBA

**ENVIRONMENTAL SANITATION PRACTICES IN SANKOR AND
KWENDURUM IN THE EFFUTU MUNICIPALITY**

MILLICENT BINEY

(8180140021)



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DECLARATION

Student's Declaration

I, **Millicent Biney** declare that this thesis, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and has not been submitted, either in part or whole, for another degree elsewhere.

Signature:

Date:

Supervisor's Declaration

I, hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for the supervision of thesis as laid down by the University of Education, Winneba.

Name of Supervisor: Dr. David Naya Zuure

Signature:

Date:

DEDICATION

This work is dedicated to my father, Mr. Francis Biney.



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TABLE OF CONTENTS

Content	Page
DECLARATION	iii
DEDICATION	iv
ACKNOWLEDGEMENTS	v
ABSTRACT	xiv
CHAPTER ONE: GENERAL INTRODUCTION	1
1.1 Background to the Study	1
1.2 Statement of the Problem	5
1.3 Purpose of the Study	6
1.4 Objectives of the Study	7
1.5 Research Questions	7
1.6 Significance of the Study	8
1.7 Delimitation of the Study	8
1.8 Organisation of the Study	9
1.9 Operational Definition of Terms	9
CHAPTER TWO: RELATED LITERATURE REVIEW	11
2.0 Introduction	11
2.1 Conceptual Review	11
2.1.1 The Concept of Environment	11
2.1.2 The Concept of Sanitation	16
2.1.3 Environmental Sanitation	22
2.1.4 Coastal Communities	25
2.1.5 Causes of Poor Environmental Sanitation Practices in Coastal Communities/Areas	27
2.1.6 Effects of Poor Coastal Sanitation Practices	38

2.1.7	The Need for Good Environmental Sanitation Practices in Coastal Communities	45
2.1.8	Current Practices to Improve Sanitation in Ghana	47
2.1.9	National Sanitation Policies/ Programme in Ghana	52
2.2	Empirical Studies	54
2.3	Theoretical Framework	57
2.3.1	Ecological Modernisation Theory	57
2.3.2	Health Belief Model	59
CHAPTER THREE: METHODOLOGY		64
3.0	Introduction	64
3.1	Study Area	64
3.2	Philosophical Worldview	66
3.3	Research Approach	68
3.4	Research Design	69
3.5	Study Population	72
3.6	Sample and Sampling Techniques	72
3.7	Data Collection Instruments and Methods	73
3.8	Analysis	75
3.9	Trustworthiness	76
3.10	Ethical Consideration	78
3.11	Summary	80

CHAPTER FOUR: RESULTS AND DISCUSSION	81
4.0 Introduction	81
4.1 Environmental Sanitation Practices among the People of Sankor and Kwendum	81
4.1.1 Disposing Waste at the Seashore	82
4.1.2 Burning and Burying of Waste	83
4.1.3 Defecating at Seashore	84
4.1.4 Using Public Toilet	85
4.2 Factors that Account for the Environmental sanitation in Kwendum and Sankor	88
4.2.1 Lack of Dustbins and Containers	88
4.2.2 Proximity to the Sanitation Facilities	89
4.2.3 Inadequate Toilet Facilities	90
4.2.4 Challenges with The Usage of Public Toilets	92
4.2.5 Inadequate Resources	93
4.2.6 Financial Difficulties	94
4.2.7 Lack of Awareness Creation	96
4.2.8 Poor Road	97
4.2.9 Leadership Crises	98
4.2.10 Negative Attitude	99
4.3 Effects of Environmental Sanitation Practices in Coastal Communities of Sankor and Kwendum	102
4.3.1 Socio-Economic Effects Of Poor Sanitation Practices	102
4.3.1.1 Health Effect	102
4.3.1.2 Destruction of Aesthetic Beauty of the Beaches	104
4.3.1.4 Low Productivity	106
4.4 Measures Towards the Enhancement of Good Sanitation Practices in the Sankor and Kwendum Communities	108

4.4.1	Provision of Sanitary Facilities	108
4.4.2	Public Education	110
4.4.3	Change of Attitude	112
4.4.4	Assistance from Government and Stakeholders	113
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION		115
5.0	Introduction	115
5.1	Summary of the Findings	115
5.1.1	Environmental Sanitation Practices in the Kwendurum and Sankor Communities	115
5.1.2	Factors that Account for The Environmental Sanitation in Kwendurum And Sankor	116
5.1.3	Effects of Environmental Sanitation Practices on Residents of Kwendurum and Sankor	116
5.1.4	Measures Towards the Enhancement of Good Environmental Sanitation Practices in the Sankor and Kwendurum Communities	117
5.2	Conclusion	118
5.3	Recommendations	120
5.4	Research Limitations	121
5.5	Area for Future Research	123
REFERENCE		124
APPENDICES		137

LIST OF FIGURES

Figures	Page
1: Proportion of National Population	22
2: Map of Effutu Municipality	66



LIST OF PLATES

Plate	Page
1: Picture showing settlement at the shores of the sea	27
2: Picture showing children defecating at the shore of the sea	45



ACRONYMS/ABBREVIATIONS

SDG	:	Sustainable Development Goal
UNCW	:	United Nations Conference on Water
UNEP	:	United Nations Environment Programme
UN	:	United Nations
UNICEF	:	United Nations Children's Fund
HBM	:	Health Belief Model
CBD	:	Central Business District
ReNED	:	Research Network for Environment and Development
IEA	:	International Epidemiological Association
EPA	:	Environmental Protection Agency
WB	:	World Bank
JMP	:	Joint Monitory Programme
MLGRD	:	Ministry of Local Government and Rural Development
IRC	:	International Water and Sanitation Centre
KEEA	:	Komenda-Edina-Eguafo-Abirem
CRC & FON	:	Coastal Resources Centre / Friends of the Nation
GWF	:	Ghana Water Forum
CEO	:	Chief Executive Officer
GDP	:	Gross Domestic Product
LMICs	:	Low and Middle Income Countries
MDG	:	Millennium Development Goal
CATS	:	Community Approach Total Sanitation
GPCC	:	Ghana Pentecostal Charismatic Church
ESP	:	Environmental Sanitation Policy

NWP	:	National Water Policy
FGD	:	Focus Group Discussion
OPD	:	Out Patients Department
HDR	:	Human Development Report
NGO	:	Non-Governmental Organisation
MMDAs	:	Metropolitan, Municipal and District Assemblies
NWP	:	National Water Policy
WSSDP	:	Water and Sanitation Sector Development Plan
NESSAP	:	National Environmental Sanitation Strategy and Action Plan
DESSAPs	:	District Environmental Sanitation Strategy and Action Plan
DWSPs	:	District Water and Sanitation Plans
RSMS	:	Rural Sanitation Model and Strategy



ABSTRACT

The study explored the environmental sanitation practices in Kwendurum and Sankor in the Effutu municipality. In achieving the purpose of the study, the case study design was employed. Purposive and convenient sampling were used to select a sample of 15 respondents which included 3 officials and 12 residents of the studied communities. Data was gathered through the use of interviews and focused group discussion and was analysed according to themes. The findings of the study revealed that residents of Kwendurum and Sankor use the seashore as waste dumping site as well as place of convenience instead of using toilet facilities. The study also revealed that negative attitudes of the people, financial difficulties, proximity to the beach, inadequate dustbins, inadequate toilets facilities, inadequate resources, poor road and lack of education were the factors that accounted for the environmental sanitation practices of residents in Kwendurum and Sankor. Additionally, the study revealed that, the environmental sanitation practices of Sankor and Kwendurum had negative effect on them including environmental, social and economic effects. Furthermore, the findings of the study uncovered measures such as provision of sanitary facilities, regular organisation of communal labour, change of attitude, provision of resources, assistance from stakeholders and the government, focusing on preventive measures than curative measures, enforcement of coastal laws, education, construction of dock at the seashore as well as good roads to enhance good sanitation practices in the two aforementioned coastal communities. The study also recommended that, Effutu Municipal Assembly as well as other local stakeholders such as chiefs and opinion leaders should intensify their effort to address the problem of poor environmental sanitation practices in Sankor and Kwendurum communities by providing toilet facilities, organising education campaign programmes to strengthen good sanitation practices as well as enforcing coastal sanitation laws to prevent residents from putting up negative attitude towards their environment.

CHAPTER ONE

GENERAL INTRODUCTION

This chapter comprises the background to the study, statement of the problem, purpose of the study, objective of the study, research question, significant of the study, delimitation of the study, organisation of the study and operational definition of terms used in the study.

1.1 Background to the Study

Sanitation is ensuring cleanliness in the coastal community or disposing of waste properly, so that it does not threaten the environment or public health. Sustainable Development Goal six (SDG6) is one of 17 Sustainable Development Goals established by the United Nations General Assembly in 2015 and it calls for clean water and sanitation for all people. The official wording is: "Ensure availability and sustainable management of water and sanitation for all" (UNDP, 2015:1). The goal has eight targets to be achieved by 2030. Progress toward the targets will be measured by using eleven "indicators." According to Andersson, Dickin and Rosemarin (2016), SDG6 is closely linked with other Sustainable Development Goals (SDGs). For instance, improving sanitation helps make cities more sustainable (Goal 11). Sanitation improvements can lead to more jobs (Goal 8) which would also lead to economic growth (Goal 8). SDG6 progress improves health (Goal 3) and social justice (Goal 16). Looking at it from a glance, one can say that, without the SDG6, the world would not be in a good condition. That is the situation the people would find themselves would be unbearable.

According to the World Health Organisation (2004), one of the unresolved problems for those concerned with the quality of life in the world, especially the developing world is that of adequate, accessible and acceptable basic sanitation. Environmental sanitation problem in the coastal communities can be seen as one of the serious environmental problems confronting many coastal communities in different parts of the world including Ghana. Research conducted by UNEP (2010), shows that, it had been estimated that waste generation in sub-Saharan Africa is approximately 62 million tonnes per year and per capita waste generation is generally low in this region, but spans a wide range, from 0.09 to 3.0 kg per person per day, with an average of 0.65 kg/capita/day, the annual waste generation in East Asia and the Pacific Region is approximately 270 million tons per year, in Eastern and Central Asia, the waste generated per year is at least 93 million tones and the per capita waste generation ranges from 0.29 to 2.1 kg per person per day, with an average of 1.1 kg/capita/day, Latin America and the Caribbean has the most comprehensive and consistent data (i.e PAHO's Regional Evaluation of Solid Waste Management, 2005) and the total amount of waste generated per year in this region is 160 million tonnes, with per capita values ranging from 0.1 to 14 kg/capita/ day, and an average of 1.1 kg/capita/day. Similar to the high per capita waste generation rates on islands in Africa, the largest per capita solid waste generation rates are found in the islands of the Caribbean, In the Middle East and North Africa, solid waste generation is 63 million tons per year. Per capita waste generation is 0.16 to 5.7 kg per person per day, and has an average of 1.1 kg/capita/day.

The United Nations Conference on Water (UNCW, 1977), declared the decade of (1981-1990) as International Drinking Water and Sanitation Decade with a target of water and sanitation for all (Black & Fawcett, 2008). Despite the aim to improve both

water supply and sanitation, most of the attention was put on water supply and at the end of this decade there were 300 million more people without sanitation than at its beginning (Black & Fawcett, 2008). Environmental issues were not the focus when the UN was inaugurated in 1945. Global environmental issues did not really feature significantly on the international political stage as far as the United Nations and other formal negotiations were concerned until the early 1970s. The main preoccupation of the UN was peace and security, international cooperation and human rights (Rechkemmer, 2006). There was no reference made within the provisions of the UN Charter about the environment. There was some attempt, though, in 1962 but it was mainly related to relevance of and conditions in the industrialised countries (Pugh, 2001).

Developed countries however, are not the only one struggling with rapid accumulation of waste problems especially, at the coastal communities but also developing countries and the attempts to address the pervasive menace of poor sanitation of coastal areas by various African and Asian governments, private sector, civil society, universities and research institutions, community-based organisations and non-governmental organisations have been woefully inadequate mainly because of the enormous volume of solid waste generated, inadequate waste management infrastructure and non-efficient waste management system in place.

In many developing countries, the issue of sanitation practices in coastal communities has emerged as serious worldwide phenomenon which is increasingly worsening each day due to human activities such as technological, industrial, commercial, socio-economic and cultural practices among others. For instance, in Ghana, the poor nature of sanitation in coastal communities is triggered by certain elements and according to

Quartey, Tosefa, Danquah and Obrsalova (2015), elements such as rapid urbanisation, lack of funding and economic decline in Ghana from the 1970s to the 1980s are some of the reasons for the poor sanitation of most communities. Apart from the factors highlighted by Quartey et al., one pertinent factor believed to be the main contributor of poor sanitation in coastal communities is the human attitude of which if urgent attention is not taken to address this phenomenon, serious threat to sustain life on earth will be encountered (Gore, 1993). These coastal sanitation problems have also been recognised as a public health hazard worldwide (Ekong, 2015).

Whilst in the past, waste disposal was perceived as a problem as a result of over population of nations, today the question of coastal waste problem by extension those of environmental sanitation pose some of the daunting tasks facing most African countries. According to Lyse (2003), nine (9) out of every ten (10) African Cities are facing serious waste disposal problems. Bringing this situation to the Ghanaian context, in 2010, Ghana was ranked 152 out of 182 on the Human Development Index and was judged the 4th country with the lowest rate of sanitation coverage worldwide (UNICEF/WHO 2010). A visit to most cities and towns in Ghana especially the coastal communities reveals serious sanitation problems in such areas. Among these sanitation problems include heaps of uncontrolled rubbish, empty polythene bags, chocked drains, indiscriminate littering and open defecating in unauthorised places such as bushes and along the coastal areas. Because of these sanitation problems, one cannot boast of Accra as one of the respected cities due to the waste the city is grappling with. Kumasi is also another city once referred to as garden city but has now also turned into “waste city”. Sekondi-Takoradi being referred to as twin and oil city has now also turned into “waste city” because of this sanitation problems (Kwasi, 2014).

Problem with sanitation has been a great worry in Ghana of which the concern bodies are battling with finding the best ways of dealing with it. Managing sanitation improperly poses threat to the health of individuals and the environment especially to those living in coastal communities in Ghana. Although majority of the diseases related to sanitation problems could be treated using antibiotics, the persisting burden of such diseases and increasing antibiotics resistance can create dual pressure on public health professionals, pharmaceuticals industry and policy makers.

1.2 Statement of the Problem

Safe sanitation is essential for health, from preventing infection to improving and maintaining mental and social well-being. The sanitation target of the Sustainable Development Goals is that everyone should have a „safely-managed“ sanitation facility by 2030 and that open defecation be eliminated. The scale of this target is unprecedentedly large where 5.6 billion additional people will require safely-managed sanitation by 2030 (1 million per day), and 1.3 billion people will need to switch from open to fixed-defecation in a sanitation facility by 2030 (240,000 per day).

Sanitation problem at the Kwendurum and Sankor communities in the Effutu Municipality leaves much to be desired. A cursory observation of the selected areas reveals wastes from cooking and other human related activities are disposed indiscriminately at unauthorised places such as gutters, streets, big drains, and open places among others. Residents of these areas tend to openly defecate at the shores of the beaches as if it has no implication on their health and social welfare. The waste obstructs the free flow of drainages causing periodic flooding in the community during the rainy season which creates the necessary condition for mosquitoes to breed.

Some residents defecate indiscriminately at the shores of the beaches, and where public toilets are available, quite greater numbers of the residents in the study areas do not use the toilet facility. This can result in periodic outbreak of diseases such as rashes, cholera and malaria just to mention but a few.

There has been public awareness as to how and why the environment should be clean by various agencies and some non-governmental organisations (NGOs). Similarly, Duan and Fortner (2005) observed that people possess high environmental awareness and knowledge of local environmental issues than global environmental issues. However, they dispose waste indiscriminately and openly defecate at the seashores without realising that it is going to affect public health, the environment as well as affect the living standard of future generation.

This study is therefore undertaken in order to gain understanding of the problems and issues involved in the environmental sanitation practices among the residents of Kwendurum and Sankor and assist in finding solution.

1.3 Purpose of the Study

The purpose of this study is to explore the phenomenon of environmental sanitation practices among residents of Kwendurum and Sankor in the Effutu Municipality. The study is undertaken with the aim of enhancing the understanding of the problem of environmental sanitation practices in Kwendurum and Sankor and to identify possible solution to the problem.

1.4 Objectives of the Study

The study sought to:

- (i) identify the environmental sanitation practices among residents of Kwendurum and Sankor.
- (ii) assess the factors that account for the environmental sanitation challenges in Kwendurum and Sankor.
- (iii) examine the effects of environmental sanitation problems on residents of Kwendurum and Sankor.
- (iv) explore the measures towards the enhancement of good sanitation practices in the Sankor and Kwendurum communities.

1.5 Research Questions

The following research questions were raised to guide the study.

- (i) What are the environmental sanitation practices among residents of Kwendurum and Sankor?
- (ii) What factors account for the environmental sanitation challenges in Kwendurum and Sankor?
- (iii) How do the environmental sanitation problems affect the residents of Kwendurum and Sankor?
- (iv) In what ways can the sanitation practices in the Sankor and Kwendurum communities be enhanced?

1.6 Significance of the Study

The findings of the study would reveal the nature and existence of sanitation practices among the residents of Kwendurum and Sankor in the Effutu Municipality. This would help by enlightening government and Municipal policy makers, environmental activists, researchers and other relevant bodies to enhance their sanitation management efforts. The study findings would also make the residents aware of the effects of poor environmental sanitation practices in their locality in order to desist from the activities that render the sanitation of their communities poor. In addition, the findings of the study would also bring out the factors that account for poor environmental sanitation practices among the residents of the aforementioned communities. This would inform policy formulation on how to adopt strategies that would control environmental sanitation problems such as littering with plastic bags, domestic solid waste and open-air defecation into gutters and around beaches among these coastal communities. When measures are adopted to improve the sanitation problems in these coastal areas, many economic benefits such as tourism, foreign investment and trade would be enjoyed thereby increasing the gains from economic activities. Lastly, the findings of the study would also add up to the existing literature regarding the environmental sanitation practices in Ghana.

1.7 Delimitation of the Study

The research was conducted in Sankor and Kwendurum in the Effutu Municipality. The rationale for choosing Sankor and Kwendurum was due to high volume of waste generated within the area. Also, they are closer to the sea, and the problem under study is more predominant in these areas. The study focused on how waste is disposed within these communities and where they defecate.

1.8 Organisation of the Study

This study was divided into six chapters. Chapter one looks at the background to the study, purpose of the study, research objective and research questions, significance of the study, delimitation and the organisation of the study and operational definition of the terms. Chapter two delves into related literature to support the research. Chapter three considers the research methodology, approach, design, population, data collection instrument and procedure, study population, research instruments, data analysis and ethical consideration. Chapter four deals with data presentation, analysis, and interpretation of research findings. Chapter five also discusses the major outcomes of the study and chapter six presents the summary, conclusion and recommendation.

1.9 Operational Definition of Terms

Sanitation: In this context, sanitation is ensuring cleanliness in the coastal community or disposing of waste properly, so that it does not threaten the environment or public health.

Environment: It's everything that makes up the surroundings and affects their ability to live on the earth. That is, the air they breathe, the water that covers most of the earth's surface, the plants and animals around them, and much more.

Practices: The day to day sanitation management activities of those living at the coastal communities.

Environmental Sanitation: The concept of environmental sanitation refers to activities aimed at improving or maintaining the standard of basic environmental conditions affecting the wellbeing of people.

Environmental Sanitation Practices: Environmental sanitation practices refer to residents' involvement in provision, utilisation, and maintenance of environmental sanitation facilities and services and adherence to environmental legislation.

Coastal Communities: Coastal communities are people with common characteristics or interest living at the shores of the sea. For example, people of Sankor and Kwendurum.



CHAPTER TWO

RELATED LITERATURE REVIEW

2.0 Introduction

This chapter deals with a review of relevant literature that is related to the study. The review focuses on theoretical framework that is related to the research objectives. Themes that run through the literature have been organised according to the following:

- Concept of environment, sanitation, environmental sanitation and coastal community.
- The need for good environmental sanitation practices.
- Causes of poor environmental sanitation practices.
- Effects of poor environmental sanitation practices.
- Current practices to improve sanitation in Ghana.
- Empirical studies
- Ecological modernisation theory
- Health belief model

2.1 Conceptual Review

2.1.1 The Concept of Environment

The term environment has been explained by different personalities with different views. For instance, according to Cunningham (2002), environment is rooted from the French word “to circle or surround” which means circumstances and conditions that surround an organism or group of organisms, or the social and cultural conditions that affect an individual or community. This means that environment is basically anything

that can be found around an organism or an individual and as noted by Cunningham (2002), these situations can be social and cultural. This means that their perspective about the environment is not only limited to the physical attributes but other pertinent aspects of the environment which he mentioned in his definition.

In the same view, Barrow (1995) also focused on the totality of the situations that surround organisms as he defined environment as the sum total of conditions within which organisms live. In a biology perspective of the definition, Stephens (2002) also posited that the environment refers to the result of interaction between living (biotic) and non-living (abiotic) parameters. This however means that environment does not only focus on the things around living organisms but also the interaction that goes on between these living organisms and non-living organisms. In support of the assertion of Stephens (2002), Kalavathy (2004) noted that environment includes water, air and land and the inter-relationships which exist among and between water, air and land and human beings and other living creatures such as plants, animals and micro-organisms.

In furtherance, environment consists of an inseparable whole system constituted by physical, chemical, biological, social and cultural elements, which are interlinked individually and collectively in myriad ways. The perspective of Kumarasamy, Nahar, Byres, Delazar and Sarker (2004) about environment is however categorised into four broad categories which they believe are reciprocal effect on human activities. In view of this, they defined the natural environment as the kind of environment which consist of four interlinking systems namely, the atmosphere, the hydrosphere, the lithosphere and the biosphere and these four systems are in constant change and such changes are affected by human activities and vice versa. The researcher take stands with definition

given by Kalavathy (2004), the reason being that the environment we find ourselves does not only comprise of what already exist but what the living organisms are doing to it and this is linked to the poor nature of sanitation practices exhibited at the coastal communities such as Sankor and Kwendurum in the Effutu municipality.

Linking the above definitions of environment to the health benefits of human beings, the Research Network for Environment and Development (ReNED) (2006) posited that in relation to human health, the "environment" includes not only the physical and biological elements of nature, but also human-based systems - cultural, economic, political, technological, spiritual and relational that make up the setting in which people live. Explaining the definition given by ReNED, the environment does not only comprise of the people, the trees, land, cars and so on found in a particular area but cultural beliefs, norms, values that imbibe them, their economic activities (the type of work done at the communities), the new things done to improve their lives, and so on. This signifies that environment encompasses everything living organisms interact with including water bodies in coastal communities. The concept of environment incorporates all the natural resources which interlink in a complex global ecosystem embodying many sub-systems. Disruption in such systems, which is as a result of cumulative indiscriminate degradation which takes place in localised environments such as coastal communities, villages, towns and cities, distort the delicate ecological balance and have dire consequences for mankind, and thus provide a compelling justification for the preservation of the environment.

The disruption of the environment and its components has necessitated the urge of the sanitation agencies to ensure measures are put in place to ensure good sanitation practices among the people living in these aforementioned areas. Similarly, in the perspective of Canter (1975), the environment has been categorised as air

environment; water environment; noise environment; biological environment; cultural environment; and socio-economic environment. It is upon this natural surrounding that all creatures depend for their existence and sustenance (Uchegbu, 2000). However, living components of creation are found in all facets of the physical environment.

Under a normal condition, the living things interact symbolically among themselves and with the physical environment, it has been noted that before man came to the scene, the physical environment was as pure as the spring water, Uchegbu added. Today, degradation of environment largely depends on human attitude and is said to be the main contributor to the environmental sanitation problems in which, if urgent attention is not taken to address this phenomenon it might pose serious threat to sustain life on earth (Gore, 1993). In addition, Last (2001) noted that the environment for the International Epidemiological Association (IEA) focuses on all which is external to the human host and can be divided into physical, biological, social, cultural, etc., any or all of which can influence health status of populations. This definition means that the environment comprises the things within the host of humans can influence their health negatively if proper environmental sanitation is not ensured. In addition to the above definition, for the purposes of environmental health, however, a more practical definition of the environment is needed, because environmental health actions generally try to change only the natural and physical environments and its related behaviours (e.g. hand washing). Such interventions can rarely modify the social and cultural aspects of a community, which are usually independent of the environment (e.g. cultural pressures on lifestyle, unemployment).

The above definitions especially that of Last (2001) highlights how human activities affect other aspect of the environment. And so, the question still remains, why do coastal dwellers especially, the Sankor and Kwendurum put up practices that degrade usefulness of the environment which affect other aspects of the environment such as atmosphere, the hydrosphere, the lithosphere and the biosphere. The practice of degrading the environment makes the work of Environmental Protection Agency difficult. According to the Environmental Protection Agency, (EPA Ghana) Act 490 (1994), the agency is dedicated to improving, conserving and promoting the country's environment and striving for environmentally sustainable development with sound, efficient resource management, taking into account social and equity issues. In addition, the EPA oversees the implementation of the National Environment Policy and their mission is to manage, protect and enhance the country's environment and seek common solutions to global environmental problems. Their mission as an agency is to be achieved through an integrated environmental planning and management system with broad public participation, efficient implementation of appropriate programmes and technical services, advice on environmental problems and effective, consistent enforcement of environmental law and regulations.

Although there are several agencies in charge of keeping the environment clean, the greatest challenge facing countries in the world today as they strive to develop is not just a growth in national income, but the threat that environmental degradation is posing to the very survival of humankind. This threat ranges from problems of poor environmental sanitation in coastal communities such as plastic wastes littering, indiscriminate disposal of domestic solid waste, and open-air defecation to the effects of global climate change due to emission of Green House gases like carbon dioxide into the atmosphere. Available evidences from studies indicate that human societies

have an unprecedented and dangerous impact upon the global environment (Rosa, Diekmann, Dietz & Jaeger, 2010).

In its modern concept, environment includes not only water, air and soil but also the social and economic conditions under which we live (Park, 2011). The key to human's health lies largely in his environment. In fact, much of man's ill-health can be traced to adverse environmental factors such as water, soil and air pollution, poor housing conditions, presence of animal reservoir and insect vectors of diseases which pose threats to man's health. Often, human being is responsible for the pollution of his environment through urbanisation, industrialisation and other human activities.

In conclusion, the above elaborations have highlighted the concept of environment. It is worth noting that the term environment meant and used differently depending on the perspective of the author. Inferring from the above assertions of authors on the concept however showed that the environment serves numerous benefits to man if it is taken good care of. Nevertheless, if inhabitants of the environment fail to put up good sanitation practices, their health can be affected immensely.

2.1.2 The Concept of Sanitation

Sanitation is found to be a broad concept and has been defined by different researchers from varying perspectives (Baffoe, 2015). For instance, according to WHO and UNICEF (2019), sanitation refers to the provision of facilities and services for the safe management of human excreta from the toilet to containment and storage and treatment onsite or conveyance, treatment and eventual safe end use or disposal.

This view beams the searchlight on presence of facilities (here referring to lavatory, washroom, gutters, sewerage systems etc.) and linking it to the presence of the sanitation problems in the coastal communities of Effutu municipality, it can be

observed that these aforementioned facilities are insufficient in the coastal communities and as a result indigenes defecate openly as well as heaping up refuse neglecting the potency of causing problems with their health. According to Kpatriok (1980), sanitation is the arrangement for protecting the health, especially the removal of the human, industrial and domestic wastes. I side with the definition given by Kpatriok because “the arrangement for protecting the health” portion of his definition throws more light on how to ensure cleanliness of the environment especially at the coastal community, this means that there should be provision of certain amenities such as dustbins, rules and regulation to be followed by the people in order for the community to be clean to avoid any form of illness.

In furtherance, Kpatriok, noted that sanitation is also a process embarked upon to keep the total of human's environment hazard free. In a similar view, Mensah (2002) also postulate that sanitation is basically the state of cleanliness of a place, community or people particularly relating to those aspects of human health including the quality of life determined by physical, biological, social and psychological factors in the environment. Making inferences from the above definition, it worth noting that sanitation of people or a community leads to cleanliness which improves the health and quality of life of the people as well as the community in areas such as physical, biological, social and psychological. Schertenleib, et al. (2002), define sanitation as interventions to reduce people's exposure to diseases by providing a clean environment in which to live and with measures to break the cycle of disease. This usually includes hygienic management of human and animal excreta, refuse and wastewater, the control of disease vectors and the provision of washing facilities for personal and domestic hygiene. In the coastal community such as the Kwendum and the Sankor communities in the Effutu municipality, ensuring sanity means putting up

measures to reduce the rate of illness in such communities. Some measures are the provision of dustbins at vantage places, provision of toilet facilities and so on. According to World Bank (2002), sanitation also involves both behaviours and facilities which work together to form a hygienic environment. I side with this definition for the fact that facilities could be in place but how well they are kept matters, that is our behaviour towards the facilities to ensure sanity in our communities especially the coastal communities.

Nyamwaya (1994) also defines sanitation as the proper disposal of human waste that is, faeces and urine. It includes keeping the human environment free of harmful substances which can cause diseases. Wherever humans are, there is the presence of waste accumulation. Preventing human contact with faeces is part of sanitation, as is hand washing with soap. Susana (2008) added that sanitation systems aim to protect human health by providing a clean coastal environment that will stop the transmission of disease, especially through the faecal–oral route. For example, diarrhoea, a main cause of malnutrition and stunted growth in children in the coastal communities, can be reduced through sanitation (WHO, 2018). There are many other diseases which are easily transmitted in the coastal communities that have low levels of sanitation, such as ascariasis (a type of intestinal worm infection or helminthiasis), cholera, hepatitis, polio, schistosomiasis, trachoma, to name just a few.

According to Bowman (2010), sanitation is a field of public health and it involves various efforts to control the environment to prevent and control diseases. Sanitation also includes personal cleanliness, which help protect against diseases. Sanitation activities include food processing and distribution, sewage treatment and solid waste disposal, water treatment and numerous other measures, such as control of air

pollution and rodent. Solid waste disposal has become a major sanitation problem in the coastal community of Kwendurum and the Sankor. Solid waste which is also called refuse consist of garbage and trash from cities and towns, plus by-products of farming, mining and manufacturing. Such by-products include animal carcasses and manure from farms, sawdust and scrap metal from factories and pieces of coal from various metals from mines in the coastal communities. Almost all methods of waste disposal can create environmental problems. For example, open dumps look unpleasant and may bring out smell. They also provide homes for rats and other animals that carry disease. Burning solid waste causes smoke which makes the air dirty especially in the coastal communities. But when land disposal sites and incinerator are properly operated, they cause little harm to the sea and the land.

Commenting on the statistics of nature of sanitation worldwide, WHO and UNICEF (2017) noted that sanitation is essential to the survival and development of children and currently, there are 2.4 billion people worldwide who do not use improved sanitation (a facility that safely separates human waste from human contact), 946 million people go in the open, known as “open defecation”. They further stated that while progress has been made to improve access to sanitation in some parts of the world, millions of children in poor and rural areas have been left behind. In explaining open defecation used by UNICEF, it is when people go out in fields, forests, open bodies of water, or other open spaces rather than using a toilet.

It is worth noting that, it is incredibly dangerous, as contact with human waste can cause diseases such as cholera, typhoid, hepatitis, polio, diarrhoea, worm infestation and under nutrition. UNICEF continued to note that in every day, over 800 children under five die from diarrhoea-related diseases. Globally, India has the largest number

of people still defecating in the open constituting more than 564 million. (WHO & UNICEF, 2017).

It has been established in literature that, there are range of sanitation technologies and approaches exists of which some include community-led total sanitation, container-based sanitation, ecological sanitation, emergency sanitation, environmental sanitation, onsite sanitation and sustainable sanitation. According to Gates Foundation (2010), sanitation system includes the capture, storage, transport, treatment and disposal or reuse of human excreta and wastewater. In the definition given by Gates Foundation, it is worth noting that re-use activities within the sanitation system may focus on the nutrients, water, energy or organic matter contained in excreta and wastewater. This is referred to as the "sanitation value chain" or "sanitation economy" (Paranipe & Nitin, 2017). Several sanitation "levels" are being used to compare sanitation service levels within countries or across countries (JMP, 2017).

The sanitation ladder defined by the Joint Monitoring Programme in 2016 starts at open defecation and moves upwards using the terms "unimproved", "limited", "basic", with the highest level being "safely managed" (JMP 2017). The Human Right to Water and Sanitation was recognised by the United Nations (UN) General Assembly in 2010 and it states that sanitation is a global development priority and the subject of Sustainable Development Goal 6 (WHO & UNICEF, 2017). The estimate in 2017 by JMP states that 4.5 billion people currently were not having safely managed sanitation (WHO & UNICEF, 2017). The lack of access to sanitation in communities in the worldwide has also been established to have impact not only on public health but also on human dignity and personal safety. In addition, though there has been awareness as to why and how the environment should be cleaned, 2.0 billion people still do not

have basic sanitation facilities such as toilets or latrines. Of these, 673 million still defecate in the open, for example in street gutters, behind bushes or into open bodies of water (WHO/ UNICEF, 2019).

It has been stated in literature that, one of the main challenges in developing countries including Ghana is to provide sustainable sanitation. Maintaining and sustaining sanitation has aspects that are technological, institutional and social in nature. This means that sanitation sustenance can be done using technologies, by institutions and within our various societies. Sanitation infrastructure has to be adapted to several specific contexts including consumers' expectations and local resources available. In making reference to technologies used in maintaining sanitation, sanitation technologies have been noted to include centralised civil engineering structures like sewer systems, sewage treatment, surface runoff treatment and solid waste landfills. In furtherance, these structures are designed to treat wastewater and municipal solid waste. Sanitation technologies may also take the form of relatively simple onsite sanitation systems. This can in some cases consist of a simple pit latrine or other type of non-flush toilet for the excreta management part.

According to Tilley, Strande, L thi and Mosler, (2014), providing sanitation to people requires attention to the entire system, not just focusing on technical aspects such as the toilet, faecal sludge management or the wastewater treatment plant. Tilley, et al. (2014) further explained that the "sanitation chain" involves the experience of the user, excreta and wastewater collection methods, transporting and treatment of waste, and reuse or disposal.

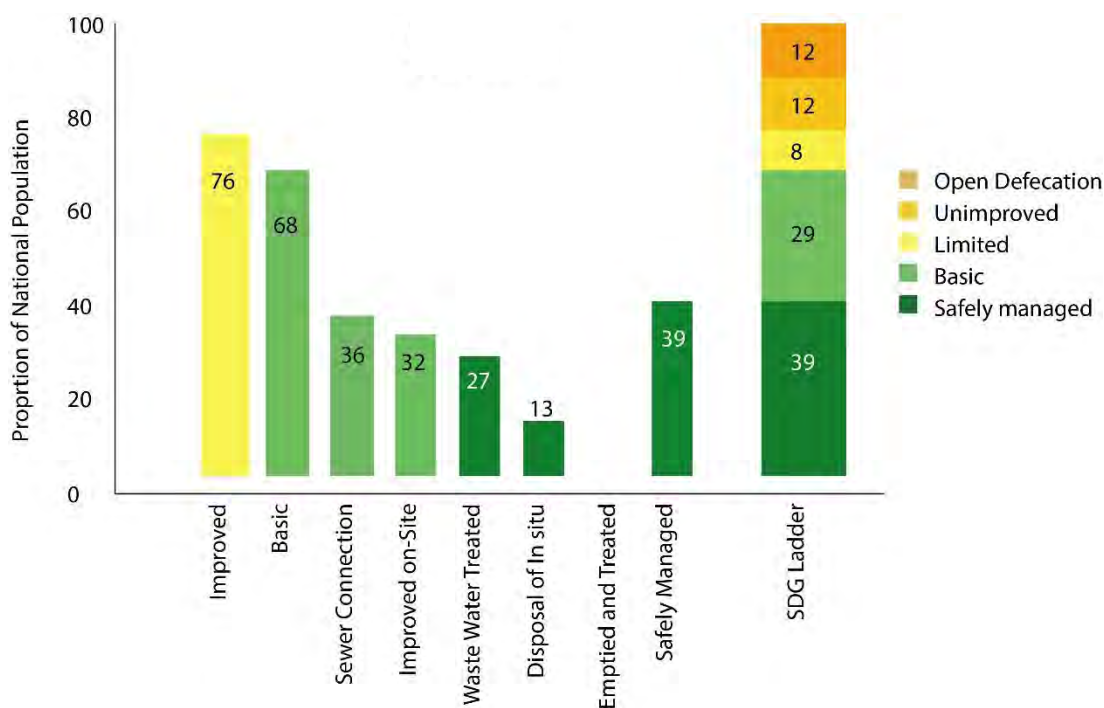


Fig 1: Proportion of National Population

Source: SDG baseline estimates for sanitation services from the JMP 2017 report

The concept of sanitation has been detailly explained. The varying opinions of different authors on the concept has also been highlighted. While some assertions of the aforementioned authors are consistent with others, there were however some assertions which also contradicted. In general terms, as specified by WHO, sanitation basically has been defined to include the provision of facilities and services for the safe management of human excreta from the toilet to containment and storage and treatment onsite or conveyance.

2.1.3 Environmental Sanitation

Environmental sanitation has been largely used to mean the various sanitation practices exhibited on the environment. The concept of environmental sanitation has been broadly defined to mean activities aimed at improving or maintaining the

standard of basic environmental conditions affecting the wellbeing of people. In a similar view given by World Health Organisation (2018), environmental sanitation refers to the control of all those factors in human's physical environment which exercise or may exercise a deleterious effect on his physical development, health and survival. Linking this to the coastal communities, for instance the Sankor and the Kwendurum communities within the Effutu Municipality, the conditions which can cause deleterious effect such as waste disposal, heaping up refuse, defecation among others are unfortunately ignored by these communities probably as a result of lack of education on some pertinent factors of ensuring environmental sanitation. In other words, environmental sanitation refers to principle and practice of effecting healthful and hygienic conditions in the environment to promote public health and welfare consequently improve the quality of life and ensure a sustainable environment (Alabi, 2010).

The above definition is consistent with definition which was given by WHO since they both emphasise on the practices that controls or promote healthful conditions in order to control factors that can have deleterious effect on the lives of people living in the environment. In a similar view cited by Ministry of Local Government and Rural Development (MLGRD) (1999) defined environmental sanitation to mean the efforts or activities aimed at developing and maintaining a clean, safe and pleasant physical environment in all human settlements. This definition however places emphasis on effort or activities that can ensure safe and clean environment just like the definition given some above authors.

It has been established in literature that ensuring environmental sanitation in the coastal communities includes a number of complementary activities comprising the

construction and maintenance of sanitary infrastructure, the provision of services, public education, community and individual action, regulation and legislation. Narrowing the definition down to coastal communities, International Water and Sanitation Centre (IWSC) (2006) postulates that the term environmental sanitation, is used to cover the wide concept of controlling all the factors in the physical environment in the coastal communities which may have an impact on human health and well-being. This means that in considering the coastal communities, environmental sanitation has been used to include the interventions by the people to reduce their exposure to disease by providing a clean environment for living, with measures to break the cycle of disease (Simpson-Hebert & Woods, 1998).

It is also worth noting that, the concepts sanitation and environmental sanitation in most cases have been used interchangeably. Just like in the explanation of sanitation, environmental sanitation also comprises both a change in behaviour and facilities provision to form a hygienic environment. This however means that environmental sanitation refers to the set of actions geared towards improving the quality of the environment and reducing the amount of diseases. Globally, inadequate environmental sanitation has been recognised as a public health hazard not to only western world but also developing countries like Ghana.

In most developing countries adequate environmental sanitation has not been strictly adhered to (Environmental Protection Agency (EPA), 1994). For example, in some parts of Nigeria, living with waste as part of the natural environment has become a way of life. Although there has been a remarkable improvement from what it used to be in the late eighties and early nineties, there is still much to be done at Lagos and as a result, Nigerian Centre of Excellence has been depicted a vast slum (Alabi, 2010).

In some Ghanaian coastal communities such as Kwendum and Sankor, living with waste as part of the natural environment has become a way of life. This anomaly is as result of lack of education on solid waste management and vector control among these communities. The existence of the problem in these communities as well as other coastal communities in Ghana must be prioritised and the necessary education on solid waste management, medical waste management, excreta and sewage management, food sanitation, sanitary inspection of premises, market and abattoir sanitation, adequate potable water supply, school sanitation, pest and vector control, management of urban drainage, control of reared and stray animals, disposal of the dead animals, weed and vegetation control, hygiene education and promotion.

Concluding on the concept of environmental sanitation, the concept has been used and explained by different authors with varying opinions. It has also been established that, environmental sanitation basically anchors on promoting public health and welfare of people as well as other materials in the environment in order to improve the quality of life and ensure a sustainable environment.

2.1.4 Coastal Communities

According to Depledge (2017), there is no consistent, widely used definition of a „coastal community“. The term coastal community has been defined by Coastal Communities Alliance (2015) as a coastal settlement within a local authority area whose boundaries include the foreshore. In addition, the term coastal communities have also been defined by Duncan (1975), as settlements built along the seacoasts, estuaries, mangrove swamps, lakeshores, riverbeds and in most cases extended right above the surface waters. As rightly defined by Duncan, this however means that coastal communities are communities which comprise houses built around seacoasts,

estuaries, mangrove swamps, lakeshores, riverbeds. In furtherance, they are communities built on low-lying areas include those on swampy sites, marshlands and other flood prone areas.

It is worth noting that another general term which encompasses these coastal and low-lying areas is “Wetland”. Wetland in this case is defined as those transitional areas between dry land and open water, which are characterised by low topography, standing waters and poor drainage.

It is noted in literature that, settling of communities on coastal, waterfronts and low-lying areas as well as on surface water can be attributed to several reasons (Navarro, 1994). Commenting on the usefulness of coastal areas, Agardy (2005) postulates that coastal areas are among the most productive and threatened systems in the world, providing important services related to human well-being. It is further noted by UN (1992), EC (2002) that coastal zones hold a significant role to the human society and have great environmental, economic, social, cultural and recreational importance. Due to their characteristics, they are considered among the most productive, exploited, inhabited and threatened areas (Agardy, 2005; Kiousopoulos, 2008).

In recent decades many social, economic and environmental reasons, led people to the coast (coastalisation), where the environmental conditions (climate, natural environment, etc.) are qualitatively better (Newman, 2005). In the historical development of cities in developing countries, most cities were located on coasts or large rivers for trade, transportation, communication and defence reasons. In these countries, the rivers or canals play a vital role in the movement of people, goods and services. In most urban areas, low-lying and flood prone areas are cheap alternatives for settlement sites. For instance, for rural regions, livelihoods such as fishing or rice

cultivating, require settling on seacoasts or on the sea itself. For some communities, culture and tradition are significant reasons (Navarro, 1994).

In conclusion, the above literature is a compendious summary of what makes up coastal communities. It has also been established that these communities settle at coastal areas for some reasons especially in the rural areas where inhabitants engage in fishing activities, rice cultivation and among others. Furthermore, is noted in literature that these coastal communities play significant role especially in developing countries including environmental, economic, social, cultural and recreational importance (UN, 1992; EC, 2002).



Plate 1: Picture showing settlement at the shores of the sea

2.1.5 Causes of Poor Environmental Sanitation Practices in Coastal Communities/Areas

Coastal societies in most parts of the world are facing crisis and threats as development, recreation and waste dumping activities rise (Williams, 2001) and it has been identified that coastal pollution can be seen as one of the serious environmental problems confronting many coastal communities in different parts of the world (Dika,

2017). Similarly, in Africa, in the year 2006, it was projected that sanitation facilities such as refuse sites, toilet facilities, communal containers and dustbins are inadequate and do not meet the rapid population of which the problem still exists in recent years (WHO, 2015). In view of this, Lubaale and Musyoki (2011), stressed that Kenya, Uganda and Tanzania have adopted the participatory approach towards sanitation projects to help improve the condition of sanitation in their urban communities.

Considering the amount of money channelled to sanitation in Ghana, Thrift (2007) stated that about 52 million US dollars in Ghana is spent on sanitation annually and this amount of money is provided per year by foreign donors such as World Bank, UNICEF, EU, and other international agencies to help curb the sanitation problems in the country. Looking at the money spent on sanitation in Ghana, most of it is spent in coastal communities (Dika, 2017). The reason being that, the condition of sanitation problems in the coastal communities especially the Sankor and the Kwendurum in the Effutu municipality is very poor.

According to Vikas and Dwarakish (2015), the causes of coastal pollution are many and it depends on the position and the extent of the pollution. They further identified the primary cause of pollution in the coastal environment to include human activities either on the soil or on the ground which comes in the form of plastic debris, sewage and effluents, oil spills and non-point source.

In a similar study conducted by Dika (2017) to explore the causes of coastal pollution in Komenda-Edina-Eguafo-Abirem (KEEA) Municipal Assembly in the central region of Ghana, their findings revealed some causes of pollution in Elmina coastal area as negative attitudes regarding dumping of waste around and defecation at the beach, large population living close to the beach, inadequate sanitary facilities, poor

sanitation condition of available public toilet facilities, lack of in-house toilet facilities in certain homes, inadequate funds to sustain waste management programmes as was started by KEEA Municipal Assembly and other bodies under ECHMP, transportation processes of the ocean current and nature of the topography (sloppy nature of the land) of Elmina which supports run offs to carry pollutants down to the lagoon and beach. These factors are general factors affecting most coastal communities especially the communities under study in the Effutu municipality.

According to Simpson-Hebert and Wood (1998), there are of course many different reasons why so many people around the world still have no access to environmental sanitation services and they mentioned some of the causes as lack of political will, low prestige and recognition of the importance of sanitation, poor policy at all levels, poor institutional frameworks, inadequate and poorly-used resources, neglect of consumer preferences, ineffective promotion and low public awareness and neglect of the importance of women and children. Relating this assertion to the case of Sankor and Kwendurum into consideration, a cursory observation shows that most households do not have access to toilet facilities in their various houses, and so they defecate at the shores of the sea and this makes the place sometimes uncomfortable for people to visit for leisure and relaxation purposes.

In a study titled “Towards total sanitation: socio-cultural barriers and triggers to total sanitation in West Africa”, carried out in four West African countries; Burkina Faso, Ghana, Mali, and Nigeria, on open defecation in rural communities and the cultural values that reinforce its practice, Dittmer (2009) observed that shame, smell, social status, obligation to host, evil and ancestral practices are the barriers to abandoning open defecation in the study communities.

They further revealed that people feel ashamed or embarrassed when they are seen by anybody including their close relatives, walking in the direction of a latrine or toilet. In addition, the outcome of the study established that defecation is seen as a private issue and thus defecating in the bush offers the needed privacy.

During the interview session of the study, all the respondents in the four countries indicated that living with human excreta was unacceptable because of the offensive smell. For example, respondents from Ghana established that they preferred open defecation to latrines because of the unpleasant smell one experiences after using the latrine. These responses are consistent with the responses in one ethnic group in Burkina Faso on the perception that latrines are owned by only rich people and that one should not build a latrine even if one can afford the cost. This means that people naturally prefer open defecation especially those living at the coastal areas. This situation seems not to be different from the people of Sankor and Kwendurum. Another view from Burkina Faso, discovered that a guest is obliged to defecate in his/her host's field (and fertilise the crops) as an act of reciprocating whatever food one has eaten from his/her host. Thus, human excreta are perceived as fertiliser and people who cannot afford chemical fertilisers encourage defecation in their fields, as it is a ready and cheap source of fertiliser. Building latrines in some communities is perceived as depriving growers of a useful resource (Dittmer, 2009). This perception has influenced people engaging in open defecation.

Juxtaposing the findings of Dittmer (2009) and the existence of pollution at Sankor and Kwendurum in the Effutu municipality, it is evident that the factors stated by Dittmer can be identified with these two aforementioned coastal communities. That is, dwellers of these communities dispose off their waste at inappropriate place and

openly defecate along the shores of the sea which in a long way affect the people and the community at large. For instance, some of them feel shy easing themselves in the common toilet facilities provided by the owner of the house and so the best thing they do is to go and hide themselves somewhere at the shores of the sea and ease themselves. In furtherance, the nature of layout of their houses is also a cause of insanity in the coastal communities especially the Sankor and Kwendurum communities. This means that people living in these communities build their houses and leave out toilet facilities and use the shores of the sea as their place of convenient.

According to Depledge (2017), one of the key human activities in coastal communities that threatens human health is ongoing urbanisation and development. That is most people live in the urban areas and this has caused the burgeoning of new kinds of slums, the growth of squatter and informal housing all around the rapidly expanding cities of the developing world as people continue to migrate from rural areas to urban areas. Between 1990 and 2015, the country's population equation reversed from 36% living in urban areas to 64% living in rural areas to 54% in urban and 46% rural (UNICEF & WHO, 2015). Poor sanitation in coastal communities in Ghana is rising as a result of people moving from other areas to the coastal zone. For instance, the increasing pollution of Korle Lagoon is a result of the rapid urbanisation of Accra. This has been unaccompanied by a significant increase in sanitation facilities. This was also observed by Dika (2017), in a study conducted in Komenda-Edina-Eguafo-Abirem (KEEA), a coastal community in the central region of Ghana. The research showed that poor sanitation is attributed to large population living close to the beach. The process has been assisted by rapid industrialisation without regard for environmental safety. People are moving into the city due to facilities and job opportunities Boadi & Kuitunen (2002).

As population increase more pressure is put on the capacity of urban cities to provide services to residents. High costs of housing, transport, health care, and sanitation lead to growth of slums and informal settlements thus, leading to acute drainage and sanitation problems. The poor drainage and sanitation system have contributed to the emergence of breeding sites for mosquitoes and flies. This trend has resulted in expansion of existing slums and creation of new ones with pressures on demand for basic sanitation services (UNICEF & WHO, 2015). Urbanisation in coastal communities especially the Kwendurum and Sankor communities in the Effutu municipality has been one of the causes of environmental insanity in the community. Because of the benefit derived from staying in coastal communities, people always develop the interest in staying in such communities. As a result, problem of sanitation rises as people move to the communities. For instance, apart from the local dwellers, the place is congested because of the present of educational facilities sited in the community that is the tertiary institutions and senior high schools. As a result, the population of the community is very high.

Another cause of poor sanitation in these communities is poverty and according to UN (2008), poverty in Africa remains one of the greatest challenges facing people and their governments. For instance, urban population in Nairobi are poor and most of them are living in deplorable informal settlements that are characterised with extreme deprivation of basic human needs especially service provision. This was supported by Bruntland Report (WCED 1987) that poverty tends to generate various forms of environmental degradation. They further explained that those who are poor and hungry will often destroy their immediate environment in order to survive. That is, they will cut down forests, their livestock will overgraze grasslands, they will overuse

marginal land, and in growing numbers they will crowd into congested cities (WCED 1987). Due to that, UNICEF and WHO (2015) added that there is limited private sector interest in rural basic sanitation since there is a perception that investments in rural sanitation businesses are not profitable. Because of that, improved sanitation technologies are quite expensive and there's a lack of innovative financing mechanisms to support poor households especially those around coastal communities to build latrines.

Again, in the coastal communities, people fail to adapt to rules associated with the environment due to lack of money. In situations where there are sanitation facilities, people living in these coastal communities refuse to use them because of the little monies which will be taken from them to maintain such facilities and their reason for refusing to visit such facilities are that, they do not have any better job doing.

It has also been reported in literature that lack of sanitation facilities is another cause of poor sanitation in coastal communities. In most of the coastal communities studied, sanitation facilities are absent and direct defecation into the surface water has been the traditional practice. For instance, the people of the Koki squatter settlement, in Port Moresby, Papua New Guinea, relieve themselves in the open sea (WHO, 2016). In making reference to the lack of sanitation facilities especially in these coastal communities, it has been established that, rural-urban migration is one of the major factors that contributes to the lack of sanitation facilities due to rapid population growth in the coastal communities in developing countries. The rapid population growth puts pressure on the available sanitation facilities and services when there is no correspondence increase in the sanitation facilities and services.

The inadequate sanitation facilities and services therefore cause people living in such communities to resort to poor sanitation practices such as open defecation, indiscriminate refuse disposal and many other practices that contribute to poor sanitation especially in the urban communities (Norstrom, 2007). In Ghana, the Korle Lagoon has become one of the most polluted water bodies on earth, serving as a cesspool for most of Accra's industrial and municipal wastes because of urbanisation which led to lack of landfills in the area (Boadi & Kuitunen, 2002). Such traditional practice of 'visit or swim to the sea' is also prevalent in communities found in small islands such as those in the South Pacific (Marjoram, 1983).

In other communities, the overhung latrine is commonly used. These are simply superstructures with the toilet seat or floor hole built above the tidal flat, river, canal, lake or swamplands. In the coastal communities such as the Kwendum and the Sankor community, the sanitation facilities such as the toilet facilities and dustbins are not enough and there is pressure on the little that is provided due to the high population of the community especially when they are celebrating their traditional festivals, when students of University of Education, Winneba are around and so on and because of the pressure mounted on the inadequate facilities, people in these communities refuse to pay monies for using the facilities.

Another pertinent challenge affecting basic rural sanitation delivery includes lack of planning and coordination of programmes aimed at improving sanitation and this is due to limited staffing and resources for capacity building and implementation of programmes. According to Coastal Resource Centre and Friends of the Nation (2010), poor sanitary facilities and waste management has been a cause of poor sanitation in some of the coastal communities in Ghana especially, in Shama District. Solid and

liquid waste management is poor in the district. Particularly, solid wastes are dumped at the beachfront and into lagoons. This problem in the aforementioned district as well as Ghana as a whole is inadequate solid waste disposal facilities. In addition, solid waste dumped at the shoreline are from inland settlements which are washed onto near shore marine areas through run-off.

In a similar view reported by UNICEF and WHO (2015) on the causes of poor sanitation in Ghana and especially the coastal communities, they postulate that the construction of communal toilets also poses a major challenge since it does not motivate household's toilets to build their own toilets. They further stated that, as at the year 2015, only one rural household out of ten used improved household toilets while three in every ten of them practiced open defecation (UNICEF & WHO, 2015). In support of the assertion by UNICEF, Ghana Water Forum (2011) also outlined that the communal toilets in Ghana are not in a good state in terms of the way they are managed. In coastal communities in Ghana, there is a predominant shared sanitation facility such as toilet and urinal are very common in coastal areas in Ghana and it has been reported that about seventy (70) percent of the coastal population use shared sanitation facilities of which these facilities are unsatisfactory to be used by the people.

Ghana Water Forum (2011) argued that seventy-one (71) percent of communal latrine users in Accra are not satisfied with the way they are managed and kept clean as a result defecation takes place directly into the water for transport and eventual dilution, onto the mudflat or the beach to await the tide. In worse conditions, excreta are disposed of into the stagnant waters or simply on the ground underneath the built toilet and this problem is peculiar to not only African countries but also foreign

countries. For instance, in Guayaquil in Ecuador, human waste is directly disposed into the mud and polluted waters. Approximately 83% of the inhabitants of the marshlands use a hole on the floor boards for the family toilet, while the remaining 17% has a separate structure at the back of the house (Moser, 1982). In Jakarta, most people use latrines, private or communal, with outlets to or built directly into swamps and canals (Lars Marcussen, 1990).

Similarly, in Gamera and Bangladesh, the village does not have proper excreta disposal system. A latrine basically consists of a bamboo construction over a hole or pit in undergrowth behind a hut. Sometime this type of structure is built over a pond and is covered by old mats (Pirani, 1989). According to McGarry (1977), the practice of directly disposing off human waste into water bodies is considered satisfactory as long as the water is saline enough to prevent its use for drinking, if the faeces are dumped into the water and not on the land, and lastly, if there are sufficient currents for dilution. This practice, while considered a hygienically acceptable and satisfactory traditional habit, it can however be a great detriment to the health of the people. In worse cases, particularly in fresh water rivers over which such latrines are built, the water is used for domestic and personal washing as well as for drinking.

In the situation of Ghana, according to Ghana Water Forum (2011), the municipal assemblies in Ghana are not able to perform up to expectation because of inadequate funds, logistics and technical support to help implement and evaluate sanitation strategies and to also provide sanitation facilities. The Environmental Health Inspectors who embark on regular inspection of communities on the part of the district assembly resort to corrupt practices such as receiving money from people who refuse to adhere to the sanitation policies and bye-laws, due to poor training. The

inadequate participation among the authorities and the local people affects the sustainability of the facilities. A report given by some of the community members also revealed that the authorities refuse to consult the community members when providing sanitation facilities for the communities. This makes the people to abandon the facilities when it does not meet their needs and conditions, and therefore resort to other poor sanitation practices (Manase, Mulanga, & Fawcettm, 2001).

In commenting about one of the reasons why people resort to poor sanitation practices, Fobil, et al. (2010) also expressed that people, who cannot afford the cost for using sanitation facilities resort to poor sanitation practices due to the high cost involved in using the facilities. Others also refuse to pay for using the sanitation facilities and this negatively affects the sustainability of these facilities. This is because the money collected is used to ensure the maintenance of the sanitation facilities for future use. In a similar view cited by Manase, et al. (2001), it was established that the money paid for the use of sanitary facilities makes it difficult for mostly the urban poor to afford such facilities, thereby causing them to resort to all forms of poor sanitary practices. According to Thrift (2007), the high cost of dumpsites, inaccessibility of septic tanks and people's refusal to adhere to sanitation bye-laws contribute to the illegal dumping of faecal sludge in urban communities in most African countries.

Beside all these factors, The Chief Executive Officer (CEO) of Asadu Royal Waste Limited, Dr Edward Asadu has also cited indiscipline in Ghanaian society as one of the numerous causes of sanitation problems in the country. According to the man whose company has been in charge of the collection of garbage in some parts of Accra over the years, the lack of discipline on the part of Ghanaians has made the

work more difficult. He further stressed that “The people are not disciplined, that is our main problem...people just litter the city anyhow without and besides our city guards are not proactive enough..,” According to Koduah (2019), in Ghana, refuse deposited in gutters serve as a block in water pathways causing flooding in most of our cities whenever it rains. Flooding coupled with poor sanitation leads to diseases outbreak such as cholera and diarrhoea diseases which poses public health threat. He further stressed that many people have lost their lives due to poor sanitation caused by indiscriminate refuse disposal, but it seems we as Ghanaians have learnt nothing.

In conclusion, the above explanations have dealt with the causes of poor sanitation especially at the coastal communities in Ghana. It is worth noting that, variety of assertions and opinions were established by different authorities including WHO, UNICEF, GWF among others. In considering the causes of poor sanitation at the coastal communities, it was revealed that one of the reasons why people practice poor sanitation was because they could not afford the cost for using sanitation facilities hence resort to poor sanitation practices due to the high cost involved in using the facilities

2.1.6 Effects of Poor Coastal Sanitation Practices

Water is essential for life on earth. Within organisms, water provides the medium within which a complex metabolic process necessary for life to take place. This eventually means that organisms simply cannot function without clean water and if deprived will rapidly die. Similarly, human beings who are the most complex organisms are affected by the most subtle variations in water chemistry and supply. This means that human beings turn to suffer when there are changes with respect to water provision. In support of this, a report cited by World Health Organisation

(WHO, 2004) indicated that an estimated 1,200 million people lack a satisfactory or safe water supply. There are clear disparities between domestic, municipal and industrial water consumption in the developing countries compared with the developed ones especially countries that are industrialised in nature like Europe and North America.

In view of this, some of the reasons attributed to poor drinking water in most of the communities in Africa especially in Ghana is that, these communities in question do not take good care of this essential resource which appear these people do not value this essential resource. In addition, water is polluted directly or indirectly by introducing substances that are hazardous to human health which lead to reduction in amenities and prevent water activities such as swimming.

According to WHO/UNICEF (2019), poor sanitation is a major cause of infectious diseases such as cholera, typhoid and dysentery world-wide. A World Bank's country environmental analysis conducted in Ghana indicated that, the health cost resulting from poor water, sanitation and hygiene, for instance, is equivalent to 2.1% of Annual Gross Domestic Product (GDP) (UNICEF, 2008). In confirming the assertion of UNICEF, a study conducted by Tanle and Kendie (2012) indicated that about 2% of GDP is lost each year to the economy of a country due to poor sanitation. Again, it has been proven that poor environmental sanitation practices affect the environment in diverse ways and especially in regions where a large proportion of the population are not served with adequate water supply and sanitation facilities, sewage flows directly into streams, rivers, lakes and wetlands, affecting coastal and marine ecosystems, fouling the environment and exposing millions of children to disease (Baffoe, 2015). In furtherance, Baffoe (2015) noted that

particularly in the context of urbanisation, indiscriminate littering, domestic wastewater, sewage and solid waste improperly discharged presents a variety of concerns as these promote the breeding of communicable disease vectors as a result of air, water and soil pollution, all of which are inimical to the smooth carrying out of day-to-day activities.

It is established on record of WHO (2015) that, poor sanitation is the second leading cause of poor health among most African countries including Ghana. This is consistent with the assertion of Jacobsen, Webster and Vairavamoorthy (2012) that pathogens that affect individuals as a result of poor sanitation occur in so many ways, those occurred through water includes water-borne diseases, water dispersed infection and many others, which result in diseases such as cholera, and other water related diseases. Jacobsen further revealed that, access to improved sanitation is a challenging issue among developing countries. This is because governments in most African countries are not able to meet the sanitation needs of the people to commensurate the rapid increase in their population (Jacobsen, et al. 2012). This however means that, governments in most African countries of which Ghana is not an exception are not providing sanitation facilities to meet up the rapid increase in population.

In a similar assertion noted by Lubaale and Musyoki (2011), they indicated that in Kenya, about eight in ten of hospital attendances have been confirmed to have diseases that sanitation problems account for 50 percent of them. It has also been proven that thousands of children suffer from nutritional and educational problems which come as a result of a sanitation related disease like diarrhoea. The most frequently cited or referenced diseases as a result of poor sanitation in most communities of Uganda, Kenya and Rwanda are cholera, dysentery, scabies, skin

diseases, eye problems, typhoid, and intestinal parasite (Lubaale & Musyoki, 2011). The existence of these diseases is not different from the case of coastal communities in Ghana and especially in Kwendurum and Sankor.

Again, apart from poor sanitation having a range of negative impacts on coastal communities, it is also proven to have effect on the society and the economy as well, from causing debilitating and deadly diseases via the contamination of drinking water sources and food with pathogen laden human waste which increases healthcare cost. It was observed by the researcher the very first time she visited the study area, the regular contracting nature of cholera among the people and this situation is consistent with the assertion of Thrift (2007) that sanitation problems result from poor sanitation practices such as indiscriminate disposal, containment of faeces and other poor practices which has resulted in more than half of the reported diseases in Ghana. This has been confirmed also by Obiri-Danso, Weobong and Jones (2005); Fobil, May and Kramer (2010) that cholera and diarrhoea are the most serious disease which results from poor sanitation conditions. Another disease confirmed by Environmental Health and Sanitation Directorate (2010) to be causing serious ill-health in Ghana as a result of poor sanitation conditions such as stagnant waters, refuse and others is Malaria. A reported cited by WHO/ UNICEF (2019) indicate that poor sanitation is linked to transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid and polio and exacerbates stunting. They further noted that poor sanitation practices is estimated to cause 432,000 diarrhoeal deaths annually and is a major factor in several neglected tropical diseases, including intestinal worms, schistosomiasis, and trachoma. Poor sanitation practices in coastal communities also contributes to malnutrition (WHO & UNICEF, 2019). This however means that poor sanitation in

various coastal communities in invariably forms part of the faulty nature of nutrition among the people.

Commenting on malnutrition, Black and Fawcett, (2008), postulate that undernutrition is one of the health problems that occur as a result of poor sanitation practices and it accounts for 21 percent of the global disease burden among children and manifests as stunting (low height-for-age scores), wasting (low weight-for-height scores), and underweight (low weight-for-age scores). In the coastal communities, children suffering as a result of poor sanitation practices is very common and their weight, height, their behaviour even depict it. The health-related problem associated with poor sanitation disproportionately affects developing countries due to the issue of poverty which makes it difficult for most people to afford decent meals, a prerequisite condition for human welfare and According to Scott (2006), Tanzania is one of the countries that experiences high rates of diseases, malnutrition and death.

A recent multiple-country study, for example, found that diarrhoeal diseases, caused by poor sanitation practices, accounted for 25 percent of stunting in children up to 24 months (Checkle, Buckley, Gilman, Assis, Guerrant, Morris & Black, 2008). Meanwhile, an observational study in rural Bangladesh found that environmental contamination, linked to open defecation, caused linear growth and children living in clean household environments had 0.54 standard deviation higher height-for-age scores (22 percent lower stunting) than their counterparts living in dirty environments (Lin, 2013). In support of stunted growth in children being caused by poor sanitation practices, it is evident from the findings of Esrey (1996) that good sanitation practices can prevent and reduce stunting; in an analysis of cross-sectional data from eight low and middle income countries (LMICs), improvements in sanitation were found to be

associated with increases in length-for-age and height-for-age scores. In a similar longitudinal study conducted by Checkley (2004), the findings of the results revealed that inadequate disposal of sewage, and poor water sources and storage accounted for a 1 cm height deficit in children aged 24 months when compared to their counterparts living with better sanitation and water conditions.

The same study, however, found that diarrhoea only explained 16 percent of stunting, whilst access to sanitation and water services accounted for 40 percent. Though diarrhoeal diseases could be a predictor of the effects of poor sanitation on weight-for-height scores, there is limited and inconclusive evidence that poor sanitation is associated with wasting.

According to Koduah (2019), poor sanitation practices causes flooding, causing people to evacuate their residence and become homeless on the street. In the coastal areas people leave their houses to other places because of flooding issues especially during rainy seasons and this happens as a result of their negative attitude towards the environment. These people sometimes are prone to disease outbreaks such as cholera, typhoid, malaria and some skin infections and millions of Ghana cedis are been pumped into sanitation. Specifically, in 2018, GHS250million budget was approved by parliament to sanitation ministry (Ghana Justice, 2019) and out of this amount, GHS105million was used to construct and clear gutters in Accra to prevent (Ghana Business News, 2018/05/30). In view this, huge amount of money spent on poor sanitation and its consequences.

Poor sanitation practices in the coastal areas have effect on the productivity level of workers especially fishermen. A healthy coastal community has many economic advantages over an unhealthy one. If people are healthy, they will spend less money

on health care. Poor sanitation practices in the coastal community can affect both the sick person and their family, for example when women have to take time off work to care for sick children. Commenting on the effect of poor sanitation to the economy, UNDP (2015) noted that, beyond the human waste and suffering, the global deficit in water and sanitation is undermining prosperity and retarding economic growth.

Sometimes this ill-health problems is as a result of residents disposing off waste in gutters and small holes during the rainy season which has been the habit of most people residing in the coastal areas. Their reason being that the rain will send them away. This goes a long way by affecting the environment.

In most towns and cities of developing countries, household waste especially the solid ones are usually disposed of in front of houses, on sidewalks, or in some cases on open land. Besides household solid waste, the management of waste at most coastal communities has been very poor (Kov, Sok, Roth, Choeun, Hutton, & World Bank 2008). Considering effect of poor sanitation practices on the tourism in a country, Kov et al. (2008) postulate that it has important implications for the eventual number of tourists visiting the country, their length of stay, and their desire to return. Being sensitive to their environment, tourists will enjoy their stay less if exposed to the smells and sights of people defecating openly and uncollected or scattered solid waste. This was confirmed by the study conducted in Cambodia by Kov, et al. (2008) whose findings showed that a growth in the number of tourist arrivals, from 1.05 million in 2004 to 1.70 million in 2006 contributed to the recent high economic growth in the share of tourism in Gross Domestic Product (GDP) which expanded from 11% in 2004 to nearly 15% in 2006. In absolute terms, income from tourism has grown sharply from only US\$580 million in 2004 to more than US\$1 billion in 2006.



Plate 2: Picture showing children defecating at the shore of the sea

In conclusion, the above elaborations have clearly spelt out the effect of poor sanitation among coastal communities in Ghana. It has also been established some of the most common effect noted in literature were cholera, diarrhoea as well as flooding which causes evacuation of people from their homes to other places. Following the flooding effect of poor sanitation in the coastal areas, it is worth noting that people sometimes leave their houses to other places especially during rainy seasons and this happens as a result of their negative attitude towards the environment.

2.1.7 The Need for Good Environmental Sanitation Practices in Coastal Communities

There is always a need to give the environment we find ourselves a good treat because of the benefits we derive from it. Poor coastal sanitation gives many infections the ideal opportunity to spread, produce waste and filth for the flies to breed on, and render water unsafe to drink, wash with or swim in. this is however consistent with the observation made by WHO and UNICEF (2010) in the year 2008 that, among human parasitic diseases, schistosomiasis (sometimes called bilharziasis) ranks

second behind malaria in terms of socio-economic and public health importance in tropical and subtropical areas. In addition, the disease is an endemic in 74 developing countries including Ghana infecting more than 200 million people of which 20 million suffer severe consequences from the disease.

Sound environmental sanitation practices in the coastal communities ensures that appropriate interventions are introduced and implemented to promote behaviour change. However, poor environmental sanitation or hygiene also has tremendous economic costs and so there is the need to ensure that the environment of all coastal areas is always well kept. This is because the health impact of poor environmental sanitation practices in the coastal zones leads to a number of financial and economic costs including direct medical costs associated with treating sanitation related illnesses and loss of income through reduced or loss of productivity for providing health services. Similarly, poor sanitation in the coastal communities also contributes to a loss of valuable biodiversity. In the case of coral reefs, urban and industrial waste and sewage dumped directly into the ocean or carried by river systems from sources upstream, increase the level of nitrogen in seawater. Increased nitrogen causes overgrowths of algae, which in turn, smother reefs by cutting off their sunlight. Additionally, poor sanitation practices in the coastal community also leads to reduced income from tourism (due to high risk of contamination and disease) and increases in clean-up costs.

However, people living in these coastal communities especially Kwendurum and Sankor in the Effutu Municipality seem not to recognise the economic benefits of good sanitation due to their bad sanitation practices towards their environment. In view of this, aside the coastal community sensitisation, the various sanitation agencies

are ensuring environmental sanitation management which emphasises the prudent allocation of limited resources tailored to the needs of the people to ensure economic sustainability. Achieving the Millennium Development Goal (MDG) for sanitation would result in \$66 billion gained through time, productivity, averted illness and death. Improved environmental sanitation management reduces environmental burdens increases sustainability of environmental resources and allows for a healthier, more secure future for the population.

In conclusion, it has been established that, it an undeniable fact that there is the need for good sanitation practices in the coastal communities. This therefore means that activities that ensures good sanitation practices should be prioritised by the people living in our coastal communities especially Kwendum and Sankor in the Effutu Municipality. It is necessary to also note that, in ensuring good sanitation practices, there should be provision of sanitation facilities such as dustbins, lavatory, washroom, gutters, sewerage systems and among others. However, in a situation where there is inadequate sanitation facilities and services people living in such communities resort to poor sanitation practices such as open defecation, indiscriminate refuse disposal and many other practices that contribute to poor sanitation especially in the coastal communities (Norstrom, 2007).

2.1.8 Current Practices to Improve Sanitation in Ghana

Sanitation has been one of the major issues in the country and this caused president Nana Addo Dankwa Akufo-Addo to appoint a Sanitation Minister to help ensure cleanliness in the country (Asadu, 2018). He further stressed that the president subsequently pledged his commitment to making Accra the cleanest city on the African continent within the next four years. In view of the president assertion, Mr.

Francis Apai Tetteh, Coordinator of the Global Environmental Vanguard, advised Ghanaians to eschew poor sanitation and environmental practices and consciously make an attitudinal change adjustment to effect the change they want to see in their metropolitans, municipalities and districts.

In his speech he emphasised that “Making Ghana the Cleanest Country in Africa cannot be achieved without citizens playing a major role. In a quote cited by GhanaWeb (2019/12/03) he stated that “Let’s stop waiting and blaming government for the filth around us”. Environmental sanitation management necessarily requires the assignment of responsibilities to specialised institutions involved in overseeing the use of natural resources. As such, a number of institutions have been established to guide and coordinate all activities involving the appropriation of natural resources. In view of this, Benneh (2007) argues that, the successful management of environmental resources in any country depends to a large extent on the effectiveness of the institutional arrangements put in place by government for their management. These institutional arrangements used in Benneh’s assertion refers to the types of organisational units involved, such as ministries, agencies, and committees, and to the responsibilities and authorities of these units, and the relationships between them.

Currently in Ghana, the Environmental Protection Agency (EPA) is the leading public body responsible for protecting and improving the environment and their job is to make sure that air, land and water are looked after by everyone in today's society, so that tomorrow's generations inherit a cleaner and healthier world. In addition, the agency seeks to ensure environmentally sound and efficient use of both renewable and non-renewable resources, to prevent, reduce, and as far as possible, eliminate pollution and actions that lower the quality of life, and to apply the legal processes in

a fair, equitable manner to ensure responsible environmental behaviour in the country. In Ghana, governments past and present has rolled out various policies and programmes to deal with this menace including deployment of sanitary inspectors (nsamansam) in the 90s, ZOOMLION and later ZOOMALIANCE, distribution of dustbins several advertisements and even a day was set for national sanitation day to clean our environment every month, a programme initiated by ministries of sanitation and water resource (Koduah, 2019).

In curbing the situation of poor sanitation in Ghana, a report cited by Ghana web (2018/09/21), shows that Accra Metropolitan Assembly (AMA) is set to operationalise five sanitation courts within the city to deal with sanitation offenders in a bid to enhance waste management, and ensure a clean Accra. The AMA boss, Mohammed Adjei Sowah, noted that Accra currently has two sanitation courts. According to Mr. Adjei Sowah, the Assembly among other things has facilitated the construction of 400 household toilets within three months under the GAMA project. In addition, speaking at a program on fixing Ghana's sanitation problems organised by IMANI Centre for Policy and Education, he said the operation of these courts will make the process of dealing with sanitation offenders easier. Specifically, he quoted that "We are targeting to have five sanitation courts so that these are dedicated to deal with issues of sanitation because when you send these issues of sanitation to the magistrate court, they have their own technicality that prolongs the cases".

According to WHO (2004), there has been a number of concepts about waste management which vary in their usage between countries or regions. Some of the most, general, widely used concepts referred to the „3 Rs „, Reduce, Reuse and Recycled which classified waste management strategies. These strategies were

adopted to ensure waste minimisation among countries or regions. In implementing these strategies, WHO noted that the waste hierarchy remained the cornerstone of most waste minimisation strategies. They further stated that, the aim of the waste hierarchy was to extract the maximum practical benefits from products and to generate the minimum amount of waste. This however, means that in adopting the waste hierarchy, waste products are transformed or recycled to extract some benefits to human life as well as reducing amount of waste in the country.

As part of collaborative effort in improving waste management in various countries including Ghana, WHO and UNICEF (2017) noted that they are working with countries around the world to improve sanitation and to advocate for government attention and funding to key sanitation issues and it is done by creating a framework (known as a programme model) and supporting governments and partners to implement the sanitation framework in their country. UNICEF is also leading innovative solutions for sanitation. This innovative solution been led by UNICEF includes improving sanitation technology, ensuring basic toilets are affordable, accessible and that they meet criteria for safety, effectiveness, sustainability, environmental impact and child-friendliness.

In addition, UNICEF fosters community-based approaches for sanitation, to empower communities to end open defecation themselves as well as encouraging communities to carry out an analysis of existing defecation patterns and threats, and to use local resources to build low-cost household toilets and ultimately eliminate the practice of open defecation. This approach is often referred to as Community Approaches Total Sanitation (CATS) and has been particularly successful in Cambodia and Zambia.

Connecting sanitation practices with the global goals, there is a new ambitious agenda for sustainable development.

The new goal for the water sector, Goal 6, aims to achieve universal, sustainable and equitable access to safe drinking water, sanitation and hygiene by 2030 (UNICEF, 2018). In the statistics provided by WHO/UNICEF (2019) concerning the various aspects of sanitation, in 2017, 45% of the global population (3.4 billion people) used a safely managed sanitation service, 31% of the global population (2.4 billion people) used private sanitation facilities connected to sewers from which wastewater was treated, 14% of the global population (1.0 billion people) used toilets or latrines where excreta were disposed of in situ and 74% of the world's population (5.5 billion people) used at least a basic sanitation service (WHO/UNICEF 2019). This statistic indicates that out of the total populace, 74% can be explained to be enjoying basic sanitation facilities. This means that most of the populace have access to basic sanitation facilities as stipulated by WHO. In Ghana, as part of enforcing good sanitation practices among the people, the Global Environmental Vanguard which is a social and ecological protection group stormed the Ashaiman Municipality to sensitise residents on unsanitary and environmentally unfriendly practices in the locality.

The exercise, dubbed "Achieving a safe environment for all" was done in collaboration with the Ashaiman Municipal Assembly and the Ghana Pentecostal and Charismatic Council (GPCC) on Saturday, September, 7. The exercise particularly took place at Ashaiman because, it is considered as one of the communities battling with sanitation and other environmental issues including noise pollution, open defecation, poor disposal of waste to mention a few (Ghana Web, 2019/12/03). In connection with the sensitisation of people, UNICEF has been working with partners

to promote behaviour change rather than the direct supply of latrines or provision of subsidies. This is aimed at putting an end to open defecation and reducing dependence on government and external agencies for support in household and latrine construction. For instance, the adoption of the Rural Sanitation Model and Strategy places an emphasis on behaviour change of community members rather than mere provision of sanitation facilities (UNICEF & WHO, 2015).

Concluding on the state and current practices of improving sanitation in Ghana, it worth stating that even though the nature of sanitation in Ghana is bad, the government of Ghana together with some agencies especially WHO, UNICEF and the various metropolitans, municipalities as well as the districts are working tirelessly to ensure that there is good sanitation practices among people living our various communities.

2.1.9 National Sanitation Policies/ Programme in Ghana

In Ghana the need for effective policies and strategies was recognised in 1990's and a number of acts, policies, strategies and regulations have been developed since. The central aim of all sanitation policies and strategies is to ensure sustainable and uniform implementation across the country. The national policies and strategies that affect the sanitation sector include Environmental Sanitation Policy(ESP), National Water Policy (NWP), Water and Sanitation Sector Development Plan (WSSDP), National Environmental Sanitation Strategy and Action Plan (NESSAP), District Environmental Sanitation Strategy and Action Plan (DESSAPs), District Water and Sanitation Plans (DWSPs), Rural Sanitation Model and Strategy (RSMS), Sector Medium Term Development Plans, National Environmental Policy, Land Policy, National Health Policy and among others. The basic goal of the environmental

sanitation policy is to develop a clear and nationally accepted vision of environmental sanitation as an essential social service and a major determinant for improving health and standard of living in Ghana.

Ghana's National Environmental Sanitation Policy (ESP) was formulated in the year 1999 and was prepared by the MLGRD in consultation with other stakeholders. The policy covers all aspects of environmental health, including excreta disposal and solid waste management. It sets out responsibilities for the various stakeholders, from individuals through community organisations to the MLGRD, Metropolitan, Municipal and District Assemblies (MMDAs), Ministries of Environment Science and Technology, Health and Education, educational institutions and the private sectors. In accordance with Ghana's overall commitment to decentralisation, as reflected in the constitution and various enabling acts, the policy assigns an enabling role to higher levels of government and the departments and agencies that fall under them. MMDAs are given direct responsibility for waste management, public health management, environmental monitoring, planning and monitoring.

However, responsibility for developing appropriate environmental sanitation infrastructure, including domestic and communal toilets, rests with communities, which are directly responsible for planning, technology selection and implementation. This means that policies for ensuring and promoting good sanitation practices in various communities are formulated by Ghana's National Environmental Sanitation Policy (ESP) and are implemented through the MMDAs whiles developing appropriate environmental sanitation infrastructure, including domestic and communal toilets, rests are ensured by the various communities which are considered in planning, technology selection and implementation purposes. Effective sanitation

policies and strategies are important to ensure unimpeded access to improved sanitation services.

Concluding on the sanitation policies in Ghana, it was highlighted that policies for ensuring environmental sanitation exist. These policies were formulated by the MLGRD in consultation with other stakeholders. In looking at what the policy covers, it has been stipulated that the policy basically covers all aspects of environmental health, including excreta disposal and solid waste management. It is worth noting that, its implementation rests on the shoulder of the various stakeholders, from individuals through community organisations to the MLGRD, Metropolitan, Municipal and District Assemblies (MMDAs), Ministries of Environment Science and Technology, Health and Education, educational institutions and the private sectors. However, the responsibility for developing appropriate environmental sanitation infrastructure, including domestic and communal toilets has to do with the responsibilities of the various communities.

2.2 Empirical Studies

Sadiq, Ezeamaka, Daful, Anjide, Sani and Ogbale (2018) conducted a study on the environmental sanitation practices in Kuchigworo and Garamajiji along airport road, Abuja. The study adopted direct field observation, it involved interview and physical assessment. The study revealed that the dumping of refuse on roadside/open spaces has impacted the environment negatively, some of these impacts are physical nuisance of the solid wastes to the environment, the dumpsites serve as hideouts to rats and other dangerous insects and it emits offensive odour. The study recommended that refuse can be collected regularly to avoid pollution, and there is a need for proper

environmental sanitation awareness to educate people on the importance of a clean environment.

Oluwole and Oluwaseun (2016) also conducted a study on the environmental sanitation practices in Osogbo, Nigeria by assessing residents' sprucing-up of their living environment. The study revealed that residents' socio-economic characteristics varied significantly with different residential zones. Findings revealed that there is low level of access to environmental sanitation facilities across the residential zones. Similarly, the proportion of residents with environmental sanitation facilities in their homes was low. The study established poor environmental sanitation practices among the residents in terms of utilisation of available amenities across the residential zones.

Another study was conducted by Worlanyo (2013) on knowledge, attitudes and practices of sanitation among market users at the dome market in the Ga East Municipality, Ghana. The study found that most of the market users have inadequate education on good hygiene and basic sanitation promoting practices. As a result, they did not see the issue of improved sanitation as a current priority; hence, they failed to change their lifestyle which could lead them to practice proper sanitation. They also see sanitation as an issue to be addressed by authorities hence failed to maintain proper sanitation.

Mensah and Enu-Kwesi (2019) also conducted a study on implications of environmental sanitation management for sustainable livelihoods in the catchment area of Benya Lagoon in Ghana. The study found that sanitation affected livelihoods associated with tourism, fishing and salt production through its implications for health, productivity, income, job security and sustainability of the physical environment. However, while virtually all respondents acknowledged the effect of

sanitation on human capital through the health implications, a substantial part of the people who eked their living from the stated livelihood activities did not appreciate the link between sanitation and these livelihood avenues. It was recommended that sanitation behavioural change communication messaging by the responsible actors should, therefore, stress the relevance of sanitation not only for human health but also the linkage between sanitation and sustainable livelihood in its entirety.

Lastly, Achemapong (2010) conducted a study in environmental sanitation management in the Kumasi Metropolitan Area, Ghana. The study revealed differences in sanitation behaviour among residents from the various suburbs. However, the general environmental sanitation condition in Kumasi is not up to expectations. Individuals, households and businesses (commercial entities) did not tend to prioritise environmental sanitation indicating that people have poor attitude towards sanitation, coupled with this are inefficiencies in service provision by the private waste management companies who are contracted to ensure good. The study also found that the departments within the Metropolitan Assembly responsible for managing the environment are also ill-resourced and that environmentally related diseases contribute to 80 per cent of hospital admissions in Kumasi.

From the empirical studies that have been reviewed, it is evident that a number of studies have been conducted on the study variable from the international and perspectives. It can be particularly observed that the studies conducted locally have considered other metropolis and assemblies in Accra and Kumasi to the neglect of the current study areas; Effutu municipality, which has been evidenced as in the selected study area through the researcher's cursory observation to include wastes from cooking and other human related activities being disposed indiscriminately at

unauthorised places such as gutters, streets, big drains, and open places, etc. Again, the few studies conducted in Ghana did not fully explore the factors that account for the environmental sanitation practices, how environmental sanitation practices affect the people and solutions to the practices of sanitation practices, as this study seeks to do. It should be pointed that they only focused on the sanitation practices without carefully exploring the aforementioned variables. This leaves a niche in literature especially in Ghana, and it is based on this that this study been conducted.

2.3 Theoretical Framework

The main theories that were used to understand the study variables were the Ecological Modernisation theory by Jänicke and Simonis (1980), Huber (1980), Klemmer (1999), Huber (2004) Weber and Hemmelskamp (2005), Olsthoorn and Wieczorek (2006) and Health Belief Model (HBM) by Strecher (1997).

2.3.1 Ecological Modernisation Theory

Ecological modernisation is a school of thought in the social sciences that argues that the economy benefits from moves towards environmentalism. It has gained increasing attention among scholars and policymakers in the last several decades internationally. The ecological modernisation theory was propounded by Huber in 1980. The underlying assumption of ecological modernisation relates to environmental re-adaptation of economic growth and industrial development. On the basis of enlightened self-interest, economy and ecology can be favourably combined such that environmental productivity, that is, productive use of natural resources and environmental resources (air, water, soil, ecosystems), can be a source of future growth and development in the same way as labour productivity and capital productivity. This includes increases in energy and resource efficiency as well as

product and process innovations such as environmental management and sustainable supply chain management, clean technologies, benign substitution of hazardous substances, and product design for environment.

Radical innovations in these fields can not only reduce quantities of resource turnover and emissions, but also change the quality or structure of the industrial metabolism. In the co-evolution of humans and nature, and in order to upgrade the environment's carrying capacity, ecological modernisation gives humans an active role to play, which may entail conflicts with nature conservation. There are different understandings of the scope of ecological modernisation, whether it is just about techno-industrial progress and related aspects of policy and economy, and to what extent it also includes cultural aspects (ecological modernisation of mind, value orientations, attitudes, behaviour and lifestyles). Similarly, there is some pluralism as to whether ecological modernisation would need to rely mainly on government, or coastal dwellers and entrepreneurship, or civil society, or some sort of multi-level governance combining the three. Some scholars explicitly refer to general modernisation theory as well as non-Marxist world-system theory, others do not. Ultimately, however, there is a common understanding that ecological modernisation will have to result in innovative structural change. So, research is now still more focused on environmental innovations, or eco-innovations, and the interplay of various societal factors (scientific, economic, institutional, legal, political or cultural) which foster or hamper such innovations (Klemmer, 1999; Huber, 2004; Weber and Hemmelskamp, 2005; Olsthoorn and Wieczorek, 2006). The coastal community being one of the communities highly accommodated has a lot of benefits to the people staying if not all, the employments given to such people and all those closer to the community.

Referring to the purpose of the study, the theory is important because it talks about how and why the environment, the coastal community to be precise should be well kept. Particularly, the theory emphasises the emergency of living organisms (ecology) and water (one of the environmental media) which are necessary for national growth and development. This is important because, when the environment is well kept, there will be an increase in labour productivity and capital productivity, which are quintessential for national and human growth. In furtherance, when individuals are healthy, they would be able to work well and get income to support themselves, the family and the nation at large. Apart from keeping the environment clean and healthy as indicated by the Ecological Modernisation Theory, it also promotes tourism. Although it has been criticised that the theory seems to have limited global efficacy, applying primarily to its countries of origin - Germany and the Netherlands, and having little to say about the developing world (Fisher & Freudenburg, 2001), since the theory articulates the need to protect and keep our environment especially for economic development and human development, it is particularly important in finding out the environmental sanitation practices among residents of Kwendum and Sankor in the Effutu municipality, especially how they go about their environmental activities for their development.

2.3.2 Health Belief Model

According to Siddiqui, Ghazal, Bibi, Ahmed & Sajjad (2016), the health belief model (HBM) is a social psychological health behaviour change model developed to explain and predict health-related behaviours, particularly in regard to the uptake of health services. Strecher (1997) describes Health Belief Model (HBM) as a theory that explains why people do or do not engage in preventive health measures, such as getting tested for a disease, eating healthy food and exercising, or keeping their

environment clean. Redding, et al. (2000) argued that it is one of the most widely recognised and used models in health behaviour applications. Slovic (2000) also intimates that the model explains why people would or would not use available preventive services. The health belief model was developed in the 1950s by social psychologists at the U.S. Public Health Service and remains one of the best known and most widely used theories in health behaviour research (Janz & Marshall, 1984). The health belief model suggests that people's beliefs about health problems, perceived benefits of action and barriers to action, and self-efficacy explain engagement (or lack of engagement) in health-promoting behaviour (Janz & Marshall, 1984). A stimulus, or cue to action, must also be present in order to trigger the health-promoting behaviour (Rosenstock, 1974).

The presupposition is that people who feared diseases are influenced by the type of health activities they do. This is seen in the degree of fear (perceived threat) and the expected fear reduction actions so far as that supposed reduction seemed to outweigh practical and psychological barriers to taking action (net benefits) (Slovic, 2000). The researcher thinks that the fear of diseases is not enough for people to engage in activities that will prevent them, but the awareness that certain preventive activities can help reduce the threat is important. Hence should those staying at the coastal community of Winneba be equipped with knowledge about activities that can prevent waste related diseases, they will engage in them to prevent diseases. Strecher (1997) as stated in Redding et al. (2000), explain four expectations that exemplify the HBM. These expectations correspond to the perceived threat of the illness and expected outcome as discussed below:

The first one has to do with perceived susceptibility. According to Rosenstock (1974), perceived susceptibility refers to subjective assessment of risk of developing a health

problem. Rosenstock (1974) again postulated that, the health belief model predicts that individuals who perceive that they are susceptible to a particular health problem will engage in practices to reduce their risk of developing the health problem. Individuals with low perceived susceptibility may deny that they are at risk for contracting a particular illness (Rosenstock, 1974). Others may acknowledge the possibility that they could develop the illness, but believe it is unlikely (Rosenstock, 1974). Individuals who believe they are at low risk of developing an illness are more likely to engage in unhealthy, or risky, behaviours. Individuals who perceive a high risk that they will be personally affected by a particular health problem are more likely to engage in practices to decrease their risk of developing the condition. In relation to this work, if those staying at the coastal community in Kwendurum and Sankor know that the poor way of practicing environmental sanitation poses a high risk to their health then they will put a stop to that. They will thereby adopt good sanitation practices based on the knowledge that they are vulnerable. For example, they would not dispose off waste into the sea, gutters and open places and openly defecate at the shores of the sea which can cause a destruction to the sea, flooding, serve as a breeding ground for mosquitoes, that lead to the high incidence of malaria cases, typhoid, cholera and other contagious diseases will make them to adopt practices aimed at avoiding these negative outcomes.

The other has to do with the perceived severity. Perceived severity according to Glanz, Barbara & Viswanath (2008), refers to the subjective assessment of the severity of a health problem and its potential consequences. This refers to how serious the individual believes the consequences of being ill are (Worlanyo, 2013). The health belief model proposes that individuals who perceive a given health problem as serious are more likely to engage in behaviours to prevent the health problem from

occurring (or reduce its severity). Perceived seriousness encompasses beliefs about the disease itself (e.g., whether it is life-threatening or may cause disability or pain) as well as broader impacts of the disease on functioning in work and social roles (Rosenstock, 1974). The study bears on the argument that if those staying at the coastal community of Sankor and Kwendurum know that the risk in connection with the poor sanitation can be deadly, they will engage in practices that improve sanitation in the area.

In the view of Janz and Marshall (1984), the combination of perceived severity and perceived susceptibility is referred to as perceived threat. Perceived severity and perceived susceptibility to a given health condition depend on knowledge about the condition (Rosenstock, 1974). The health belief model predicts that higher perceived threat leads to a higher likelihood of engagement in health-promoting practices.

Perceived benefits are the third one. Health-related practices are also influenced by the perceived benefits of taking action (Glanz, Barbara & Viswanath, 2008). Perceived benefits refer to an individual's assessment of the value or efficacy of engaging in a health-promoting practices to decrease risk of disease (Janz & Marshall, 1984). If the people of the Kwendurum and Sankor believe that disposing waste in the sea and defecating at open places will reduce susceptibility to a health problem or decrease its seriousness they will stop such practices that affect their health.

Again, perceived barriers are the next HBM. Health-related practices are also a function of perceived barriers to taking action (Glanz, Barbara & Viswanath, 2008). Perceived barriers refer to an individual's assessment of the obstacles to behaviour change (Janz & Marshall, 1984). In other words, the perceived benefits must outweigh the perceived barriers in order for behaviour change to occur (Janz & Marshall, 1984). Perceived barriers to taking action include the perceived

inconvenience, expense, danger and discomfort involved in engaging in the practices (Rosenstock, 1974). In this study, perceived barriers are the things that prevent the people of Kwendurum and Sankor from practicing good sanitation in the community. For instance, lack of sanitation facilities such as dustbins, places to ease oneself, poverty, nature of buildings would not allow those staying in the coastal community to practice good sanitation in such areas.

Cues to action is the last one. The health belief model posits that a cue, or trigger, is necessary for prompting engagement in health-promoting practices (Carpenter, 2010). Cues to action can be internal or external (Carpenter, 2010). Physiological cues (e.g., pain, symptoms) are an example of internal cues to action (Janz & Marshall (1984). External cues include events or information from close others, the media, or health care providers promoting engagement in health-related behaviours. A cue to action in this study is the education given to people who engage in poor sanitation in the coastal community through the media, such as the television, radio and newspapers. The intensity of cues needed to prompt action varies between individuals by perceived susceptibility, seriousness, benefits, and barriers (Rosenstock, 1974).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The main purpose of the study was to examine the environmental sanitation practices of coastal community, with the emphasis on the Effutu municipality. This chapter provides information about the research methodology and techniques that was used in the study. It includes the study area, philosophical worldview, research approach, research design, population, sample and sampling techniques, data collection instruments, trustworthiness and analysis. Statement of ethical consideration was also presented in this chapter.

3.1 Study Area

The Effutu Municipality is one of the 20 administrative districts in the Central region of Ghana. It is situated between latitudes 5°16" and 20.18" N and longitudes 0°32" and 48.32"W of the eastern part of Central region. The Municipality lies between the Gomoa East District to western, northern and eastern flanks. On the southern flank is the Gulf of Guinea. The administrative capital is Winneba, a town renowned for its specialised major institutions of higher learning. It covers a total land area of 95 square kilometres. Data from the 2010 Population and Housing Census indicates that the Municipality has a population of 68,597 which represents 3.1 percent of the population of the Central region. The municipality has fourteen settlements which are clustered around the Municipal capital, Winneba.

Winneba is traditionally known as „Simpa“ which was derived from the name of the leader of the Effutus „Osimpa“ who led the Effutus of the Guan ethnic stock from the

Northern part of Ghana to the present location. The name Winneba originated from European Sailors who were often aided by favourable wind to sail along the bay. From the use of the words „windy bay“; the name Winneba was coined. The town was one of the first communities in the country to come in contact with European traders. It served as a port where foreign goods were discharged and transported to the interior and major commercial areas such as Agona Swedru and Akim-Oda. Due to its role as a harbour town and a place of early European settlers, it became the administrative capital of the then Central Province of the Gold Coast.

The Municipality is generally low lying with granite rocks and isolated hills around Winneba. The two major rivers; Ayensu and Gyahadze drain the Municipality and enter the sea at Warabeba and Opram respectively. The water bodies that drain through the municipality have the potentials to be exploited when dammed for extensive vegetable cultivation during the dry season and for aqua-culture activities. These when exploited would provide employment opportunities for the people in the area and has the potential to reduce poverty in the settler communities along the river. The Muni Lagoon is part of the Muni-Pomadze Ramsar site with high potential for Tourist attraction if exploited.

The major economic activities in the municipality are fishing, wholesale/retail trade, services, manufacturing and salt mining. The fishing industry is very important in the coastal communities of Winneba, Akosua Village and Warabeba within the municipality.

The map of Winneba is shown by figure two.

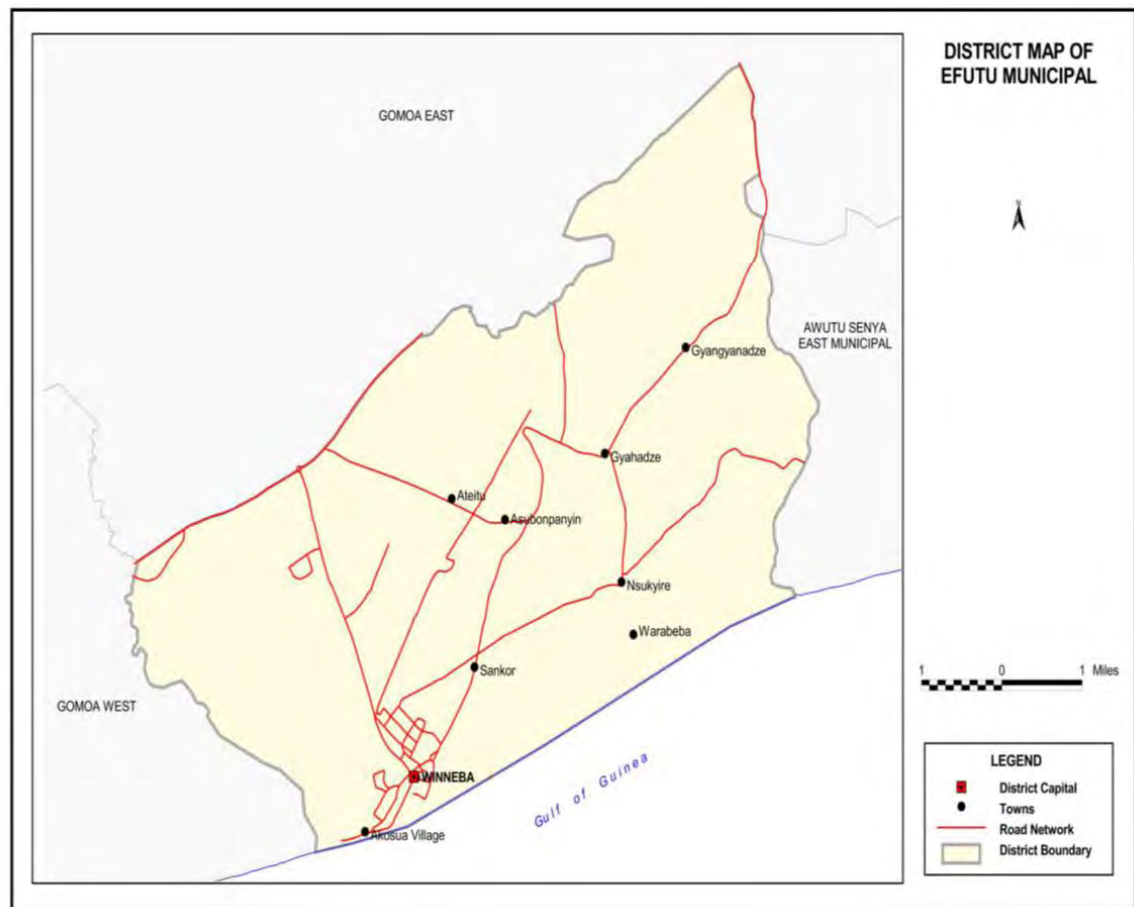


Figure 2: Map of Effutu Municipality

Source: Adopted from the Ghana Statistical Service (GSS) (2010)

3.2 Philosophical Worldview

According to Creswell (2009:6), the term worldwide is described as “the general orientation about the world and the nature of research that a researcher holds”. Lincoln and Guba (2000) similarly, opines that worldviews are paradigms which means a worldview is a basic set of beliefs that guide an action.

Traditionally, interpretivism and positivism have been considered as the two main worldviews in social science researchers (Grix, 2004; Bryman, 2001; Lincoln and

Guba, 1994; Robson, 1999). Grix (2004) postulate that positivism viewpoint is that reality exists independently without our knowledge of it. To this perspective, the social world is revealed to us but not that we construct it (Miller & Brewer, 2003). This means knowledge of the social world is one and fixed which can be known accurately through research. In line with the positivism viewpoint, is an assumption that the natural is fixed in existence and we only get to know part of it at different times through the experiences of our senses. As a result, we only react and relate to it but we do not contribute much to what it is (Miller & Brewer, 2003).

On the other hand, interpretivism holds the viewpoint that reality is a complex and social construction of meaning, value and lived experiences (Grix, 2004). Therefore, reality can be better understood through people's interaction and interpretations based on the assumption on their capacity to make such meaning but not as in the view of the positivism, through our sensory observation and experiences of the world (Bryman, 2001).

This study which is qualitative in paradigm employs the interpretivist worldview (Creswell, 2009). The interpretivist worldview operates on the assumption that individuals seek understanding of the world in which they live and work (Creswell, 2009). Creswell stipulates that in order to gather much views from participants, the researcher has to employ the interpretivist worldview on the phenomenon under study. This, therefore indicates that social interpretivist worldview focuses on constructing and producing and understanding of the social world. Interpretivist worldview holds the view point that knowledge or meaning is made by humans as they interact with their environment.

I employed the interpretivist worldview for this study. This worldview is essential for this study because it gave me the opportunity to make use of the instruments needed

to gather data on the problem understudied, that is the interviewing of participants and the use of focus group discussion. This made the data gathered very deep and rich as it helped in getting detailed reasons behind the practices of poor sanitation in the Kwendurum and Sankor communities.

3.3 Research Approach

Generally, there are three different approaches to the social science research as identified by researchers. They are qualitative, quantitative and mixed method. The researcher employed the qualitative approach for the study. According to Denzin and Lincoln (2008), qualitative research is a situated activity that locates the observer in the world consisting of a set of interpretive and material practices which make the world visible. Ary, Razavieh and Soreman (2006) also postulate that qualitative research is rooted in phenomenology. As a result, in qualitative research, the social reality is unique; the individuals and the world are viewed as interconnected and cannot be separated. Ary et al (2006) explained that in qualitative research, the researcher can only understand human behaviour through the meaning of events that people are involved in. The researcher employed the qualitative approach to obtain a richer information which also had a deeper insight into the phenomenon understudied. This is supported by the assertion of Creswell (1998) who noted that using the qualitative approach helps to explore a social or human problem, build a complex holistic picture, analyse words, report detailed view of informants and conduct the study in a natural setting. Similarly, Blumer (1969), Strauss and Corbin (1998) and Denzin and Lincoln (2003) are also of the view that, qualitative research is about interpretation and understanding. It focuses not only on the objective nature of behaviour but also on its subjective meanings: individuals' own accounts of their attitudes, motivations, behaviour (McIntyre, 2005:127; Creswell, 2009), events and

situations (Bryman, 1989) – what people say and do in specific places and institutions (Goodwin & Horowitz, 2002:35–36) in social and temporal contexts (Morrill & Fine, 1997). With reference to the above submissions by authors and the purpose of the study, the use of the qualitative approach is important as it gives an iterative process in which improved understanding to the scientific community is achieved by making new significant distinctions resulting from getting closer to the phenomenon studied. The use of qualitative approach also helped the researcher to get a better understanding through first-hand experience, truthful reporting, and quotations of actual conversation on the environmental sanitation practices of the Kwendurum and Sankor communities, causes and effects of the practices and measures to help curtail the problems associated the practices.

3.4 Research Design

The case study design was employed for the study. A case study design is a learning technique in which a researcher is faced a particular problem, the case. According to Baxter et al., (2008), a case study facilitates the exploration of a real issue within a defined context, using a variety of data sources. Sturman (1997) also postulates that, a case study is a general term for the exploration of an individual, group or phenomenon. This is supported by view of Simons (2009) as he contends that case studies are basically in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, program or system in a real life”. This means that using cases study design allows the researcher to explore from different perspectives in order to get an in-depth of a phenomenon, group of people or an individual. The assertion of Sturman is consistent with the view of Creswell (2009) that in doing case study the researcher explores in-depth a programme, an event, an activity, a process, or one or more individuals. Creswell

(2009) further stated that the structure of a case study should be the problem, the context, the issues, and the lessons learned hence, it is a comprehensive description of an individual case and its analysis (Mesec, 1998). This reflect the purpose of the study as it sought to provide comprehensive description of environmental sanitation practices of Kwendurum and Sankor; suburbs in Effutu Municipality. Concerning various entities that are used for case studies, Sagadin (1991) noted that a case study is used when we analyse and describe; each person individually for his/her activity, special needs, life situation, life history, etc.; a group of people, such as, a school department and teaching staff, a problem or several problems, process, phenomenon or event in a particular institution in detail. According to Yauch and Steudel (2003) and Creswell (2009), case study design has an open-ended questioning and reveals new or unanticipated phenomenon, and raises more issues through broad and open-ended inquiry. They further noted that the design provides rich and detailed information about the affected populations which allows researchers to explore the views of homogenous as well as diverse groups of people to unpack these differing perspectives within a community.

The case study design was adopted in order to obtain an in-depth knowledge about the existence of the problem understudied. That is the case study design was particularly employed because there was the need to obtain an in-depth appreciation of the sanitation practices among the residents of Kwendurum and Sankor and assist with solutions to the problems. This confirms the assertion of Gall, Gall and Borg (2007) that, cases study designs are used in in-depth studies where one or more instances of a phenomenon and in its real-life context that reflects the perspective of the participants involved in the phenomenon.

By using this design, the researcher sought to explore the phenomenon of environmental sanitation practices exhibited by the aforementioned communities and also explore the factors that account for their environmental sanitation practices. In addition, the effect as well as measures towards enhancing good sanitation practices were explored.

The participants were engaged in a thorough face to face interaction where unstructured questions were asked concerning the environmental sanitation challenges in their communities, causes of the sanitation problems, effects of the problems and how it could be solved using interview and focus group discussion.

Using the case study design was subject to selection bias. In addressing this problem, the researcher gave the opportunity to those who were information rich and were readily and available for the study.

Specifically, the study adopted the instrumental case study (Stake, 1994) since the main purpose of the study was to examine environmental sanitation practices in selected communities (Kwendurum and Sankor) in the Effutu municipality in order to gain broader appreciation of the problem. According to Stake (1995) the instrumental cases study is adopted when the principal aim of the researcher is to examine a particular case in order to gain insight into an issue or a theory. In view of this, the researcher after exploring the views of the residents of these two communities on their sanitation practices went further to explore the view of officials from the health sector, municipal assembly and zoom lion on waste management with the aim of providing comprehensive understanding of the problem understudy.

3.5 Study Population

A research population is generally a large collection of individuals or objects that is the main focus of a scientific query. Since all the selected communities are sited closer to the sea, the entire people of both selected communities in the Effutu Municipality were regarded as the study population to whom the research findings were generalised. The population included youths and adults. The reason being that some of the youth are engaged in disposing off waste and equally defecate openly. The reason for choosing the adults was that, they sent the children and they also dispose off waste and defecate at the shores of the sea. Also, the place of convenient that is the shores of the sea had been divided into two, a portion for male and another portion for female and it was used by the adults and the aged.

3.6 Sample and Sampling Techniques

A sample of fifteen (15) participants were used for the study. This was made up of three officials who oversee waste management in the Municipal that is, one health worker, one member of the Municipal Assembly as well as a member of the ZoomLion and twelve (12) residents of the studied communities. The data collection stopped when saturation point was reached. In selecting the participants for the study, the researcher employed purposive sampling and convenient sampling techniques. The use of the above sampling techniques has been described below:

The purposive sampling technique was used to select the two communities namely Kwendurum and Sankor. Purposive or judgmental sampling according to Maxwell (1996) is a strategy in which particular settings“ persons or events are selected deliberately in order to provide important information that cannot be obtained from other choices. He further noted that, it is where the researcher includes cases or participants in the sample because the researcher believes that they warrant inclusion.

The rationale behind purposively selecting these two communities was as a result of high volume of waste generated within these areas. In addition, these two communities are also closer to shore and the problem under study is peculiar to them. Again, the purposive sampling technique was used to select officials who oversee waste management. Specifically, one health worker, one member of the Municipal Assembly as well as a member of the Zoom Lion as earlier mentioned. These officials were used for the study because of their knowledge on waste management to complement the responses which were given by the residents of these communities. Lastly, convenient sampling technique was used to sample twelve (12) residents which comprised six (6) residents each from Kwendurum and Sankor communities. It must be pointed out that, the six (6) respondents from each comprised of three (3) youths within the age range of 15-35 years as stipulated by Ghana National Youth Policy (2010) and three (3) adults. According to Nayak (2010), convenience sampling is a sampling technique based on the utilisation of more readily accessible subjects to the researcher. The study used convenience sampling as the preferred technique of sampling because the sanitation practices was a problem to all the residents and so similar answers could be given by any of them. Due to that all the youth and adults were readily available and willing to participate in the study. Also, it made data collection easy and creating samples were inexpensive that is less or no investment were used in a brief period.

3.7 Data Collection Instruments and Methods

The researcher gathered data using interview guide and focused group discussion protocol and the method of data collection was interview and focus group discussion. It must be pointed out that, interview guide is the instrument used in the conduct of the interview. According to Creswell (2012), interviews are primarily done in

qualitative research and occur when researchers ask one or more participants general, open ended questions and record their answers. Often audiotaped are utilised in interviews to allow for more consistent transcription. McNamara (2009) also added that in qualitative research specifically, interviews are used to pursue the meanings of central themes in the world of their subject.

The researcher specifically used the unstructured interview to interrogate issues in details including the experiences, expectations, thoughts, behaviours, beliefs and views of the respondents about the environmental sanitation practices in Kwendurum and Sankor. This is supported by the assertion of Boyce and Neale (2006) who pointed out that, unstructured interview is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme or situation. It must be noted that, the unstructured interview was conducted using twelve (12) respondents of Kwendurum and Sankor and three (3) officials comprising of a health worker, member of the Municipal Assemble and member of the ZoomLion. The participants were engaged in a one-on-one conversation and asked questions pertaining the environmental sanitation practices in the Sankor and Kwendurum communities. The questions and responses from the participants were all audiotaped, well organised and transcribed.

In addition, focused group discussion was also used to seek for responses from the participants. The composition of focused group discussion was based on the homogeneity or similarity of the group members. Focused group discussion according to Wood (2004), is a technique where a researcher assembles a group of individuals to discuss a specific topic, aiming to draw from the complex personal experiences, beliefs, perceptions and attitude of the participants through a moderated interaction.

The type of focus group discussion employed was the single focus group. Morgan (1996) stated that, single focused group discussion is the interactive discussion of a topic by a collection of all participants and a team facilitator as one group in one place.

Considering the advantages in using focused group discussion, ASA (1997) pointed out that, bringing participants who are similar together in a focus group makes it easier for them to carry on a productive and interactive discussion. The researcher adapted the focused group discussion in order to gain an in- depth understanding of the problem at hand since most of them were ready to bring out their opinion. This is supported by Nyumba, Wilson, Derrick, and Mukherjee (2018) who noted that focused group discussion is frequently used as a qualitative approach to gain an in- depth understanding of social issues. The researcher used focused group discussion to collect data from six (6) youths which was made up of three (3) youths from each of the two communities to enable them openly communicate with the researcher and bring out their personal experiences, beliefs, perceptions and attitude as stipulated by Wood (2004).

3.8 Analysis

The study was analysed base on themes. The thematic analysis was drawn from the themes presented in the research questions. According to Polit and Beck (2008), the analysis of qualitative data is an active and interactive process where information is critically scrutinised, read and reread carefully in order to thematically analyse the data. In analysing data from this study, broad themes were developed and discussed. In this study, the researcher followed the approach where the collected data were read carefully which helped in the interpretation and description of emerging themes and patterns.

3.9 Trustworthiness

This aspect of educational research is very paramount as it seeks to ensure high quality, dependable and acceptable results by other researchers. In view of this, trustworthiness in qualitative research must not be undermined.

In research approaches, whether qualitative or quantitative, issues of validity and reliability are cardinal in ensuring quality and dependable results which eventually contributes to the credibility of the study. The research approach adopted for the study was a qualitative approach which according to Denzin and Lincoln (2003) it is interpretative and understanding in nature. This research approach is however associated with the interpretive paradigm which is based on the assumption that knowledge does not exist but created conjointly through a meaningful interaction between the researcher and the study participants on agreement on the participants' socio-cultural context (Grbich, 2007, as cited in Zuure, 2018). This means that the interpretive paradigm embodies gathering of data using interpretation of words. In addition to the relevance of trustworthiness in qualitative research, Guba (1992) noted that trustworthiness is one of the important and popular criteria for judging the quality of an interpretive-qualitative research. In achieving this, the four pertinent aspects of trustworthiness namely; creditability, transferability, dependability and confirmability must be considered.

The trustworthiness of design research study is intrinsically linked to credibility. Shenton (2004) explains that to establish credibility is to „seek to ensure that their study measures or tests what is actually intended“ (p. 64). In a similar view, Silverman (as cited in Zuure, 2018) postulate that credibility is concerned with the confidence in the „truth“ of findings and this can be achieved through triangulation. In view of this,

the element of credibility was ensured using two different methods of data gathering, thus, the use of focused-group discussion and interview for youth (15-35 years) and adults (36 years and above) respectively.

Another element of trustworthiness which cannot be left in an oblivion is the transferability and this refers to the degree to which the representation and findings are applicable beyond the particular setting or inquiry. According to Shenton (2004), transferability is the extent to which the findings from one study can be applied to another. In view of this, Lincoln and Guba (1985) argue that naturalistic inquiries or qualitative research seek transferability by providing the details of the phenomena and setting in formal accounts like research reports. This is achieved by thick description, a rhetorical strategy that richly and “thickly” describes events such that the reader can feel that they experience the events described. This means that this element seeks to provide sufficient information in explaining a phenomenon rather than mere generalisation of the findings. In addressing this element, the detailed data collected from the youth taking into account the illustrations of similarities and differences was used to complement the data collected from the adults with regards to the environmental sanitation practices, causes, effect as well as the measures in ensuring good sanitation. The aim of this with respect to validity is to describe the event and context in sufficient detail that the reader and researcher can apply relevant knowledge from the account to another setting or event.

Dependability element of trustworthiness in qualitative research is likened to reliability in quantitative research. Dependability is linked to both credibility and confirmability (Lincoln & Guba, 1985). According to Shenton (2004), a researcher can establish dependability „if the work were repeated, in the same context, with the

same methods and with the same participants, similar results would be obtained" (p. 71). As reliability of the instruments is of great importance too, repeating the use of the survey instruments should ensure that the methods are reliable (Leedy & Ellis Ormrod, 2005; Punch, 1998). In addressing this element, issues such as asking clear and unambiguous questions, reducing biasness as well subjectivity in data collection were considered and addressed accordingly. In addition, participants living in Kwendurum and Sankor as well as officials concerned were the only people used for the study in order to obtain information relevant to the study.

Lastly, the confirmability element of trustworthiness entails making sure the findings of the study is not contaminated. This is supported by the assertion of Shenton (2004) who describes confirmability as „the qualitative investigator“s comparable concern to objectivity" (p. 72). He further explains that steps must be taken to help ensure as far as possible that the findings of the research are the result of the ideas and experiences of the participants rather than the characteristics and preferences of the researcher. In ensuring that this element was considered, the interview guide used for the study was piloted at the coastal communities at Takoradi. In this regard, the results ascertained from the piloting were the true facts concerning the problem understudied and was in no way influenced or contaminated by the researcher's personal feelings and experiences.

3.10 Ethical Consideration

According to Seidman (2006) research ethics refers to the correct rules of conduct necessary when carrying out research. He added that it describes the need for participants to understand the aims, objectives and potential harm that such involvement may have on them. This is supported by the assertion of Mertens (2010),

who stated that informed consent arises from the participant's right to freedom. Punch (2008) is also of the view that researchers should be mindful of ethical issues especially in social research because it is concerned with data about people. Consideration of moral issues and respect for participants is essential in social research. Hence, in this research several ethical issues were taken into consideration.

Firstly, the issue of interviewer biasness in the interview process was as much as possible eliminated. The interviewer remained neutral in the process never showed strong emotional reactions to their responses. In addition, the interviewer never portrayed actions depicting being passionate and sentiment during the interview process.

Secondly, the right to privacy, voluntary participation, no harm to participants, anonymity and confidentiality were held in high esteem. It should be emphasised that participants have right to privacy and as a result, these rights must be respected at every point in time. In this light, the rights of privacy of respondents in the study was respected and under no circumstances were respondents studied without their consent. In addition, one of the key components regarding ethical issues in research has to do with respondents' voluntary participation. In line of this, the objectives and significance of the study were explained to the participants and therefore, allowed them to exercise their voluntary right in their participation of the study.

Thirdly, in recording the voices of the participants, permission was sought from them and whatever, which was recorded was played back for respondents to listen before ending the process. The participants were therefore assured that the information they provided in the form of their responses as well as their identity would be kept confidential and would not be disclosed in any way.

Lastly, another pertinent principle which guided the analysis of the data was that, the researcher constantly reflected and checked to make sure imposition of personal experiences were sidestepped.

3.11 Summary

This chapter has described the methodology used by the researcher to examine the issue of environmental sanitation practices of selected communities in the Effutu municipality. The chapter has also described the study area, the research approach, the design adopted for the study as well as the population of the study. In addition, data collection instruments and data collection procedures as well as ethical issues have also been described.



CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter deals with data presentation, analysis and discussion. Data were gathered through interviews and Focus Group Discussion (FGD) and discussed based on the views of the participants. The results obtained through the administration of the research instruments was also discussed. The data was collected from some of the residents from the selected communities, thus Kwendurum and Sankor communities in the Effutu Municipality. The presentation and analysis are done under themes derived from the research questions and the data from the fieldwork. The themes include environmental sanitation practices of the people, factors that account for the environmental sanitation practices, effects of environmental sanitation practices on the people and measures towards the enhancement of good sanitation practices in the Sankor and Kwendurum communities. These themes are further divided into sub-themes.

4.1 Environmental Sanitation Practices among the People of Sankor and Kwendurum

Research question one (1) sought to address the issue of environmental sanitation practices among residents of Sankor and Kwendurum communities. I deemed it very crucial to know what brought all the sanitation problems faced in the studied communities. In this regard, the people were asked to take me through how waste was disposed in the community and where they ease themselves. With regard to the environmental sanitation practices, residents living in the Sankor and Kwendurum

indicated that, they dispose off their waste at the sea shore, burning or burying their waste, defecating in public toilet facilities and at the shore of the sea as well.

4.1.1 Disposing Waste at the Seashore

This section describes one of the ways through which waste was disposed off in the two communities. Generally, waste is supposed to be gathered and kept in a dustbin and sent to the appropriate final disposal site but from the response given by the participants, majority of the residents dumped their waste at the beaches or the shores of the sea in the communities.

For example, the first interviewee (Adjoa) from the Focus Group Discussion (FDG) who resides in Kwendurum gave the following response:

There are no dustbins in our home so anytime our place becomes dirty, my parents ask me to sweep and dump the waste at the seashore. If I wait for the next day, the whole place becomes scattered.

Another interviewee (Ama 1) from Sankor also said:

The shore of the sea is where I have been dumping my waste since I came to this community.

Similarly, another respondent (Kweku) from Kwendurum also said:

I dispose off my waste at the seashore where the male defecate. This is because there is no container at my place and the one in Sankor is too far from my house.

From the responses outlined by the respondents, the prevalence of disposing waste at the seashore is caused as a result of lack of dustbins or waste containers in the homes as well as in these two communities as mentioned by Adjoa and Kweku. This means that even though they are aware of the consequences of their actions, they seem not to have any option than to resort to disposing waste at the shore. This further means that, if the Effutu Municipality is able to provide waste bins or containers for the various communities, this menace could be curtailed. On the contrary, the assertion of the

official from the Effutu Municipality indicated that there are lots of waste bins available for delivery upon request, but residents of especially coastal communities do not request for these waste bins due to financial duties that comes with the usage of bins.

4.1.2 Burning and Burying of Waste

Some participants indicated that they buried and burned their waste sometimes.

One of them (Aba) from the Sankor community said:

I have created a pit behind my house and that is where I dump my waste. I always make sure the waste is burnt when the pit is full and bury those that cannot be burnt like mineral bottles, glasses and so on. Those from the Town Council once asked me to stop but I refused.

The other participant (Efua) from the Sankor community also said:

I used to burn my waste in the house but those working from the town council a while ago asked me to stop. So, I now dump my waste at the sea shore.

It can be seen from the responses of the respondents that majority of the respondents resort to burying and burning of their waste as a way of ensuring proper waste management. These participants reside in the Sankor community. This however confirms the responses given earlier with regards to insufficient waste bins in these communities. Even though, one may think this method of waste of management is not the best but it can be one of the ways through which waste can be managed at the coastal communities. This is consistent with the view of WHO (2004), which states that “environmental sanitation problem in the coastal community can be seen as a serious problem. Therefore, if burying and burning of waste could be one of the ways of putting a stop to these environmental problems, then it should be well managed by the agencies whose works are in line with ensuring cleanliness of the environment

especially at the coastal belt of Sankor and Kwendurum. Nevertheless, the leaders of the community must make sure some regulations are put in place to ensure cleanliness in the community especially at the seashore. However, Gates Foundation (2010) recommended that these wastes can be recycled into different use. They then referred to this as the "sanitation value chain" or "sanitation economy".

4.1.3 Defecating at Seashore

Next was on ways in which the people defecate in the two communities thus Sankor and the Kwendurum communities in the Effutu Municipality. Ways through which the people answered nature's call was considered because the researcher again observed that the same place (seashore) used as a dumping site was also used as a place where majority of them defecated. Therefore, the researcher found the need to know more about this problem. The responses from all the participants from this aspect of the process depicted a similar pattern, for instance one of the interviewees (Araba FGD) from the Kwendurum community explained that:

I defecate at the same place where I dump my waste, that is the seashore because I don't have toilet facility in my house.

Another participant (Ama) from the Kwendurum community also indicated that

When I dump my waste and feel like defecating then I do it there before going home but this is where I always defecate all the time.

She (Ama) explained that faeces of the aged who cannot walk long distances are also dumped at the seashore.

This is the excerpt from her:

The reason why you have seen me here (seashore) this morning is that my mother is sick and cannot walk from our house to the seashore to defecate so I had to allow her to do it in the house and dump it at the shore.

Another participant (Kweku) who is a resident from Kwendurum narrated that:

Madam, the seashore is where I have been defecating since I was young, as I am speaking to you that is where I am coming from. The seashore has been divided into two, a portion for male and another portion for female. So, that is where I have been defecating since.

It is evident from the above responses that, defecating and dumping waste at the seashore is a common practice among the residents of these two communities especially those in the residents of Kwendurum. Taking a critical look at these responses clearly indicate that this problem is as a result of lack of toilet facilities in their homes or in these communities. This confirms the assertion of UNICEF/WHO (2010) that, looking at the nature of sanitation in Ghanaian context, in 2010, Ghana was ranked 152 out of 182 on the Human Development Index and was judged the 4th country with the lowest rate of sanitation coverage worldwide. They further stated that, among these sanitation problems include heaps of uncontrolled rubbish, empty polythene bags, choked drains, indiscriminate littering and open defecating at unauthorised places such as bushes and along the coastal areas.

Following the assertion of UNICEF/WHO, the World Bank suggests that some of the measures that can help curtail this problem is the provision of toilet facilities. They further highlight that; sanitation involves both behaviours and facilities which work together to form a hygienic environment.

For toilet facilities, residents do not have to walk over four hundred meters to have access, these should be made available and evenly distributed in communities and also at a manageable price where both the young and old can have full access.

4.1.4 Using Public Toilet

Some of the participants from the Sankor community indicated that, they do not use the seashore as a place to ease themselves. Instead, they made use of the available toilet facilities in the community. These views emanated from the people from Sankor

community who had toilet facilities. It was noticed that the provision of the toilet facility was done by the owner of the royal beach at the seashore. One of the interviewees (Kofi) from Sankor said:

I defecate in the toilet facility provided by the owner of Royal Beach. Though the place is always not clean, that is the only place of convenient to attend nature's call.

Another participant (Efua) from Sankor said:

I am a married woman and I feel shy defecating at the seashore so I always ease myself in the toilet facility provided by the owner of the Royal Beach though the facility is not in good condition.

Similarly. Another participant (Aba) from Sankor also talked about the fact that because of her educational background, she would not like to defecate at the seashore but rather use the toilet facility provided in the country. She said this because of the condition of the facility as at the time of the interview.

Excerpts from her:

I use in the toilet facility provided by the owner of Royal Beach. Though it is not in good shape, I still use it because I feel shy defecating in an open place.

The Municipal Manager of ZoomLion in the Effutu Municipality confirmed to the sanitation practices brought out by some of the participant that they defecate and dump their waste at the shore of the sea. He however indicated that they do delivery in Winneba but they have problems dealing with those around the beaches and that few of them have the bins. He further explained that, they therefore prefer dumping waste into the sea and defecating in the sea.

Interview sessions with participants in the Kwendurum and Sankor communities on how they defecate in the communities show that majority of the people use the seashore as a place of convenience with only few of them who made use of the available toilet facility in their community. The people who use the public toilet

facility are those from Sankor because of the availability of toilet facility at their end and purposely at the seashore. I support the fact that the toilet facility was built close to the seashore because, it was realised that, it could be one of the ways through which the problem of defecating at the seashore could be solved. This is because when the people come to the seashore to defecate, the availability of the facility can prevent them from doing it at the shore and instead use the facility at their disposal. This was in the assertion given by Evans (2010). Who estimated that in urban areas, 2.5 billion people do not have access to basic sanitation and in Africa, and as at 2006, it was projected that sanitation facilities such as refuse sites, toilet facilities, communal containers and dustbins do not reach about 31 in 50 people and the problem still exist in recent years. For this reason, I think in order to stop the people living in coastal communities especially Sankor and Kwendurum from defecating at the seashore, they should be provided with toilet facilities and it should be closer to them especially at the seashore where they defecated.

Generally, waste generated in our homes, offices, schools and market places are supposed to be well kept in dustbins and disposed finally at disposal sites for those in charge to work on them. However, most people, especially coastal dwellers, dump their waste at the seashore due to several reasons which do not favour them and their environment. It is really sad to see people dumping their waste into seas and at the seashore in this era regardless of the benefits derived from such natural resources. People of Kwendurum and Sankor use the seashore as their place of convenience instead of toilet facilities base on the findings from the discussion which is not a good practice.

4.2 Factors that Account for the Environmental sanitation in Kwendurum and Sankor

The second research question of the study sought to examine why the people of Sankor and Kwendurum engage in poor sanitation practices in their communities. It is always said that anything that happens has a reason. There were various factors that caused poor sanitation practices in the Kwendurum and Sankor communities in the Effutu Municipality and from the study, a number of them were identified by the participants. The factors included negative attitudes of the people, financial difficulties, proximity to the beach, inadequate dustbins, inadequate toilets facilities, inadequate resources, poor road and lack of education.

4.2.1 Lack of Dustbins and Containers

The participants were asked to indicate the reasons why majority of the participants dump their waste at the seashore and one of the reasons was lack of dustbins and containers in their homes and the community. The participants unanimously indicated that, there were no dustbins in their homes and no containers in their community where they

can dump their waste. This was a reason from the two communities. For example, one interviewee (Kojo) from Kwendurum said:

We don't have dustbin in our home. I am always sent to dispose off the waste generated in our home at the seashore.

Another participant (Ama) from Kwendurum added that:

I don't have dustbin in my house, so all that I can do is to dump my waste at the Seashore. The ZoomLion never provided us with dustbins.

This problem was confirmed by the Municipal Environmental Health Officer of the

Effutu Municipality. He said:

The people don't have enough containers and dustbins at their disposal and that is why they dump their waste at the seashore.

Similarly, another participant (Adjoa) from Sankor responded that:

I don't have dustbin in my house and because of flies and other insects, I do not keep waste in my house for long. The only way is to dump them at the seashore.

It is evident from the responses of the interview that lack of dustbins and containers in the homes and at vantage positions within these two communities is one of the factors that account for poor sanitation practices by the residents. This succinctly means that, if there are enough dustbins and containers at the disposal of the residents, this menace would have been curtailed. This corroborates with the assertion of WHO (2016) that lack of sanitation facilities is one of the reasons that leads to poor sanitation in the community. They added that due to the absence of sanitation facilities like dustbins, and containers, residents directly dump waste into surfaces water which has been their traditional practice. They further cited some coastal communities such as Koki Squatter, Port Moresby and Papua New Guinea who also engage in poor sanitation practice due to lack of sanitation facilities. Kwendurum and Sankor in the Effutu Municipality of Ghana are no exception to this menace due to this same problem raised by participants for the study.

4.2.2 Proximity to the Sanitation Facilities

Another causative factor that came up strongly was closeness to the few sanitation facilities available in the community. This reason was raised by all the participants in the Sankor and Kwendurum community. The participants explained that accessibility to the available sanitary facilities has been a reason to the poor sanitation practices in their communities. One of the interviewees (Kojo) from the Sankor said:

The container given is far away from my house and my house is just some few meters from the seashore. I cannot walk from my house to the cemetery to dump.

One other participant (Ama) from the Kwendurum similarly explained that:

I walk a long distance just to have access to dumping site at the Sankor cemetery, due to that, I have to stop going there and use the seashore instead.

The proximity to the provided dumping site is a problem. This was also confirmed by the Municipal Environmental Health Officer. He said:

The assembly has provided container at the Sankor cemetery for both Sankor and Kwendurum residents, but due to the distance the people are refusing to make use of it and instead use the seashore as a dumping site.

It can be established from the responses of the residents that the few facilities such as waste bins and dumping sites that are provided by the Effutu Municipal Assembly is far from their homes leading to their reasons for poor sanitation practices. This explains that, the few facilities within these communities should be placed at vantage positions and made accessible to all residents easily without distance causing a barrier. Findings on the proximity to the sanitary facilities is consistent with the findings of Dika (2017) who conducted a study in Elmina, one of the coastal communities in Ghana. His findings revealed that residents living close to the beach dumped their waste at the beach because of close proximity to the beach.

4.2.3 Inadequate Toilet Facilities

The next issue raised by the participants as a cause of poor sanitation practices in the community was inadequate toilet facilities to meet the needs of the people. This was another strong causative factor explained by the participants. For example, one of them (Araba) from the Kwendurum community said:

There are no public toilet facilities in the community. Because of that, I always use the seashore anytime I want to attend to the nature's call. If I do not use the seashore, there will be no place for me.

Another participant from who reside in the Kwendurum community (Ama) also indicated that:

I don't have toilet facility in my house. All the buildings around the shore are without toilet facilities. The only place left for me to ease myself is the seashore.

This problem was also confirmed by the Municipal Environmental Health Officer of Effutu. He added that:

The people of Kwendurum and Sankor use the seashore as a place of convenience because of inadequate toilet facilities in the communities. The people refused to add toilet facilities to their buildings and I do not know the reason why they build houses without toilet facilities. The public toilets facilities are also not enough.

Inadequate toilet facilities as a cause to poor environmental sanitation practices was an issue raised by majority of the participants. This is agreeable because when there are no toilets facilities in homes and inadequate public toilet facilities in the community, the only solution for the residents was to look elsewhere. Due to that, the people of Kwendurum and Sankor had no option than to use the seashore as a convenient place of easing themselves since they were closer to the sea.

This confirms the assertion of WHO (2016) that, in most of the coastal communities studied, sanitation facilities are absent and direct defecation into the surface water has been the traditional practice. On the contrary, the World Bank (2002) also revealed that sanitation also involves both behaviours and facilities which work together to form a hygienic environment. They further explained that the sanitation facilities can be provided by the concerned authorities but individuals must also change their negative attitude towards getting a hygienic environment.

4.3.4 Challenges with The Usage of Public Toilets

Another causative factor that accounted for the poor sanitation practices in the Kwendurum and Sankor was health reasons. Participants raised issues concerning their health as a reason why they engaged in unacceptable sanitation practices in their community. This factor was a strong one for them especially the female. For example, one of the participants (Araba) from the Sankor community said:

I used to defecate in the public toilet but I stopped. This is because anytime I used it, heat from the facilities enters me and exposes me to a lot of bacterial such as “white”.

A fisherman (Kwesi) from the Sankor community explained a concerning view on the reason why the female in the community do not use the toilet facility provided by the owner of Royal Beach. He said:

The toilet facility provided for the ladies is filled with rubbers and the reason being that heat enters them and exposes them to different germs. They want fresh air around them as they defecate. That of the male is always in good condition.

Others also explained that though the toilet facility in provided by the owner of the royal beach was not in a good condition exposing them to a lot of diseases, they still use it because of other reasons. These views came from those in the Sankor community.

One of them (Efua) from the Sankor community said:

It is true that using the public toilet exposes us to a lot of diseases but I cannot defecate openly because I am a married woman. My husband will not even allow me to defecate openly.

Another participant (Aba) from Kwendurum also explained that:

Though using the public toilet exposes me to viruses like “white”, I still had to use it because of my educational background.

Other participants also added to the issues concerning their health as a factor to causing poor sanitation practices in their community. They complained about the bad smell and other insect such as flies from the toilet facilities. For example, one of them (Adjoa) from Sankor said:

I do not like to use the public facility because of the bad smell inside it. Anytime you come out after using it, everybody gets to know where you are coming from. I normally vomit and complain of headache after using it.

Another participant (Kofi) from Sankor also indicated that:

There are a lot of flies in the toilet facility because the place is always not well kept. These flies and other insects make me feel uncomfortable anytime I use the place. I heard that these flies and other insects exposes us to a lot of diseases.

The practice of poor sanitation in the Kwendurum and Sankor communities kept on rising due to challenges people face for using public toilet. I agree to the fact that, no one would like to engage in any practice that would affect their health in the near future. Because of lack of maintenance culture thus, not always ensuring that the toilet facility provided for the public was well kept, participants for the study never wanted to use the available toilet facility but instead, use the seashore as a place of convenience. This corroborates with the findings of Dittmer (2009) who observed that shame, smell, social status, obligation to host, evil and ancestral practices are the barriers to abandoning open defecation. This is also supported by the assertion of Ghana Water Forum (2011), that the communal toilets in Ghana are not in a good state in terms of the way they are managed.

4.3.5 Inadequate Resources

It was also detected from the study that inadequate resources are some of the factor that led to poor environmental sanitation practices in the Kwendurum and Sankor

communities in the Effutu Municipality. The Municipal lack resources such as capital and human resources. According to the Municipal Environmental Health Officer:

The challenge we face is that most at times we run short of fuel and you know ZoomLion is an NGO and they are contracted by the Assembly to take care of the waste of the community. ZoomLion has two trucks, one roller and one compactor and the Assembly has one tractor but in all we have four. The driver who drives the tractor is on leave and we do not have any driver to do his work as at now so, we need more workers. At times the vehicle breakdown and we have problem with funding. It's only the driver of the ZoomLion and one other driver.

From the response given by Municipal Environmental Health Officer as one of the factors accounting for poor sanitation, he clearly indicated that aside facing inadequacy of trucks for collecting waste, they sometimes run short of fuel coupled with inadequate drivers for taking care of these trucks. He also further noted that sometimes getting funds to service these trucks when they break down is also a challenge. This finding was not different from the one given by Ghana Water Forum (2011) that, the Municipal Assemblies in Ghana are not able to perform up to expectation because of inadequate funds, logistics, and technical support to help implement and evaluate sanitation strategies and to also provide sanitation facilities. I support this view due to the fact that sanitation problems cannot be solved in the absence of a lot of things needed to be put in place. Dealing with sanitation issues in the coastal community is not an easy thing because the issue of the residents disposing off waste and defecating at the seashore is a trending one and so in order to solve it, a lot of things must be in place.

4.3.6 Financial Difficulties

Another cause of poor sanitation in the selected communities was financial difficulties. Majority of the participants complained of financial difficulty as a

leading factor to the poor sanitation practices in their communities. The main problem was that, before you can have access to any of the public sanitary facilities being it public toilet, dustbins or containers, you would be asked to pay an amount of money. This led the people to engage in sanitation practices that are unacceptable in the communities. For example, one of the participants (Adjoa) from the Kwendurum community in the FGD said:

My mother always asks me to dump our waste at the seashore. She said, she cannot pay the money collected by the man who cleans the container we dump the waste in. I once went to use the public toilet facility but“ because of the money they asked me to pay, I left and went to the seashore.

One other participant (Ama), a resident of Kwendurum added to this same issue that:

There used to be a container at the seashore but the Assembly removed it after sometime. We stopped using the container because of the money we were asked to pay. I then started dumping my waste at the seashore.

Another participant (Efua) from the Sankor community also indicated that:

I travelled to Takoradi to visit my sister. I was there when a man called to seek some information from me regarding the registration for the distribution of dustbins. As I speak to you, we have never heard from them. I think it is because of the poverty level of those staying here. What I heard is that, we would have to pay money as they give it out and pay another money when they come for our waste.

Similarly, the Municipal Manager of Zoomlion in Effutu also added his view to the problem. He explained that:

The main problem of poor sanitation practices in the Sankor and Kwendurum communities has to do with payment of services. They do not have money to pay. They consider themselves to be poor, because of that, they prefer dumping their waste into gutters, beach etc and defecate at the beaches and open places.

This view expressed by the participants indicates one of the major reasons why the people of Kwendurum and Sankor engage in poor sanitation practices. This finding is not different from that of Bruntland Report (WEED 1987) that, poverty or financial

difficulty tends to generate various forms of environmental degradation. This is because those who are poor and hungry will often destroy their immediate environment in order to survive.

In a situation whereby there are sanitary facilities, they refuse to use them because of the little monies taken from them to maintain such facilities, their reason being that, they do not have any better job doing. This is confirmed by the claim of Manase et al (2001) that, the money paid for the use of sanitary facilities makes it difficult for mostly the urban poor to afford such facilities, thereby causing them to resort to all forms of poor sanitary practices. I support the idea of the Assembly asking users of the sanitary facilities to pay some amount of money because these same monies are used to maintain such facilities. That is to make sure the facilities are always in good condition. Maintaining the facilities would help do away all the health problems the users find themselves in.

4.2.7 Lack of Awareness Creation

Lack of education was another cause to the problem of poor sanitation in the selected communities. That is, the people possessing low level of knowledge on how to ensure cleanliness of their environment and why the environment should be clean. Majority of the participants explained lack of education as a factor causing sanitation problems in their community. For example, one of them (Adjoa) from the Kwendurum community indicated that:

Nobody or group of people have come to the community to educate us on the need to put a stop to our dumping of waste at the shore or defecating at the shore. As for me, I have not seen anything like that sort.

Another participant (Ama) from the Kwendurum community also postulated that:

I do not have radio or television to listen to any educative program on the need to ensure cleanliness in our communities. I have not seen anybody or group of people coming to the various houses to educate us on any environmental issue.

Similarly, one other participant (Kwesi) from the Sankor community also explained that:

No leader from the assembly has come to educate on why and how the waste generated from our various homes could be managed. There is a local radio station in the community where all announcements are made. No leader has used that opportunity to educate us on this local FM station. I would have heard them if they had done that.

The above responses from the residents signifies that lack of awareness creation on good sanitation practices by health personnel or the media has been one of the factors which has led to poor sanitation. Following the responses of the residents, it however means that they are ignorant of the consequences of their actions due to the facts they don't get anyone to educate them on sanitation issues. This findings from the participants concerning lack of education as factor that contribute to poor sanitation practices in their community is in line with the assertion of MLGRD (2001). The MLGRD in 2001 postulated that causes of poor sanitation in coastal communities is attributed to lack of education on sanitation. This means that the various consequences of their act cannot be uncovered for them to understand and desist from such activities.

4.2.8 Poor Road

Another cause of poor sanitation practices in the communities was poor road. This was another issue worth mentioning because of the effects that comes with it. One of the participants (Efua) from the Sankor community explained that:

There are no roads so, I think that is the reason why the ZoomLion people don't want to provide us with dustbins. The owner of the

Royal Beach promised to partner with the leaders especially the chief of the community to solve this problem for us but she complained they were not ready to do so. Even if the ZoomLion provides us with dustbins, they cannot come for the waste when they are full. So, I think that is another reason why they are refusing to provide us with dustbins.

Similarly, the Municipal Manager of ZoonLion added to this problem. He indicated that:

We have problem concerning their road network. The accessibility of roads in the Kwendurum and Sankor is very poor and it makes our work very difficult. They can come for the dustbins but offloading them would be a problem. We are doing our best to help solve this problem.

The response indicated by both the resident and Municipal Manager of ZoonLion shows that poor road which makes the sanitation facilities inaccessible to residents is one of the reasons accounting for poor sanitation among these two communities. This explains that the few facilities in these communities are placed at where the Zoomlion find it difficult to get access to due to poor roads. This further means that even if the assembly provides more facilities for these communities, there is need to make sure roads which leads to waste containers are accessible. In support of this problem, the MLGRD (2001) also noted that in most coastal communities, inaccessibility of roads leading to waste containers or dustbins has been a major cause of poor sanitation practices.

4.2.9 Leadership Crises

Another challenge affecting basic sanitation in the coastal communities was poor management. That is lack of planning and coordination of programmes aimed at improving sanitation.

One of the participants (Awusi) from the Kwendurum community explained that:

I am a fisherman and always go to the bar at the seashore where the men defecate to buy alcohol. I and other guys who normally come to the bar told the Assemblyman to do something about the issue of people always defecating and dumping their waste at the shore. As at now, we have not heard anything from him. I and my guys decided to beat those who dump and defecate at the shore but the Assemblyman told us, the police will arrest us if we do so. There are no committee members to handle such issue.

It is clear from the response of the interviewee that poor planning and coordination of programmes aimed at improving sanitation has been one of the causes accounting for poor sanitation. This however means that, if there are measures instituted by the concerned authorities, poor sanitation would be improved. Response from this participant corroborates with that of CRC and FON (2010) that, poor sanitary facilities and waste management has been a cause of poor sanitation in Ghana. This assertion is supportable because sanitation cannot be improved without plans and other measures put in place. And this cannot be done without the consent of leaders in the community. That is the Chiefs, Assembly Members, Chief Executives, Members of Parliament and Other Non-Governmental Organisation (NGOs). In the case of Kwendum and Sankor, tackling poor sanitation would involve a lot of initiatives and plans put in place. This is because the problem of poor sanitation has been occurring for a long period of time. Due to that, all leaders must come together to help ensure that this problem is solved forever.

4.3.10 Negative Attitude

Another causation factor of poor sanitation was negative attitude. Poor sanitation practices in the Kwendum and Sankor was also attributed to negative attitude of the people. This was a factor indicated by all the three officials whose are in relation to overseeing waste management in the municipality. For example, the Municipal Health Analyst postulated that:

Anything we do depends on our attitude and behaviour. Most of the sanitation problems are as a result of our own behaviour or attitude. A popular man known as Lan Ronde once said that „though environment contribute so much in disease outbreak but our behaviours and attitude contribute so much in sanitation issues we suffer from today.

The Municipal Manager of ZoomLion also indicated that:

Another cause of this poor sanitation practices in the Sankor and Kwendurum is their attitude. The people have negative attitude on sanitation issues in their communities. They are not ready to change how they manage their waste.

The views of the Municipal Health Analyst of the Effutu Municipality and the Municipal Manager of ZoomLion of the Effutu Municipality clearly signifies that negative attitude on the part of the residents of these communities is one of the factors which account for poor sanitation. This goes a long way to explain that the individuals in these coastal communities put up some acts that destroys their communities. The findings from the interview is in support of the assertion of the Environmental Health Officer concerning the negative attitude of the people of Kwendurum and Sankor. In addition, the findings were not different from the assertion of Dika (2017), in a study conducted in Komenda-Edina-Eguafo-Abirem (KEEA) Municipal Assembly in the central region of Ghana, which states that one of the causes of pollution in Elmina coastal area is negative attitudes regarding dumping of waste around and defecation at the beach.

On the whole, the participants from the selected communities indicated some factors that accounted for poor sanitation practices in their communities. The factors were negative attitudes of the people, financial difficulties, proximity to the beach, inadequate dustbins, inadequate toilets facilities, inadequate resources, poor road and lack of education. The reason for defecation at the shore as given by the Environmental Health Officer was that there were no toilet facilities in the

households. For this reason, we must bring to light the distribution of waste bins and provision of public toilet facilities. From the responses given, it is quite evident that the inhabitants know the right thing to do such as not defecating at the seashore and not dumping at the same place, however, some circumstances seem to be beyond their control because it would not be easy for example one to walk for more than 300 meters just to answer nature's call or carry waste on the head for every 200 meters in order to dump. Despite all these, very few have taken the initiative of undertaking positive sanitation practices such as digging of pits to serve as refuse dump and burn when pit is full. In order to clear the air on waste bin availability, the Municipal Manager of Zoom Lion in Effutu municipality, indicated that there are lots of waste bins available for delivery upon request, and the question is why then do the people not request for them? The answer is the financial duties that comes with the usage of bins.

The ecological modernisation theory was one of the theories adopted by the researcher to understand why coastal dwellers, the Kwendum and the Sankor communities in the Effutu Municipality to be precise engage in poor sanitation practices. Basically, the theory which was propounded by Huber (1980) spells out the reasons to poor sanitation in coastal communities and the benefits that can be derived from keeping good sanity in communities especially coastal communities. The theory further talks about some cultural aspects such as ecological modernisation of mind, value orientation, attitudes, behaviours and lifestyles that can cause poor sanitation in coastal communities. This was clear as the participants were able to come out with some factors that led to poor sanitation in their communities such as negative attitudes of the people, financial difficulties, proximity to the beach, inadequate dustbins, inadequate toilets facilities, inadequate resources, poor road and lack of education.

4.3 Effects of Environmental Sanitation Practices in Coastal Communities of Sankor and Kwendurum

The third research question of the study sought to examine how the people of Kwendurum and Sankor are affected by the environmental sanitation practices. The coastal environment suffers from frequent pollution through various means such as dumping waste into the sea and at the seashores and defecating around and into the sea. The pollutants affect the coastal area and its inhabitants in diverse ways. The effects of poor sanitation indicated by the participants for the study consists of environmental effects, social effects and economic effects. Responses from the participants in the selected communities undoubtedly showed that the residents understood the effects of their practices not only on the coastal environment but also on the inhabitant in the communities.

4.3.1 Socio-Economic Effects Of Poor Sanitation Practices

The socio-economic effects comprised the effects of poor sanitation practices on the social life in terms of health condition as well as recreational activities and economic activities.

4.3.1.1 Health Effect

To begin with, one of the effects indicated by the participants for the study was health effect. All the participants interviewed shared their view on the health impact of poor sanitation practices in their community. For example, one of them (Efua) from the Sankor community who stays closer to the beach said:

The first effect I can talk about is the bad smell and flies in our community especially those of us staying just close to the sea. My father is blind and he always chews some of the flies anytime he sits outside to eat especially when he is alone. The problem affects our health especially the children giving them malaria, cholera, fever and rashes. Children do not know anything so when they are eating and flies enter their food, they eat everything. When they go to the beach to play, they most at times do not wash their hands before eating which in a long way affects their health.

Another participant (Kofi) from the Sankor community also said:

When the wind blows, dirt from the dumping site enters my eye and this has affected my sight. Anytime I am sick the doctors diagnose me of malaria and cholera.

One other participant (Araba), a resident from the Kwendurum community also indicated that:

Just recently, I fell sick and I was diagnosed of malaria. I almost died along the way. This poor sanitation is really affecting us in the community.

One other participant (Aba) from the Sankor community who use the available public toilet facility also said:

The toilet facility provided by the owner of Royal Beach for the residents is not in a good condition but because I feel shy defecating at the seashore, I still have to use it. The facility is filled with waste such as rubbers, bottles, unused dresses and so on. After using the place, I feel itchiness at my private part and this has affected my health.

The health effect of poor sanitation practices explained by the participants corroborated with that of the Environmental Health Analyst of the Effutu Municipality.

OPD morbidity at the various health facility in the Municipal has increased and the 2019 annual review has indicated so, that most of the health problems are as a result of environmental problems. The review was taken a few weeks ago. You know we have disease surveillant people that we work with at the Municipal level. The report most cases are found in the Sankor and Kwendurum communities. It is also through OPD reports that we get to know the diseases that affect the people and the trend of diseases. Some of the diseases are malaria, couple of gastro-intestinal diseases, cholera

and diarrhoea being a common disease and a whole lot of environmental diseases.

Health impact as an effect of poor environmental sanitation practices raised by the participant is very important and worth having a second glance at it. As rightly indicated by some of the residents, they sometimes visit these uncomfortable and deteriorating toilet facilities because they don't have any option hence the infections from defecating in these deplorable toilet facilities. These findings are not different from the assertion given by Asmah (2003) that improper disposal of both solid and liquid waste result in choked gutters, choked lagoon close to the sea with many flies in the community and the acts bring disease infections such as cholera, malaria, river blindness, chest infection and other infectious as well as hazardous ailment distressing people in affected communities.

This finding is again consistent with the assertion of WHO/UNICEF (2019) that poor sanitation is a major cause of infectious diseases such as cholera, typhoid, dysentery world-wide. It is also supported by the findings of Baffoe (2015) that in regions where a large proportion of the population are not served with adequate water supply and sanitation facilities, sewage flows directly into streams, rivers, lakes and wetlands, affecting coastal and marine ecosystems, fouling the environment and exposing millions of children to diseases.

4.3.1.2 Destruction of Aesthetic Beauty of the Beaches

Another effect of poor sanitation practice was the destruction of aesthetic beauty of the beaches. This was an issue discussed by majority of the participants. The respondents explained that dumping waste and defecating at the seashore makes the place dirty and unclean.

One of them (Efua), a resident of Sankor community explained that:

Dumping of waste and defecating at the shore brings disgrace to us. It prevents our visitors from going to the beach. My sister did her wedding last week and visitors who came for the program decided to take photos at the shore but the waste dumped there discouraged them.

Another participant (Kwesi) from the focus group discussion (FDG) from Sankor community also added that:

I used to come to the beach to relax and have some fresh air but waste dumped at the shore discouraged me from coming here. Before the owner of the Royal Beach came to establish her business here, she organised us especially the men to clear all the waste from the shore. At that time, you could even bring your food to the shore and eat. The people started dumping and defecating there again and as I talk to you, passing there is even a problem.

One other respondent (Kweku) from the Kwendurum community also explained that:

Waste dumped at the seashore and faeces makes me uncomfortable when swimming. Anytime I come here to swim, rubbers in the sea enters my mouth making swimming difficult. I do not have anywhere to swim than to come here because Sir Charles Beach is far from where I stay.

Similarly, the Environmental Health Officer of the Effutu Municipality also added that:

The beach is a place where one can find comfort. People go there to rest, swim, have fresh air and have fun. When one goes to the beach and the place is full of filth, staying there is very difficult. Besides, children also go there to swim, and play and because of the rubbish and other pollutants in the sea, they feel uncomfortable and so would not like to go there at all.

Another effect of poor sanitation practice cited from the response of the respondents was the fact that the aesthetic beauty of the beaches can be destroyed. The responses of the residents indicated their displeasure with destroying the beauty of these coastal areas. This however suggest the immediate intervention which should be put in place by the assembly to curbing this situation.

The findings from the responses are confirmed by the claim of Dika (2017) that, the dirty and unattractive beaches stop visitors or tourists from visiting the place twice. I

agree to this because wastes dumped at the shore make the place dirty and it makes the place less attractive to users. No visitor would like to spend his or her time staying in filthy places like the beaches of Sankor and Kwendurum. For that reason, I think something should be done about this problem. You hardly hear people going to the Sankor or Kwendurum beaches. Instead most dwellers and visitors spend their time at the Sir Charles Beach. This is because, the presence of pollutants such as rubbish and faeces, reduced recreational activities such as swimming and strolling along certain parts of the beaches.

These findings are similar to that of Kov (2008) who indicated that, poor sanitation in a country generally and in tourist sites specifically can have important implications for the eventual number of tourists visiting the country, the length of stay and their desire to return. I support this one too, because being sensitive to the environment, tourist will enjoy their stay less if exposed to smells and sight of people defecating openly and uncollected or scattered solid waste.

4.3.1.4 Low Productivity

Low productivity was another effect of poor sanitation practice in the Kwendurum and Sankor communities. This section sought to understand how their daily activities, finances and anything relating to productivity is affected due to the poor sanitation practices in the selected communities. Majority of the participants elaborated on how in one way or the other are affected productively. For example, one of the fishermen (Kofi) from the Sankor community said:

I am a fisherman, and fishing is the only job used to feed myself and my family. When I fall sick, I become weak and reluctant going for work. During this time, providing basic needs for my family is even a problem.

Another participant (Efua) from the Sankor community also postulated that:

Fishes grow from the shore before it goes to the inner shore. When we deposit refuse in the sea, the fishes eat them up and it affect their growth. The presence of waste along the shore affect those who cast their net close to the shore. It does not affect local dwellers alone but students as well.

One other fisherman (Kwesi) from the Kwendurum community also explained that:

Many are times that we catch plastic waste instead of fishes and that makes us poor as well as debtors because we credit petrol and food before going to the sea. Waste like polythene bags, ropes and other pollutants loop around propellers of outboard motors and damage them. The plastic waste trap, choke and kill fishes and other marine species.

This is not different from that of the Environmental Health Analyst of the Effutu Municipality. He said:

Sanitation is a way of life. The proper sanitation practices in the Sankor and Kwendurum communities affect their daily activities. If people do not clean their environment and fall sick, part of their money is spent on that diseases. They use most of their money they have on their health making them financially handicapped.

The Environmental Health Officer also explained that:

The waste dumped at the beach and residents defecating at the beach make the place dirty and unclean. These discourages users of beach. The waste and faeces unattractively reduce tourist patronage for the area leading to decrease in revenue generated from tourism sector in Sankor and Kwendurum.

From the findings, poor sanitation practices in the selected communities had effect on the productivity level of workers. A healthy coastal community has many economic advantages over an unhealthy one. If people are healthy, they spend less money on health care. However, poor sanitation practices in the selected areas affected both the sick and the family, for example when one cannot go for fishing, get money and cater for the needs of the family. This is not different from the claim of UNDP (2006) who observed that, beyond the human waste and suffering, the global deficit in water and sanitation undermine prosperity and retard economic growth. The low productivity does not affect the people in the communities alone but also affect the country at large. For instance, the impact on the environment and tourism lead to a loss in

income and productivity through taxes and other benefits derived by the government. For example, according to the Human Development Report (HDR) (2016), the overall costs of the year 2016 has a total deficit of \$170 billion or 2.6% of developing country GDP due to poor sanitation practices.

4.4 Measures Towards the Enhancement of Good Sanitation Practices in the Sankor and Kwendurum Communities

Views on the measures to be employed to solve the poor environmental sanitation practices were elicited from the participants. The participants stated some measures they think could be used in addressing the problem of poor sanitation practices in their communities. Measures that the participants suggested to be used to address the problem in the selected areas included provision of sanitary facilities, regular organisation of communal labour, change of attitude, provision of resources, assistance from stakeholders and the government, focusing on preventive measures that curative measures, enforcement of coastal laws, education, construction of dock at the seashore and construction of goods roads among others.

4.4.1 Provision of Sanitary Facilities

One of the measures raised by the participants to solve por sanitation issues in the communities was the provision of sanitary facilities such as toilet facilities, dustbins, containers etc. All the participants from the communities expressed their view on this.

For example, one of them (Adjoa) from the Kwendurum community said:

I want them to provide us with dustbins and containers as they did some time ago so that we can dump our waste in them instead of disposing at the seashore. The old houses in the community are without toilet facilities. I plead the leaders to get us one in our houses. I think this will help solve the problem.

Another participant (Araba) from the FGD a resident of Kwendurum said:

I want the Assembly to provide us with toilet facility in our area and I beg them not to take any money from us. Whenever I use the facility, I pay 50pesewas and my parents always do not want to give me the money so I beg them not to take any money from me so that I can use the facility without going to the seashore.

One other participant (Kweku) from the Sankor community similarly added his view, he said:

As for the dustbins, I really need some. I wish this problem comes to an end. My plea is that, the amount of money that will be taken from us should be reduces so that, we can all afford it.

Another participant (Aba) from the Sankor community indicated that, the public toilet available are few and are not well kept. She also added that proximity to the facility is a problem. She then suggested that each community should have at least two or three facilities, it should be closer to them and should be well kept to avoid any virus or bacterial infection especially the female. She also suggested the container provided for dumping of waste should be moved from the previous place to a place closer to them.

This is an excerpt from her:

I want the Municipal Assembly to provide us with toilet facilities and help to maintain the existing ones in order to attract residents to use them without going to prohibited points such as the beach. I also suggest that more rubbish containers should be provided, should be enough and closer to us to prevent us from dumping waste materials around and in to the sea which pollute the environment. Last year, they told us to send our waste to the Sankor Cemetery where there are containers to dump our waste but I cannot move from my house to the cemetery to dump my waste.

The views of the participants corroborated with that of the Environmental Health Officer of the Effutu Municipality. He indicated that:

We have containers in most places but not all the communities. We want to provide the people of Sankor and Kwendurum with dustbins because those are the people who dispose their waste into the sea and we will pick them once a week. The government organised a national sanitation award programme and we were ranked 2nd in the competition so we want to use the money we had to provide toilet facility for the various households.

It is clear from the responses suggested by the respondents that one of the measures which can help solve their sanitation problems is the provision of sanitary facilities such as toilet facilities, dustbins and containers. This however goes a long way to suggest to stakeholders and concerned bodies to help solve these sanitation problems by providing more sanitary facilities. The findings revealed from the participants are not different from the suggestion of Kodua (2019), who suggested the distribution of sanitary facilities by the government to solve sanitation problems.

4.4.2 Public Education

In addition, the participants suggested public education as another way through which poor sanitation can be solved in the Sankor and Kwendurum communities. This suggestion was also discussed by majority of the participants, for example, one of them (Ama) from the Kwendurum community said:

I have not seen anybody or group educating us on how to manage our environment. I think it is one of the reasons why such practices go on. I suggest the Assembly come in their numbers to teach us how to maintain the environment especially the seashore.

Another participant (Araba) from the Sankor community suggested that:

I hardly listen to the radio and I do not have television in my room so it will be better if the leaders come to educate us in our homes. I am ready to avail myself if they come around provided the education can be one of the ways the environmental problems we are facing can be solved.

One other participant (Kwesi) from the Sankor community indicated that:

I am a fisherman and getting people like us to be educated would not be easy but since it can be one of the ways poor sanitation could come to an end, we can be targeted at the seashore. Some of us also listen to radio in their free time so they can also use it as a medium through which the educational programs can be channelled.

Greater number of the participant elaborated on this as a measure to curb poor sanitation practices in their community. However, the Municipal Manager of ZoomLion postulated that:

The people dump waste and defecate into the sea because they do not know the consequences of such practices. We partnered with Church of Pentecost to clean the place and also educate them to change their attitude.

Following the responses of the participants clearly indicate that, lack of education on ensuring good sanitation practices is undoubtedly one of the measures contributing to poor sanitation among these communities. One fisherman (Kwesi) indicated that even though, he is busy all the time with work, but he is willing to receive education on good sanitation practices. In this regard, strengthening community-based education through various means such as the media, from health officials as well as the assembly is worthwhile as indicated by some of the participants. In line with this, The Global Environmental Vanguard, a social and ecological protection group stormed the Ashaiman Municipality to sensitise residents on unsanitary and environmentally unfriendly practices in the locality. The exercise, dubbed “Achieving a safe environment for all” was done in collaboration with the Ashaiman Municipal Assembly and the Ghana Pentecostal and Charismatic Council (GPCC) on Saturday, September, 7. Their reason being that Ashaiman is one of the communities battling with sanitation and other environmental issues including noise pollution, open defecation, poor disposal of waste to mention a few (Ghana Web, 2019/12/03). As executed by the Global Environmental Vanguard, it suggests that other stakeholders should also contribute immensely to sensitising community members especially members of Kwendum and Sankor.

4.4.3 Change of Attitude

Another suggestion was the change of attitude. Change of attitude was also discussed by the participants to curb the problem of poor sanitation practices in the communities. One of them (Kwesi) from the Sankor community postulated that:

The shore of the sea is where almost all the residents have been dumping their waste and defecating. The government can provide us with everything needed but people must be ready to adhere to all rules and change their attitude towards it.

Another participant (Araba) from the Sankor community also added that:

The toilet facility provided by the owner of royal beach was not used by the inhabitants especially the female. They do not take any penny from us, so I think if we really want this poor sanitation to come to an end, then we must change our attitudes.

The views shared by the participants was not different from that of the Environmental Health Analyst and Environmental Health Officer of the Effutu Municipal, for instance, the Environmental Health Analyst of the Effutu Municipality said:

Anything we do depends on our behaviour or attitude. Most of the sanitation problem the people of Sankor and Kwendurum are facing are as a result of their own attitudes. So, if they can change their attitude toward poor sanitation practices, the problem they face now can come to an end or they will live healthier life.

This very suggestion raised by the participants is very important. This is because, they have engaged in such poor sanitation for long, considering their views on how and when the whole thing started. Therefore, in order for them (residents) to adhere to the changes concerning their practices then they should be ready to change their thinking and inner feeling towards it. They can be provided with all the amenities needed but the people should also be ready to change their attitude. This suggestion is in line with the claim of Asadu (2018), who quoted from the coordinator of Global Environmental Vanguard, Apai Tetteh on his advice to Ghanaians on how to eschew poor sanitation

and environmental practices. He advised Ghanaians to change their attitude towards poor sanitation in order to adjust to effect they want to see in their Municipality.

4.4.4 Assistance from Government and Stakeholders

Another suggestion raised by the participants was government and stakeholder's assistance. They explained that poor sanitation practices could be solved if the government and other stakeholders who have legitimate interest in the problem come to their aid to assist them. For example, one of them (Awusi) from the Kwendurum community said:

They are constructing two toilet facilities. One in Sankor and the other in Kwendurum, but I think they should construct a dock where boat and ship can load and offload their vessels. Last week, I and my team went to construct some at Elibo in the western Region. So, I think the government should employ us to build one here to stop the people from dumping and defecating at the shore.

Another participant (Efua) from the Sankor community also indicated that:

The ZoomLion came to register us for dustbins last year, but as I am talking to you, we have not heard from them again. This ZoomLion use large vehicles to pick up dustbins when full. There are no roads leading to our homes, and I think that is the reason why they refused to provide us with the dustbins. I plead the government to construct the road for us because I know it can be one of the ways the problem can be solved.

The Environmental Health Analyst of the Effutu Municipality also postulated that:

The government of Ghana must focus on preventive measures than curative measure to solve the problem of poor sanitation in the country especially the coastal communities. Developed countries do not suffer these environmental diseases because their leaders deem it necessary to invest so much in preventive health than curative health such as encouraging their people to clean their environment, defecating at the right places, developing waste management plan and so on.

The Environmental Health Officer of the Effutu Municipality also explained that:

The Assembly need resources to deal with the poor sanitation practices in the Municipal especially Sankor and Kwendurum. We need both human resources and capital resources. There are

insufficient workers to help solve this problem and the machinery needed are not enough. We plead the government to assist us solve this problem ones and for all.

Another participant (Araba) from the Sankor community indicated that:

The sanitation problem is really affecting us. I plead with you to talk to the government to help us. We are really suffering especially those of us staying closer to the sea. The owner of the Royal Beach started helping. She built a toilet facility for the community. We beg the government to provide us with toilet facilities, dustbins, containers and all other things needed to solve this problem.

On the whole, question four of the research questions sought views from the participants on the measures that could be employed to enhance good sanitation practices in the Sankor and Kwendurum communities. The participants indicated provision of sanitary facilities, education, change of attitude, provision of resources, construction of good roads, construction of dock at the seashore and government focusing on preventive measures instead of curative measures to deal with sanitation issues.

One of the theories employed by the researcher to understand the problem was the health belief model. This model or theory had different authors such as Redding (2000), Strecher (1997), Rosenstock (1974) and Janz & Marshall (1984). The theory basically explains why people do or do not engage in preventive health measures such as keeping their environment clean. The model suggests that people's beliefs about health problems, perceived benefits of action and barriers to action and self-efficacy explain their engagement in their health promoting behaviour. I am using this model to support the findings from the participants for the fact that, they were able to come out with certain preventive activities which can help reduce or solve the problem of poor sanitation practices in their communities. That is, the people knowing the risk and consequences encompassing the practices and being able to give conditions to depend on to solve the problem.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter presents the summary of main findings from the data analysed in chapter four, conclusions derived from the findings and recommendations based on the conclusion. The summary of findings is in line with the research questions which were designed to explore the environmental sanitation practices among residents of Kwendurum and Sankor, the factors that accounted for the environmental sanitation in Kwendurum and Sankor, the effects of environmental sanitation practices on residents of Kwendurum and Sankor and the measures towards the enhancement of good sanitation practices in the Sankor and Kwendurum communities.

5.1 Summary of the Findings

The findings from the study are presented below according to the research questions for the study.

5.1.1 Environmental Sanitation Practices in the Kwendurum and Sankor Communities

The first research question deduced data on the environmental sanitation practices among residents of Kwendurum and Sankor. The study revealed findings through the views expressed by participants from the communities and official whose works are in line with ensuring management of waste in the Municipal. The study revealed some environmental sanitation practices among residents of Kwendurum and Sankor and it

included dumping of waste into the sea, defecating at the seashore, the use of the public toilets, burying and burning of waste.

5.1.2 Factors that Account for The Environmental Sanitation in Kwendurum And Sankor

The second research question explored the factors that accounted for the environmental sanitation practices in Sankor and Kwendurum area. The factors include negative attitudes regarding dumping of waste and defecation at the seashore, inadequate sanitary facilities, poor sanitation condition of available public toilet facilities, lack of in-house toilet facilities in certain homes, inadequate funds to sustain waste management programmes, long distance from houses to final disposal sites, inadequate resources (human and machinery), health reasons, poor roads, and financial difficulties.

5.1.3 Effects of Environmental Sanitation Practices on Residents of Kwendurum and Sankor

This research question was framed to delve into the effects of the environmental sanitation practices in the Sankor and Kwendurum communities. The effects were environmental, social and economic effects.

Environmentally, the study revealed that the poor sanitation practices in the areas made their beaches dirty and unclean. That is the various waste dumped at the seashore polluted the beaches. It was identified that the poor sanitation practices at the two coastal areas affected marine species in the sea. It was observed that waste occupied and polluted the breeding ground of sea creatures especially the fishes that come to the shallow waters and shore to reproduce their young ones during certain

periods of the year. It was, also, realised that the dirty beaches of Sankor and Kwendurum discouraged tourists from visiting the area in their numbers. The poor environmental sanitation practices affected those who did their fishing work close to the shore or beach more than the off-shore fishers. Fishermen most of the time caught debris whenever they go for fishing and the debris tore their nets and entangled propellers of the outboard motor of the fishermen and damaged them. Some caught fishes and debris as they go for fishing. These affected the productivity level of the people.

In terms of health, the poor sanitation practices affected the health of the resident greatly especially those staying closer to the sea. The participants complained that there were bad smell and flies which came from the pollutants made them uncomfortable especially as they sit out to eat and do other activities. The poor environment made the inhabitants to contract diseases like diarrhoea, malaria, typhoid and eye problem. These caused the victims to spend a lot of money to pay hospital bills and reduced their income and economic productivity.

The poor sanitation also affected the aesthetic beauty of the beaches avoiding visitors from coming to the beach to have fresh air and do other activities especially swimming. This also prevented children from playing around the beaches and swimming in the sea.

5.1.4 Measures Towards the Enhancement of Good Environmental Sanitation Practices in the Sankor and Kwendurum Communities

The last research question sought for measure that can be employed to enhance good sanitation practices in the selected communities. The researcher found the need to

seek the views of participants on how good sanitation practices can be enhanced in the communities.

However, the participants suggested some measures to ensure good sanitation practices in their communities. They are, provision of free toilet facilities, completion of ongoing sanitary projects, provision of containers and dustbins, assistance from stakeholders such as government and NGOs, change of attitude, education and construction of dock at the seashore.

It was recognised that Effutu Municipal Assembly, NGOs and local stakeholders made some efforts to curb the problem of poor environmental sanitation in the Sankor and Kwendum communities. They educated the residents about good sanitation practices, organised clean-up exercises, enforced coastal management laws and provided sanitary facilities.

5.2 Conclusion

The research was conducted in the Sankor and Kwendum in the Effutu municipality in the Central Region of Ghana. Objectives of the research were achieved in spite of various challenges encountered in conducting the research.

The research came with some key findings. It was identified that the poor sanitation practices in Sankor and Kwendum continued mainly due to negative attitude of the residents regarding indiscriminate dumping and defecation at the beach as well as inadequate sanitary facilities, unclean state of few existing sanitary facilities, lack of in-house toilet facilities, lack of education and inadequate funds. The study found solid pollutants in Sankor and Kwendum such as plastic substances, debris from various sources, faeces and rubbish. The study further revealed some environmental and socio-economic effects of the poor sanitation practices in the Sankor and

Kwendurum coastal areas. It was realised that the waste did not only make the beach dirty, trap, kill marine species and retard their growth but also deprived them of breeding grounds.

Economically, the poor sanitation reduced revenue from the tourist sector and affect fishing activities. Socially, it was revealed that the waste caused some health problems to the residents especially those staying closer to the sea and made life uncomfortable for them. Polythene bags and other waste in the sea at the Kwendurum and Sankor communities affected the health of residents and marine species.

It was identified that the Effutu Municipal Assembly, local authorities and NGOs helped in diverse ways to curb the problem in the area. They organised clean-up exercises, created awareness about sanitation problem, provided some sanitary facilities and enforced coastal sanitation laws. The study also revealed that in spite of sanitation management system in place, poor sanitation practices continued in Sankor and Kwendurum communities due to poor attitude of the people in terms of indiscriminate disposal of waste and open defecation, inadequate fund and inadequate provision of sanitary facilities.

Measures were suggested which could help to address the problem. They include strict enforcement of sanitation policies, imprisonment or heavy fine of offenders, provision of more sanitary facilities and awareness creation about sanitation.

Poor environmental sanitation practice is a serious environmental problem which affects the environment, life and productivity in Sankor and Kwendurum coastal area of the Effutu municipality. Therefore, the findings of this research will help the local authorities, Effutu Municipal Assembly and Central Government to design policies

regarding how to prevent or address poor sanitation practices in Sankor and Kwendurum communities or any part of the country.

The research contributes towards enhancing knowledge on poor sanitation practices in Sankor and Kwendurum coastal areas.

5.3 Recommendations

Following the findings and literature, I have come out with the following recommendations. The recommendations are intended to solve the environmental sanitation problems in the Kwendurum and Sankor communities.

First of all, as revealed by the research, there were inadequate toilet facilities and rubbish containers which contributed to the poor sanitation practices in the areas; the residents should be levied by the Effutu Municipal Assembly to generate more funds to provide more of the sanitary facilities.

Also, the already existing ones which are not in good condition ought to be disinfected regularly and kept clean to attract the users in the communities. Owners of those houses which do not have sanitary facilities should be compelled by the Effutu Municipal Assembly to make provision for toilet facilities for the occupants in the houses to use.

The Effutu Municipal Assembly should make sure new houses which are built in the Sankor and Kwendurum communities takes into account the provision of sanitary facilities in their building plan before permits are granted. The roads in the communities leading to their various houses should be good enough for free movement for both the vehicles and humans.

Moreover, educational campaign programmes should also be intensified and strengthened on regular basis than ever before about good sanitation practices and dangers of dumping waste around. It should be done by radio stations in the area in local languages and in English to reach out to almost everybody. The residents should also be educated at various social gatherings like durbars, churches, festivals, funerals, marriage ceremonies, naming ceremonies and any other relevant occasions. Stickers and booklets providing education on poor environmental sanitation practices and its effects should also be given out to the residents in the areas. Social media such as WhatsApp, text messages and Facebook should be used to reach a lot of people on issues of poor environmental sanitation practices in the communities.

The coastal sanitation laws must be enforced vigorously to prevent residents with negative attitude from defecating and throwing waste anywhere. Task forces should be formed to monitor the beach and the entire coastal environment on regular basis. The culprits must be arrested, fined heavily and jailed if the need be without fear or favour. There should be no political interference or favouritism where culprits would be left to go because of their political affiliations or on the grounds that somebody knows them.

Lastly, efforts should also be made by the stakeholders in Kwendurum and Sankor communities to stop or reduce those activities that contribute to the poor sanitation practices in the communities. The stakeholders include the Effutu Municipal Assembly, EPA and the residents in the Kwendurum and Sankor coastal areas.

5.4 Research Limitations

It must be established that, no study can successfully be accomplished without some limitations or inclusive of all possible aspects. In this regard, this section highlights

some of the shortcomings which were encountered in the course of conducting the study.

Firstly, the study area used for the study could have been extended to include other coastal communities in Effutu Municipality. The study focused on only Kwendurum and Sankor communities to the neglect of other coastal communities such as Ponkoekyir and among others. The two coastal communities were used for the study due to lack of resources as well as time.

Secondly, it is worth noting that, at a point in time during the data collection process of the study, some of the officials who were interviewed were unwilling to partake in the study. In dealing with this menace, the researcher comprehensively explained the purpose of the study and the contribution of their responses to achieving the objectives of the study.

Thirdly, it was realised that, the sample size used for the study was quite too small since more information could have been obtained about the problem understudied using explanatory sequential mixed method approach. In this regard, large sample of the participants could have been used to obtain data using the quantitative approach and then builds on the results to explain them in more detail with qualitative approach.

Lastly, it was also noticed that, in using the convenient sampling technique to select participants for the study, majority of the participants were eager to talk to the researcher thinking that the researcher was a radio/television representative who was coming to solve their problem for them. This posed a challenge on the part of the researcher on who to select for the study.

5.5 Area for Future Research

This research has confirmed most of the findings of previous studies in the field of environmental sanitation practices. Therefore, feedback from those whose activities are indirectly affected by poor sanitation in the areas can be considered for future research. For instance,

1. The role of the Metropolitan, Municipal and District Assemblies (MMDAs) in determining waste disposal site in the coastal communities and their regulations (past, present and future) regarding waste disposal.
2. Road network as a factor leading to poor sanitation in coastal communities.



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APPENDICES

Appendix I

Interview Scheme for the coastal dwellers in Sankor and Kwendurum in the Effutu municipality.

INTERVIEW PROTOCOL FOR THE RESIDENTS

My name is Millicent Biney, a Master of Philosophy (M.Phil.) student in the Department of Social Studies, Faculty of Social Sciences Education, University of Education. My area of specialisation is the Environment. Conducting research in the writing of a theses is a major requirement for the award of an M.Phil. degree in the university. As a result, I am undertaking a study on the topic” Environmental Sanitation Practices in Selected Coastal Communities in the Effutu Municipality”

The interview guide is prepared to collect information related to environmental sanitation practices, causes of the environmental sanitation practices, effects of the sanitation practices and measures that can be used to enhance the environmental sanitation practices. You have been identified as a key person to provide essential and useful information to make the study effective. The information collected through this interview will only be used for academic purposes. I therefore kindly request you to participate actively and voluntarily in all the processes of providing responses and sharing your experiences on the issues to be raised for discussion as the quality of this study greatly depends on your genuine responses.

Thank you in advance for your kind cooperation.

Questions

Environmental Sanitation Practices among Residents of Kwendurum and Sankor

1a. How do you dispose off your waste?

Probe: gutters, sea, burning, burying, dustbins.

1b. Why do you dispose it in gutters, sea, burry them or put them in dustbins?

2a. Where do you defecate?

2b. why do you defecate at such places?

Factors that Account for the Poor Environmental Sanitation Practices in Kwendurum and Sankor

1. What are the causes of poor environmental sanitation in Sankor and Kwendurum?
2. Who are the major contributors of waste generation in Sankor and Kwendurum?
3. How regular do you organise communal labour in terms of sanitation in your community?
4. How do your daily activities contribute to waste generation in your area?

Effects of Environmental Sanitation Practices on Residents of Kwendurum and Sankor

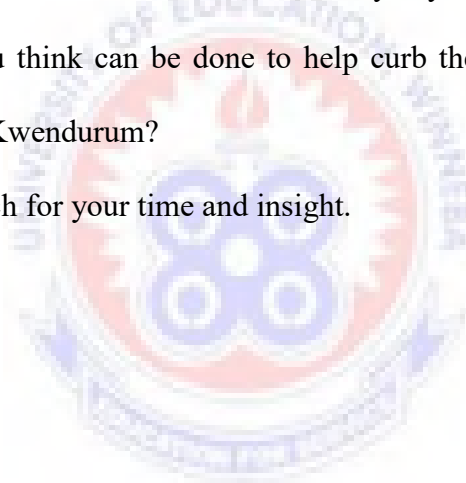
1. How does the poor sanitation impact on the coastal area and organisms in Sankor and Kwendurum?
 1. Probe: Birds, fishes and other species, beauty of the beaches
2. How does the poor sanitation impact on the livelihood activities of the people in the area?
3. Probes: Health, going to the beach, swimming, recreational activities

4. How does the poor sanitation affect economic activities of the people in terms of fishing, tourism, and so on in Sankor and Kwendurum?

Measures towards the Enhancement of Good Sanitation Practices in the Sankor and Kwendurum Communities

1. What measures have any groups or associations taken to address the problem of poor sanitation in Sankor and Kwendurum?
2. What has the District Assembly done to reduce the impact of poor sanitation on your life and economic activities?
3. State whether you have been educated on the effects of indiscriminate dumping of waste materialism to the sea by any stakeholder?
4. What do you think can be done to help curb the poor sanitation situation in Sankor and Kwendurum?

Thank you very much for your time and insight.



Appendix II

Interview Scheme for the ZoomLion Officer of Effutu municipality

INTERVIEW PROTOCOL FOR THE ZOOMLION OFFICER

My name is Millicent Biney, a Master of Philosophy (M.Phil.) student in the Department of Social Studies, Faculty of Social Sciences Education, University of Education. My area of specialisation is the Environment. Conducting research in the writing of a theses is a major requirement for the award of an M.Phil. degree in the university. As a result, I am undertaking a study on the topic” Environmental Sanitation Practices in Selected Coastal Communities in the Effutu Municipality”

The interview guide is prepared to collect information related to environmental sanitation practices, causes of the environmental sanitation practices, effects of the sanitation practices and measures that can be used to enhance the environmental sanitation practices. You have been identified as a key person to provide essential and useful information to make the study effective. The information collected through this interview will only be used for academic purposes. I therefore kindly request you to participate actively and voluntarily in all the processes of providing responses and sharing your experiences on the issues to be raised for discussion as the quality of this study greatly depends on your genuine responses.

Thank you in advance for your kind cooperation.

Questions

Environmental Sanitation Practices among Residents of Kwendum and Sankor

1. Do you do door to door sanitation services in Sankor and Kwendum?
2. Where do the people normally dispose their waste?

Factors that Account for the Poor Environmental Sanitation Practices in Kwendum and Sankor

1. What are the causes of poor environmental sanitation in Sankor and Kwendum?
2. What are the challenges you face in providing services to the people of Sankor and Kwendum?
3. Why do the people of Sankor and Kwendum indiscriminately dispose off their waste?

Effects of Environmental Sanitation Practices on Residents of Kwendum and Sankor

1. How does the poor sanitation impact on the coastal area and organisms Sankor and Kwendum?
1. Examine: Birds, fishes and other species, beauty of the beaches
2. In what ways does the poor sanitation impact on the livelihood activities of the people in Sankor and Kwendum ?
3. Probes: Health, going to the beach, swimming, recreational activities
4. How does the poor sanitation affect economic activities of the people in terms of fishing, tourism, and so on in the area?

Measures towards the Enhancement of Good Sanitation Practices in the Sankor and Kwendurum Communities

1. What measures have you done as zoom lion operators to curb the problem of poor sanitation in Sankor and Kwendurum?
2. State whether you have educated the people of Sankor and Kwendurum on the effects of indiscriminate dumping of waste materialism to the sea?
3. What do you think can be done to help curb the poor sanitation situation in Sankor and Kwendurum?

Thank you very much for your time and insight.



Appendix III

Interview Scheme for the Ghana Health Service of Effutu Municipality

INTERVIEW PROTOCOL FOR THE GHANA HEALTH SERVICE

My name is Millicent Biney, a Master of Philosophy (M.Phil.) student in the Department of Social Studies, Faculty of Social Sciences Education, University of Education. My area of specialisation is the Environment. Conducting research in the writing of a theses is a major requirement for the award of an M.Phil. degree in the university. As a result, I am undertaking a study on the topic” Environmental Sanitation Practices in Selected Coastal Communities in the Effutu Municipality”

The interview guide is prepared to collect information related to environmental sanitation practices, causes of the environmental sanitation practices, effects of the sanitation practices and measures that can be used to enhance the environmental sanitation practices. You have been identified as a key person to provide essential and useful information to make the study effective. The information collected through this interview will only be used for academic purposes. I therefore kindly request you to participate actively and voluntarily in all the processes of providing responses and sharing your experiences on the issues to be raised for discussion as the quality of this study greatly depends on your genuine responses.

Thank you in advance for your kind cooperation.

Questions

Effects of Environmental Sanitation Practices on Residents of Kwendum and Sankor

1. Are there frequent outbreak of diseases in Sankor and Kwendum?
- 1b. If yes, mention the diseases involved.....
2. Are the diseases associated with poor sanitation?
3. How often does outbreak of diseases occur in Sankor and Kwendum?
4. How often do victims of outbreak of diseases report at your facility?
5. What are the effects of poor sanitation on health and social life of the inhabitants in Sankor and Kwendum respectively.

Measures towards the Enhancement of Good Sanitation Practices in the Sankor and Kwendum Communities

1. What has been done by your department to reduce the causes and effects of the poor sanitation in Sankor and Kwendum?
 2. What do you think should be done to prevent health problems of the poor sanitation in these areas?
1. Thank you very much for your time and insight.

Appendix IV

Interview Scheme for the Environmental Protection Agency Officer of Effutu Municipality

INTERVIEW PROTOCOL FOR THE ENVIRONMENTAL PROTECTION AGENCY

My name is Millicent Biney, a Master of Philosophy (M.Phil.) student in the Department of Social Studies, Faculty of Social Sciences Education, University of Education. My area of specialisation is the Environment. Conducting research in the writing of a theses is a major requirement for the award of an M.Phil. degree in the university. As a result, I am undertaking a study on the topic” Environmental Sanitation Practices in Selected Coastal Communities in the Effutu Municipality”

The interview guide is prepared to collect information related to environmental sanitation practices, causes of the environmental sanitation practices, effects of the sanitation practices and measures that can be used to enhance the environmental sanitation practices. You have been identified as a key person to provide essential and useful information to make the study effective. The information collected through this interview will only be used for academic purposes. I therefore kindly request you to participate actively and voluntarily in all the processes of providing responses and sharing your experiences on the issues to be raised for discussion as the quality of this study greatly depends on your genuine responses.

Thank you in advance for your kind cooperation.

Questions

Environmental sanitation practices in Sankor and Kwendurum

1. What are the poor environmental sanitation practices in Sankor and Kwendurum?
2. Are there designated disposal site for each of the communities?
3. How many final disposal sites does the assembly have, where are they and what is the condition of these sites?
4. How many tracks does the assembly have for waste collection and disposal services in the communities?
5. How often are drains in Sankor and Kwendurum maintained?
6. Do the assembly have public toilet facilities in the areas and how many are they?
7. How closed are the toilet facilities to the people?

Factors that Account for the Poor Environmental Sanitation Practices in Kwendurum and Sankor

1. Why do the people of Sankor and Kwendurum dispose waste indiscriminately in their community?
2. Why do the people of Sankor and Kwendurum community openly defecate at the shores of the sea?
3. What are some of the challenges faced by the assembly in collection, transportation and disposal of waste?

Effects of Environmental Sanitation Practices on Residents of Kwendurum and Sankor

1. How does the poor sanitation impact on the coastal area and organisms in Sankor and Kwendurum?

Probe: Birds, fishes and other species, beauty of the beaches

2. How does the poor sanitation impact on the livelihood activities of the people in Sankor and Kwendurum?

Probes: Health, going to the beach, swimming, recreational activities

3. How does the poor sanitation affect economic activities of the people in terms of fishing, tourism, and so on in Sankor and Kwendurum?

Measures towards the Enhancement of Good Sanitation Practices in the Sankor and Kwendurum Communities

1. How is your institution helping to control the menace of poor sanitation in Sankor and Kwendurum?
2. What do you think should be done to prevent or eliminate poor sanitation in Sankor and Kwendurum?
3. How do you handle dumping waste at unauthorised areas?
4. How do you assess your performance in the waste management service delivery?
5. What are the plans of the assembly toward improvement in the collection, transportation and disposal of waste?

Thank you very much for your time and insight.



UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF SOCIAL SCIENCE EDUCATION
DEPARTMENT OF SOCIAL STUDIES EDUCATION

10th March, 2020

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF INTRODUCTION: MISS MILLICNET BINEY

We write to introduce Miss Millicent Biney to your outfit. She is an M.Phil. Social Studies Education student with index number 8180140021 from the Department of Social Studies Education, University of Education, Winneba.

As part of the requirements for the award of the Master of Philosophy degree, she is undertaking a research on the topic: '*Environmental Sanitation Practices in Selected Coastal Communities in the Effutu Municipality*'

We wish to assure you that any information provided would be treated confidential.

Thank you.

Yours faithfully,


Margaret O. Nyala (Mrs.)
For: Ag. Head of Department