

SANITATION PRACTICES AND ITS IMPLICATION ON
PEOPLE IN USELU QUARTERS OF EGOR LOCAL
GOVERNMENT AREA OF EDO STATE.

BY

AIBANGBEE FESTUS

EDU1001830

DEPARTMENT OF HEALTH, ENVIRONMENTAL EDUCATION
AND HUMAN KINETICS (H.E.K)

FACULTY OF EDUCATION

UNIVERSITY OF BENIN

BENIN CITY.

DECEMBER, 2014

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A PROJECT RESEARCH SUBMITTED TO THE
DEPARTMENT OF HEALTH, ENVIRONMENTAL EDUCATION
AND HUMAN KINETICS (H.E.K), FACULTY OF EDUCATION,
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THE AWARD OF B.SC (ED) DEGREE IN HEALTH
EDUCATION.

DECEMBER, 2014

CERTIFICATION

This is to certify that this project work was carried out by Aibangbee Festus and was approved adequate in scope and content for the Partial Fulfilment of the requirement for the Award of Bachelor of Science B.Sc (Ed) degree in Health Education.



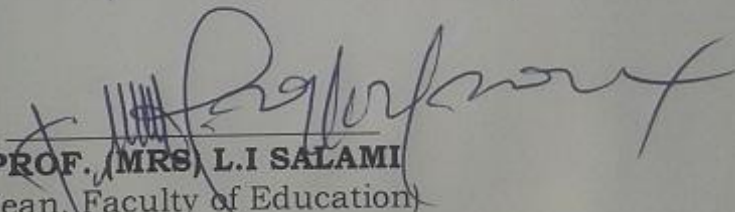
DR. (MRS) U. IGBUDU
(Project Supervisor)



DR. (MRS.) A. EFE-AIGBOVO
(Project Coordinator)

Date: 19-12-2014

date: 22/12/14



PROF. (MRS) L.I SALAMI
(Dean, Faculty of Education)

Date: _____

DEDICATION

I dedicated this work to the Almighty God, the creator of the universe who made everything possible.

I also dedicate this work to my parents, Mr. And Mrs. Solomon Aibangbee for their contributions, support and encouragement, sponsor and love towards me.

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ABSTRACT

The researcher choose the topic that is titled “Sanitation practices and implication on the people of Uselu Quarters in Egor Local Government Area of Edo State” which is aimed at finding out the implication(s) of sanitation practices on the inhabitants of Uselu Area in Egor Local Government Area.

Four research questions were generated from the research topic which sought to find out the following:

- Identify the causes of poor sanitation practices on Uselu inhabitants

- Determine the extent in which government and individuals have contributed in providing facilities and engage in activities that will enhance sanitation practices in Uselu.
- Find out the strategies that could be employed to curb poor sanitation practices in Uselu.

The researcher decided to use one set of research questionnaire which was designed and administered to one hundred (100) respondents randomly selected from the population of the Area. The information obtained from the respondents were analysed in chapter four using the frequency count and simple percentage method which is best convenient to the researcher. The result of the findings

revealed that sanitation practices has adverse effect on the people of Uselu Quarters.

In chapter five, the researcher summarizes the major findings, conclusion as well as recommendations.

CHAPTER ONE

INTRODUCTION

Background of Study

Adequate sanitation, together with good personal hygiene and safe water are fundamental to good health and to social and economic development. Improvements in one or more of these three components of good health can substantially reduce the rates of morbidity and the severity of various diseases and improve the quality of life of people, particularly children in developing countries (Mara, Lane, Scott & Trouba, 2010). Sanitation has a strong connection not only with personal hygiene but also with human dignity

and well-being, public health, nutrition and even education. Mahatma Gandhi once said in 1923 “sanitation is more important than independence”. He made cleanliness and sanitation an integral part of the Gandhian way of living. His dream was total sanitation for all (Mara, Lane, Scott & Trouba, 2010).

The World Health Organization (W.H.O) states that “sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and faeces” (Wikipedia, 2014). Every person and every community has a way of dealing with sanitation, even if it just means that people go into the bush to urinate and defecate. Households and communities can benefit from talking about the

sanitation methods that will work best for everyone.

Healthy sanitation must consider the needs of children, who cannot take care of themselves. It must also ensure that women have toilets that they feel safe using and a way to keep clean during monthly bleeding.

Recognizing the impact of sanitation on public health, poverty, economic and social development and the environment, the United Nations General Assembly in December 2006, put the spotlight on the issue by declaring 2008 the international year of sanitation. This was done to raise awareness and to accelerate progress towards the Millennium Development Goal (M.D.G) 7, target 7c; to

reduce by half the proportion of people without access to basic sanitation by 2015 (Hutton, Guy & Haller, 2007).

Sanitation is very important in order to keep good health. One of the most significant diseases that arise from poor sanitation is diarrhoea. Death resulting from diarrhoea are estimated to be between 1.6 and 2.5 million deaths every year (Mara, Lane, Scott & Trouba, 2010). Other diseases that are caused by poor sanitation include schistosomiasis, trachoma, and soil transmitted helminthiases.

Poor sanitation which has always been associated with Africa, has significant negative effect on the national economy, and that a great percentage of reported sickness

and injuries in Nigeria is related to poor sanitation. In Uselu, an urban settlement and town in Egor Local Government Area of Edo State, sanitation has to an extent received a considerable awareness as sanitation practices have been employed in trying to sanitize the environment by both individuals and the Local Government. Workers employed by the local government are charged with the responsibility of carrying out sanitation exercise in the market located in the town (Uselu market) every Monday between the hours of seven and ten in the morning. Other are in charge of sweeping the major government roads. These, coupled with the monthly environmental sanitation exercise carried out every last Saturday of the month are some of the measures

the local government have adopted over time to improve sanitation in the town. These measures however are not effective enough to tackle sanitation problems. This may be due to inadequate sanitation facilities in schools, markets, and the town in general. Also, ignorance of the dangers of poor sanitation, inadequate sanitation personnel and finance may also be responsible.

Statement of Problem

The development of any nation, city, town or community depends on the quality of health enjoyed by its populace. It is generally agreed that sanitation plays an important role in the health of an individual and society at

large. This therefore implies that proper sanitation practices promotes healthy living to those that engage in them.

Control of pests, waste disposal had become a problem in the environs of Uselu because of poor sanitation practices.

Diseases relates to poor sanitation causes many to fall ill and some even die of sickness and diseases like cholera, diarrhoea, malaria, typhoid which damages the body tissues.

However, it is not clear on the extent to which sanitary laws made by the local government as well as other efforts made by the local government and individuals in the local government area in curbing poor sanitation. The problem of this study is to find out sanitation practices and

its implications on the inhabitants of Uselu area of Egor Local Government Area of Edo State and also the strategies which could be employed to improve sanitation practices in this town.

Research Questions

Based on the statement of problems, the researcher seeks to answer the following questions;

- 1. What are the causes of poor sanitation practices in Uselu?*
- 2. What are the dangers of poor sanitation practices on the health of Uselu inhabitants?*

3. What are the strategies that could be employed to improve sanitation in Uselu?

4. To what extent does the availability of sanitation facilities influence sanitation practices of the people of Uselu area?

Purpose of Study

The purpose of this study is to find out the implications of sanitation practices on the inhabitants of Uselu area in Egor Local Government Area. Specifically, the objectives of this study are;

1. Identify the causes of poor sanitation practices on Uselu inhabitants.

2. Determine the extent in which Government and individuals have contributed in providing facilities and engage in activities that will enhance sanitation practices in Uselu.
3. Find out the strategies that could be employed to curb poor sanitation practices in Uselu.

Significance of the Study

It is hoped that the findings of this study will benefit everyone in Uselu area of Egor Local Government Area. It will enable the people of Uselu area to better understand a clean environment. Useful information on sanitation and the implications of practicing it will be made available to all

which include school authorities, workers, government/employers of labour and families.

Sanitation knowledge will equip individuals and their families with adequate skills in practicing proper sanitation thereby promoting their health and reduce the risk of contracting and spreading diseases. Also, school administrators and officials will see the need to provide adequate sanitation facilities and equipment. They can as well adopt sanitation programmes that will benefit the overall health of their students. The government will see the need to make more policies that will enhance and promote sanitation among the people in the area. Overall, everyone will see the need to pay more attention to sanitation so as

to reduce the spread of preventable diseases and promote healthy living.

Delimitation/Scope of Study

The study was delimited to determining the implication of sanitation practices on the health of the people of Uselu Area of Egor Local Government Area of Edo State.

Limitations of the Study

The use of structured questionnaire in this study posed a limitation on the generalization of findings based on the study because of the possibility of the respondents being

influenced by preferences, prejudices and misconceptions of the purpose of the instrument.

Also, the respondents were not given the opportunity to express their opinions beyond the scope of the research instrument.

Definition of Terms

Sanitation: this is the hygienic means of promoting health through prevention of human contacts with the hazards of waste as well as the treatment and proper disposal of sewage waste water (Wikipedia online Encyclopedia, 2014).

Health: the state of complete mental, physical and social well-being of an individual and not merely the absence of diseases or infirmities (WHO, 1946).

Waste: unwanted or unusable items, or by-products or household garbage.

Environmental Sanitation: a range of interventions designed to improve the management of excreta, silage, drains and solid waste.

On-site Sanitation: system of sanitation where the means of collection, storage and treatments (where this exists) are contained within the plot occupied by the dwelling and its immediate surroundings.

Off-site Sanitation: system of sanitation where excreta is removed from the plot occupied by the dwelling and its immediate surroundings.

Excreta: faeces and urine

Ecological Sanitation: sanitation whose design builds on the concepts of protecting ecosystems and which treats excreta as a valuable resource to be recycled.

Hygiene: is the practice of keeping oneself and ones surrounding clean so as to prevent illness or the spread of preventable diseases.

Sewage: waste water and excrement conveyed in sewers.

*Refuse: things thrown away as being of no value or use,
especially household garbage.*

Waste water: water that has been used.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter presents review of related literature on sanitation practices and its implications. This was done under the following sub-headings:

The concept of sanitation

History of sanitation

Importance of sanitation

Planning for sanitation

Approaches to sanitation

Sewage disposal

Solid waste disposal

Meaning of implication

Implications of sanitation practices

Summary of review of related literature.

Concept of Sanitation

The concept of sanitation has been defined in a number of ways. According to Merriam-webster dictionary, sanitation is the process of keeping places free dirt, infection, disease etc., by removing waste, trash and garbage. Medically, it is defined as the promotion of hygiene and prevention of disease by maintenance of sanitary conditions (as by removal of sewage and trash).

Sanitation is seen in Wikipedia online encyclopedia (2014) as the hygiene means of promoting health through prevention of human contact with the hazards of wastes as well as the treatment and proper disposal of sewage wastewater. Hazards can be either physical, microbiological, biological or chemical agents of diseases. Wastes that can

cause health problems include human and animal faeces, solid wastes, domestic wastewater (sewage, sullage, greywater), industrial wastes and agricultural wastes.

The World Health Organisation (WHO) stated that “sanitation generally refers to the provision of facilities and services for the provision of facilities and services for the safe disposal of human urine and faeces (Wikipedia, 2014).

In a handbook on sanitation published by the United Nations Children’s Fund (UNICEF) in collaboration with the USAID’s environmental health project in 1997, the term ‘sanitation’ refers to a process whereby people demand, effect, and sustain a hygiene and healthy environment for

themselves by erecting barriers to prevent the transmission of disease agents. Hygiene is very important to healthy living and survival of humanity. Hygiene is the practice of keeping oneself and one's surroundings clean so as to prevent illness or the spread of preventable diseases (Mbula, Mulwa & Kyalo, 2014).

In the work of Mara, Lane, Scott & Trouba (2010), sanitation was defined as the safe disposal of human excreta. The phrase "safe disposal" implies not only that their excreta must be contained or treated to avoid adversely affecting their health or that of other people.

Velleman & Slaymaker (2011) equally sees sanitation as the collection, transport, treatment and disposal or reuse of human excreta, domestic wastewater and solid waste, and associated hygiene promotion.

Nadkarni (2014) also defined sanitation as the methods of hygiene that relate to safe collection, removal and disposal of human excreta and wastewater. Sanitation is often referred to as the behaviours and measures which are adapted so as to break the chain of transmission of infections both at home and in the society. It is important to note that apart from the family, schools are also important stimulating learning environments for children and have the potential to significantly alter the behavioural

patterns of students learning to improved hygienic practices (UNICEF, 2009). According to water supply and sanitation collaborative Council (2010), these hygienic behaviours include proper hand washing, regular bathing and laundering, safe disposal of waste, and proper use of toilets which will help in ensuring a reduced burden on diseases.

Sanitation is therefore a concept explaining activities to ensure safe disposal of excreta, solid waste and other liquid waste and the prevention of disease vectors to ensure a hygienic environment.

History of Sanitation

The earliest evidence of urban sanitation was seen in Harappa, Mohenjo - daro and the recently discovered included the world's first urban sanitation systems. Within the city, individual home or groups of homes obtained water from wells. From a room that appears to have been set aside for bathing, waste water was directed to covered drains which lined the major streets.

Roman cities and roman villas had elements of sanitation systems, delivering water in the streets of towns such as Pompei, and building stone and wooden drains to collect and remove wastewater from areas. But there is little record of other sanitation in most of Europe until the high middle ages. Unsanitary conditions and overcrowding

were widespread and throughout Europe and Asia during the middle ages, resulting periodically in cataclysmic pandemics such as the plague of Justinian (541 - 42) and the Black death (1347 - 1351), which killed tens of millions of people and radically altered societies (Carlo, 1980).

Very high infant and child mortality prevailed in Europe throughout medieval times, due not only to deficiencies in sanitation but to an insufficient food supply for a population which had expanded faster than agriculture. This was further complicated by frequent warfare and exploitation of civilians by autocratic rulers.

Importance of Sanitation

- *Sanitation has been found to be directly linked to health of human beings and can prevent the spread of diseases.*

According to the Hesperian foundation, illnesses like diarrhoea, worms, cholera and malaria that takes the lives of millions of people everyday are caused by poor sanitation. Adequate sanitary facilities and practices such as waste disposal, proper toilet use, clean running water can prevent the spread of such dangerous diseases and death.

- *Sanitation also plays an important role in education.*

According to the United Nations, the diseases which sanitation can cause can have a knock-on-effect on a

child's education. Repeated intestinal infections can starve a child of important nutrients, delay their development and performance.

- The economic development of a country can also be promoted by sanitation. As stated by UNICEF, access to sanitation facilities and basic water by everyone would save the health sector about \$11.6 billion and the economy would gain more than \$5.6 billion productive days per year.
- Sanitation also plays an important role in protecting the environment and promoting sustainability. In the absence of good sanitation such as proper toilet facilities and sewerage techniques, waste is disposed of in the streets,

muddying the landscape and creating a foul smell and terrible living conditions for inhabitants. This waste can then find its way into untreated rivers, polluting the water and killing plants and animals and posing a health risk to those depending on this water for bathing and cleaning purposes, according to the United Nations.

- Sanitation helps to make people feel safe and comfortable. Many people are turned off by homes filled with garbage, piled up dishes and other items that attract germs.
- In food service industry, keeping separate foods apart, the possibility of cross-contamination diminishes as employees keep their hands clean, the hair up and their

nails clipped thereby preventing germs from entering customers' food.

Planning for Sanitation

Every person and community has a way of dealing with sanitation, even if it means that people should go into the bush to defecate or urinate. Healthy sanitation must consider the needs of children, who cannot take care of themselves. It must also ensure that women feel safe when using these sanitation facilities and it should also be a way for them to keep clean during monthly bleeding.

When planning for sanitation, the following must be considered for it to be an effective sanitation method.

- *Prevent disease: it should keep disease carrying waste and insects away from people, both at the site of the toilet and nearby homes.*
- *Protect water supplies: it should not pollute drinking water, surface, or groundwater.*
- *Protect the environment: it should be able to prevent pollution, return nutrients to the soil, and conserve water.*
- *Be simple and affordable: it should fit local people's needs and abilities, and be easy to clean and maintain.*
- *Be culturally acceptable: it should fit local customs, belief, and desires.*

- *Work for everyone: it should address the health needs of children and adults, of women and men.*

Approaches to Sanitation

There are several approaches to sanitation, which are;

- *Conventional approach*
- *Ecological approach*
- *Low-cost sanitation approach*

Conventional Approach

The conventional approach to sanitation includes systems that collect and store human excretas, so-called “drop and store” systems (also known as Pitsan), or collect

and transport the excreta further from the households, so-called “flush and discharge” systems (also known as flushsan) (Rockstrom, 2005).

The ‘drop and store’ involves the collection of excreta in a chamber or pit, it is kept out of sight and stored there. This kind of systems are normally simple, low-cost, and require no infrastructure, but they also have many disadvantages (Winblad, Simpson-Hebert, 2004). An example of this type of system is the pit latrine and its variations. Although this method has helped in certain places in preventing diseases and also a better option than open defecation. It however does not permit the reuse of the nutrients in the excreta. It also has several limitations which

includes its impossible task of building it on a rocky ground, and also in crowded areas (due to lack of space and accessibility for emptying trucks), as well as in places where the groundwater table is high or in areas that are periodically flooded (Winblad, Simpson-Hebert, 2004). They also require access to open ground and digging of new pits every few years. Due to mixture of the urine and faeces, it is often accompanied by odour and may also serve as breeding ground for flies and mosquitoes. Pit latrines may pollute drinking water wells if they overflow or are inundated by seasonal flooding. The liquid part of excreta stored in a pit might find its way to groundwater and pollute it with pathogens and nutrients. In most part of the

world, pit latrines are poorly maintained and continue to be a source of disease and pollution (Rockstrom, 2005).

The 'flush and discharge' system is a more and well established form of sanitation usually employed in developed countries. This system requires large investments in pipe network and sewage treatment plants and also large amount of water and flushing. The system relies on using water to transport human excreta through underground sewers, ideally to treatment plants, where wastewater undergoes a series of treatment combining of physical, biological and chemical processes before it is discharged to the environment (Drewko, 2007). The use of huge amounts of pure water for transportation of human excreta is one of

the main disadvantages of this system, especially in the times of water scarcity in many regions in the world. Although, this system has been proven successful in combating the spread of disease and providing convenience of use, it however has a number of disadvantages such as environmental degradation, heavy investment on sewerage, threat to public health if not properly managed (Drewko, 2007). This approach also has high economic, environmental and public health cost. Sewer systems need heavy investment on constructing, maintaining of sewerage as well as sewage treatment plants (Agarwal, 2000).

Ecological Approach

Most people regard human excreta and wastewater as smelly and disgusting to get rid of as quickly as possible but why waste 'something valuable when it can actually be used for a better purpose. Ecological sanitation (Ecosan) considers human excreta and household wastewater as resources that can be safely collected, treated and reused in a variety of ways.

Ecological sanitation (Ecosan) is not a specific technology, but rather a holistic sanitary concept. It is a sanitation approach that treats human excreta as resources which are stored, processed on site and the nutrients in wastewater and their reuse in agriculture. This approach

should be seen as a cycle, a closed-loop system that is sustainable.

According to Panesar & Warner (2006), the principles of sanitation is aiming at;

1. Providing affordable, safe and appropriate sanitary systems.
2. Reducing the health risk related to sanitation, contaminated water and waste.
3. Improving the quality of surface and ground water
4. Improving soil fertility and ,
5. Optimizing the management of nutrient and water resources.

Ecological sanitation system bring back natural balance between the quality of nutrient contained in excreta of one person in one year and that required to produce food. As such it will help to conserve natural resources, preserve soil fertility and safeguard long term food security (Panesar & Werner, 2006). The ecological sanitation approach by reducing water consumption and preventing contamination of water bodies allows for reduction of costs of water treatment and fertility is improved, which in turn increase agricultural productivity (Panesar & Werner, 2006). The concept of energy recovery through anaerobic digested of faeces, organic waste and animal manure represents a

significant step towards energy efficiency, providing biogas for cooking or lightening (Panesar & Werner, 2006).

The advantages may be summed up to include;

- Improvement of health by minimizing the introduction of pathogens from human excrement into the waste, cycle
- Promotion of recycling by safe, hygienic recovery and use of nutrients. Organics, trace elements water and energy.
- Contribution to the preservation of soil fertility
- Improvement to f agricultural productivity and hence contribution to food security,
- Promotion of a holistic, interdisciplinary approach; hygiene water supply and sanitation, resource conservation, environmental protection, urban planning,

agriculture, irrigation, food security, small business promotion.

The disadvantages may include;

- The difficulty in changing the perception and behaviour of the users due to the fact that it is a radically different approach from the conventional system and change in behaviour is what people generally find hard to undergo.
- There is also a perception that non-flush systems are of lower quality and convenience and people may find it hard to accept them.
- There might also be cultural constraints for reuse of sanitized excreta in agriculture.

Ecological sanitation system basically employs two methods of sanitizing faeces which are dehydration and decomposition. Dehydration is based on the principle of drying of faeces, and is easier to achieve if urine is not mixed with faeces. When faeces decompose, harmful pathogens die and are further broken down.

The World Health Organisation (WHO) published guidelines to safeguard public health during the implementation of ecological sanitation. Safe use of wastewater, excreta and grey water in agriculture and aquaculture can be found on the WHO website, as a reference guide.

The ecological sanitation concepts incorporates different terminologies such as the urine-diversion dehydration toilet (the UDDT often referred to as the “Ecosan toilet”) and household biogas systems.

Low-cost Approach

Low -cost sanitation approach is the third approach to sanitation (Drewko, 2007). It is an alternative to the conventional sanitation approach as it utilizes technologies that are similar to the conventional ones but cheaper. It is designed in such a way that it can be installed, operated and maintained at considerably lower cost than the conventional one. It employs pipes of small diameter laid at

shallow depths to transport wastewater preferably by gravity offsite (Otterpohl, 2006). The cost of this approach is cheaper than that of conventional approach due to its reduced sewer length, pipes laid at shallow depths, and the use of junction or inspection boxes instead of deep and expensive manholes.

Sewage

Sewage are human and domestic waste matter from buildings, especially houses, that is carried away through sewers. It is the collection of all domestic, industrial and storm-water run-off.

Sewage Disposal

Sewage is disposed off in several ways. There are however two principal methods of sewage disposal by utilizing natural agencies;

- Dilution i.e. disposal of sewage in water.
- Land disposal or irrigation.

Dilution: this is the disposal of sewage by discharging it into large bodies of water like sea, streams, rivers etc. this method is possible only when the natural water is available in large quantity near the town and proper care should be taken while discharging sewage in water so as to avoid pollution of natural water and render it unfit for any other purposes.

Land disposal or irrigation: sewage can be disposed of using this method in the following forms;

- Broad irrigation
- Sewage farming

Broad irrigation: in this method, sewage is allowed to flow over cultivated lands, from which a part of the sewage evaporates, some percolates and the rest escape into surface drainage channels. It waters the land and adds to its fertilizing value due to the presence of Nitrogen, Phosphorus, and Potash etc.

Sewage farming: the process in which sewage is used for growing crops is known as sewage farming.

Other forms of treatment and disposal are;

- *Cesspool*
- *Chemical toilet*
- *Composting toilet*

Cesspool: a cesspool is a covered water tight tank used for storing sewage. It has no outlets and relies on road transportation for the removal of raw sewage. It is the least sustainable option for sewage disposal and is usually considered as a temporary measure pending a more satisfactory solution.

Chemical toilet: this is a self-contained system that rely on chemicals (biocides) to control foul odours. They are

used at locations like campsites, construction sites and at large events.

Composting toilet: composting toilet use natural processes to convert waste matter into compost. They are useful at remote sites, such as a nature reserve, where there is no public sewer or mains water supply. They may require maintenance and the addition of materials such as sawdust to aid the composting process. Some may produce concentrated fluid fertilizer or dry compost for use. These should not be discharged to a watercourse.

Solid waste disposal

Solid waste disposal refers to the disposal of normally solid or semisolid materials, resulting from human and animal activities that are useless, unwanted, or hazardous.

Solid wastes typically may be classified as follows:

- *Garbage: decomposable wastes from food.*
- *Rubbish: non decomposable wastes, either combustible (such as metal, glass, and ceramics).*
- *Ashes: residues of the combustion of solid fuels.*
- *Large wastes: demolition and construction debris and trees.*
- *Dead animals*
- *Agricultural wastes: farm animal manure and crop residues.*

Methods of disposal

1. Landfill: disposal of waste in a landfill involves burying the waste. Landfills are often established in abandoned or unused lands. A properly designed and well managed landfill can be a hygienic and relatively inexpensive method of disposing of waste materials. Design characteristics of a modern landfill include methods to contain leachate such as clay or plastic lining material. Deposited waste is normally compacted to increase its density and stability and covered to prevent attracting vermin (such as mice or rats).

2. Incineration: this is a disposal method in which solid organic wastes are subjected to combustion so as to

convert them into residue and gaseous products. This method is useful for disposal of residue of both solid waste management and solid residue from waste water management. This process reduces the volume. This and other type of waste treatment which make use of high temperature are sometimes described as “thermal treatment”. Incinerators convert waste materials into heat, gas, steam and ash.

3. Recycling: recycling is a resource recovery practice that refers to the collection and reuse of waste materials such as empty beverage containers. The materials from which the items are made can be reprocessed into new products. Materials for recycling may be collected

separately from general waste using dedicated bins and collection vehicles, a procedure called Kerbside collection.

Prior to its collection, the materials could be separated into various different bins (e.g. plastic, metals, paper) while also, all recyclable materials could be placed in a single bin for collection, and the sorting handled later at a central facility in a method known as “single-stream recycling”.

4. Resource recovery: this is the systematic diversion of waste, which was intended for disposal, for a specific next use. It is the processing of recyclables to extract or recover materials and resources, or convert to energy. Resource recovery decreases the amount of waste for

disposals, saves space in landfills, and conserves natural resources.

IMPLICATIONS OF SANITATION PRACTICES

According to Encarta dictionary, implication means something that is implied or involved as a natural consequence of something else. Cambridge advanced learner's dictionary (3rd edition) defined implication as the effect that an action or decision will have on something else in the future.

Recognising the impact of sanitation on public health, Az

poverty, economic and social

development and the environment, the United Nations General Assembly in December 2008, put the spotlight on the issue by declaring '2008' "the international year of sanitation". This was done to raise awareness and to accelerate progress towards the millennium development goal (MDG) 7, target 7C; to reduce by half the proportion of people without access to basic sanitation by 2015 (Hutton, Guy & Haller, 2007). "The focus on sanitation is fundamental to human beings", says Pasquale Steduto, UN-water chairman (WHO/UNICEF joint News release 2008).

Sanitation practices have been found out to affect the total wellbeing of an individual and the society. This can be

extended to other aspects such as health, education and economic development.

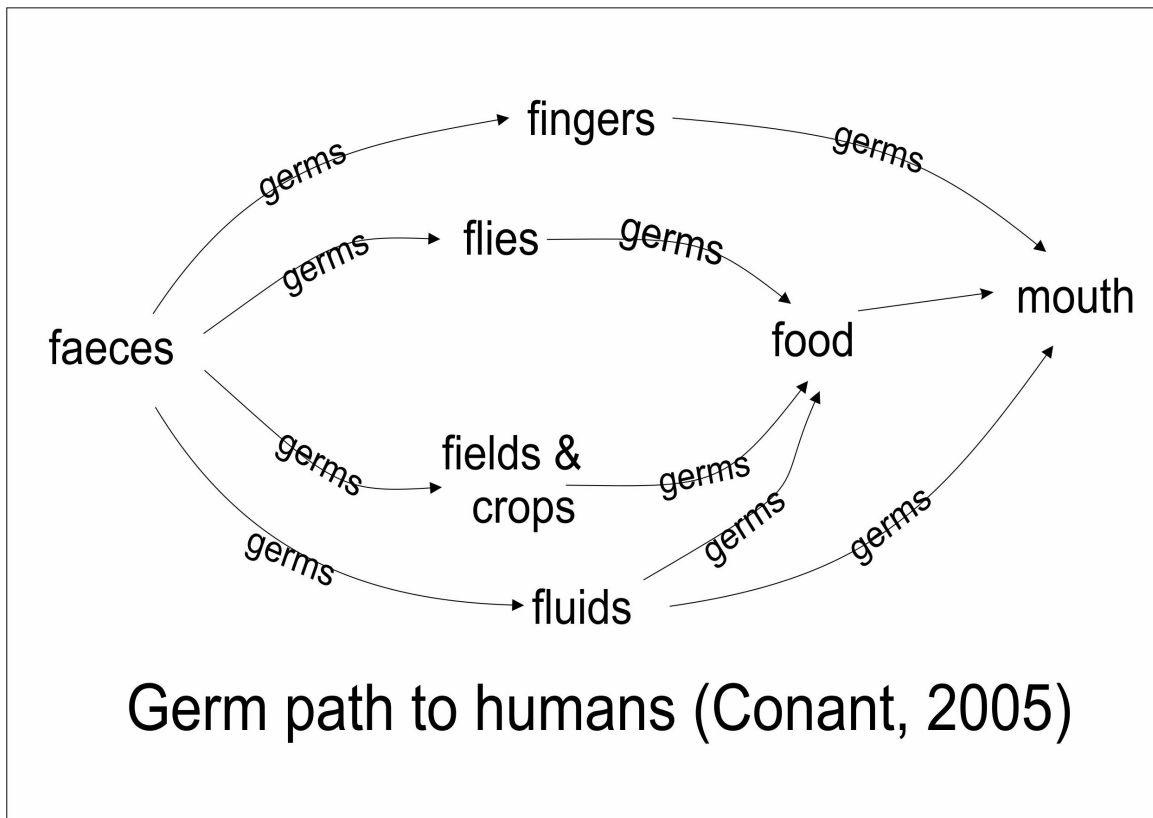
SANITATION AND HEALTH

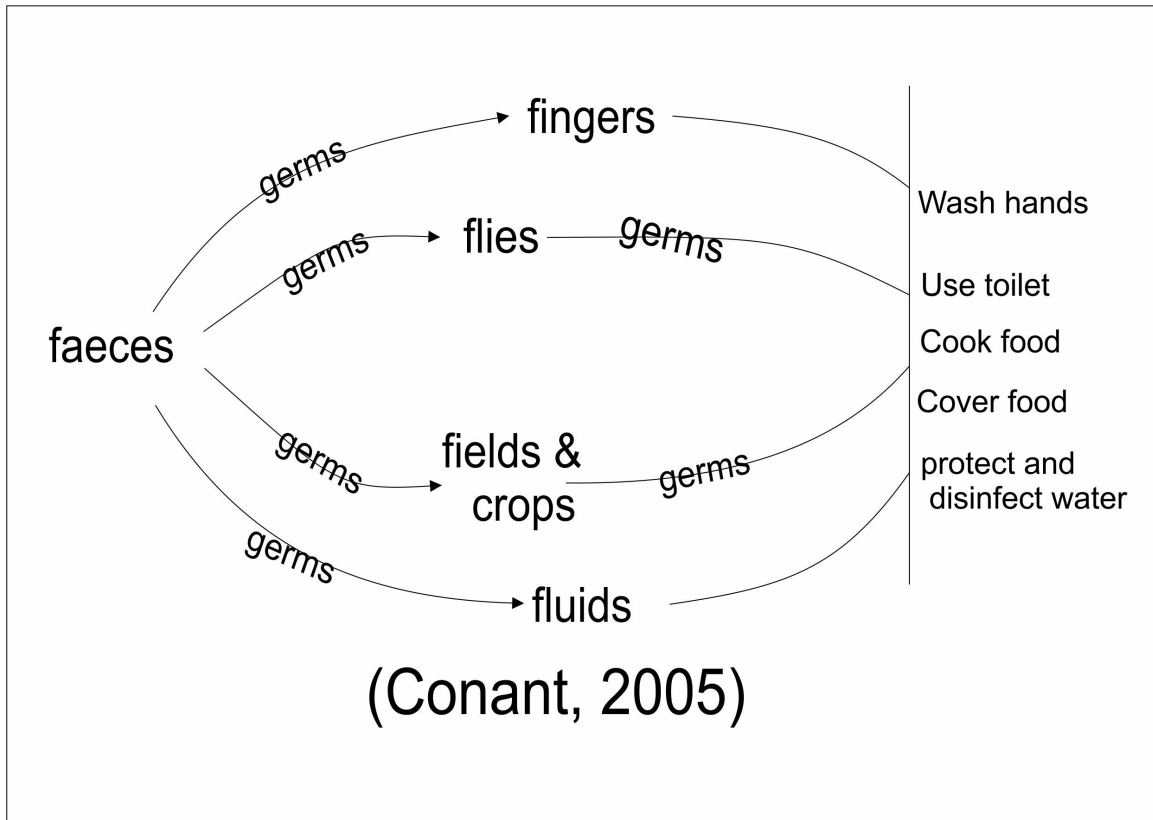
WHO data on the burden of disease shows that “approximately 3.1% of deaths (1.7million) and 3.7% of disability-adjusted life years (DALYs) (54.2million) worldwide are attributable to unsafe water, sanitation and hygiene” (Water Supply And Sanitation Collaborative Council Report, 2005). In Africa and developing countries in South East Asia, 4-8% of all disease burden are attributable

to these factors. Over 99.8% of all the deaths attributable to these factors occur in developing countries and 90% are deaths of children (Water Supply and Sanitation Collaborative Council Report, 2005).

Illnesses caused by germs and worms in faeces are a constant source of discomfort for millions of people. These illnesses can cause many years of sickness and can lead to other health problems such as dehydration, anaemia, and malnutrition. Many illnesses are spread from person to person by germs. Germs are tiny living things that cause sickness. Sometimes it is easy to know where germs are; in faeces, rotting foods, and other dirty places. Although, germs are also in places that look and smell clean. These

germs can pass directly from person to person either through air. It can also be passed through contaminated food and drinking water or they can be carried by flies and animals.





From the above diagram, it can be deduced that effective sanitation practices such as washing of hands, effective toilet use etc. can help to prevent diseases and ill-health thus showing the relationship between sanitation practices and health.

SANITATION AND ECONOMIC DEVELOPMENT

In a report on sanitation and hygiene by the water supply and sanitation collaborative council released in 2005, WHO analysis on morbidity and mortality rate showed a strong link between lower initial infant mortality rates and higher economic growth. It further showed that economic growth is higher in countries with lower initial infant mortality rates.

The tremendous impact of sanitation on health results in significant economic returns on investment in sanitation for individuals, as well as national economics.

There are also significant benefits for health systems and budgetary resources. According to UNDP, at any given

time half of the hospital beds in developing countries are occupied by patients suffering from sanitation and water-related diseases and this has placed a burden on the health system of developing countries and has resulted in a stretch in their health budgets (UNDP Human development report, 2006).

Appleton and Van Wijk (2003) state that “Peru’s 1991 cholera epidemic is estimated to have cost the national economy as much as US\$1billion in health costs, tourism and production losses. In India, outbreaks of plague in 1994 meant a loss of two billion dollars due to import restrictions. On top of that came the loss from thousands of cancelled holidays and public health costs”.

Sanitation and education

Children in the age range of 5-14 are particularly prone to infections such as diarrhoea, roundworm etc. and this results in significant absences from school (Constant, 2005). Availability of sanitary facilities and adequate basic sanitary practices creates a welcome environment and promotes learning and reduces drop-outs through absenteeism.

However, school exclusions have a gendered aspect, girls who are unable to access clean, safe and separate toilets and hand washing facilities, may disproportionately drop out of school at puberty, or even earlier (Mahon &

Fernandez, 2010). Sanitation therefore affects the teaching and learning process and education generally.

Summary of literature review

2.6 billion People in the world lack adequate sanitation. Lack of sanitation contributes to about 10% of the global disease burden, causing mainly diarrhoeal diseases (Mara et al, 2010).

Improved sanitation has significant impacts not only in health, but on social and economic development, particularly in developing countries.

CHAPTER THREE

METHOD OF STUDY

The chapter describes the method and procedures utilize in the conduct of the study. It is presented under the following headings:

- *Research Design*
- *Population of the study*
- *Sample and sampling procedure*
- *Validity of the instrument*
- *Reliability of the instrument*
- *Instrument of the study*
- *Data analysis*

RESEARCH DESIGN

The descriptive survey research design was adopted for this study. It involves the gathering of data through the administration of the questionnaire. It is not expensive and we can generalise with its finding.

POPULATION OF THE STUDY

The population of the study consist of all the people in Uselu area of Egor Local Government Area of Edo state.

SAMPLE AND SAMPLING PROCEDURE

The study was organised using a random sampling technique to select a sample of people in Uselu area of Egor Local Government Area of Edo state. A total of one

hundred respondents were randomly selected from the total population.

VALIDITY OF THE INSTRUMENT

The content validity of the instrument was ascertained by giving the instrument to three experts in the area of study to scrutinize and ascertain the content appropriateness. The various corrections and suggestions were taken into consideration and were used in preparing the final draft.

RELIABILITY OF THE INSTRUMENT

The test-retest method was used to ascertain its reliability. The instrument was administered to the same population twice with an intervening period of two weeks between the two administrations. The resultant scores were correlated and analysed using Pearson Product Moment Correlation Coefficient and this yielded a coefficient of 0,87 and this was considered by the researcher as high enough for the study.

INSTRUMENT OF THE STUDY

The research instrument for data collection for this study is the questionnaire. The questionnaire consist of twenty one (21) items divided into two (2) sections,

sections A and B. Section A contains the demographic data such as sex, age, marital status, religion and occupation while the section B contains the variable.

METHOD OF DATA COLLECTION

The questionnaire was personally administered to the respondents selected for the study to ensure adequate returns. The respondents were assured that the purpose of the exercise was for research and they were also guaranteed absolute confidence in the information they would give. The questionnaire were distributed by the researcher to the

respondents after adequate explanations were given to the respondents on areas likely to be misunderstood by them.

DATA ANALYSIS

The researcher tabulated and grouped the data collected with consideration to the research questions. The researcher used frequency count and simple percentage to analyse the data collected.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND RESULTS

Data Analysis

This chapter presents an analysis of data on sanitation practices and its implications on the people of Uselu Quarters of Egor Local government Area. The data were analysed based on the findings of the research. A total of one hundred (100) questionnaire were administered and retrieved.

The method of analysis as earlier stated in the previous chapter was simple percentages and frequency count to interpret the data collected to provide the authenticity or otherwise of the stated research questions. Tables were

prepared for every comparison. The socio demographics of the respondents are also presented in tables.

DEMOGRAPHIC VARIABLES

TABLE 4:1 Age distribution of respondents

Age (years)	Respondents	Percentage
15-20	85	85%
21-25	5	5%
26-Above	10	10%
Total	100	100%

It is observed in Table 4:1 that majority of the respondents were between 15-20 years which had 85% of the total number while 5% of the respondents were in the

age group of 21-25 years and the remaining 10% were for persons who were 26 years and above.

TABLE 4:2 Gender distribution of respondents

Sex	Respondents	Percentage
Male	47	47%
Female	53	53%
Total	100	100%

In table 4:2, it is observed that the respondents are fairly distributed among the sexes. 47% of the respondents were males while 53% were females.

TABLE 4:3 Marital status

<i>Marital status</i>	<i>Respondents</i>	<i>Percentage</i>
<i>Single</i>	<i>93</i>	<i>93%</i>
<i>Married</i>	<i>7</i>	<i>7%</i>
<i>Separated</i>	<i>-</i>	<i>-</i>
<i>Widow</i>	<i>-</i>	<i>-</i>
<i>Total</i>	<i>100</i>	<i>100%</i>

Out of the respondents in table 4:3, 93% are single while 7% are married.

TABLE 4:4 Religion

<i>Religion</i>	<i>Respondents</i>	<i>Percentage</i>
<i>Christianity</i>	<i>97</i>	<i>97%</i>
<i>Islam</i>	<i>3</i>	<i>3%</i>

<i>Others</i>	-	-
<i>Total</i>	<i>100</i>	<i>100%</i>

In table 4:4, 97% of the respondents are Christians while 3% are of the Islamic faith.

TABLE 4:5 Occupation

<i>Occupation</i>	<i>Respondents</i>	<i>Percentage</i>
<i>Civil servant</i>	<i>3</i>	<i>3%</i>
<i>Business</i>	<i>9</i>	<i>9%</i>
<i>Job seeker</i>	-	-
<i>Student</i>	<i>88</i>	<i>88%</i>
<i>Total</i>	<i>100</i>	<i>100%</i>

Table 4:5 shows that 3% are civil servants, 9% of the respondents are traders and 88% of the respondents are students.

Research Question 1

What are the causes of poor sanitation in Uselu Quarters?

TABLE 4:6 Causes of Poor Sanitation

S/N	Questions	Yes	%	No	%	Total	
						Freq.	%
1.	Does ignorance of the inhabitants of	62	62%	38	38%	100	100%

	<p>Uselu on sanitation play a dominant role in the poor sanitation practices in the Area?</p>						
2.	<p>Are there enough sanitation workers in your area?</p>	40	40%	60	60%	100	100%
3.	<p>Are there enough sanitation workers in your area?</p>	32	32%	68	68%	100	100%
4.	<p>Do people engage in</p>	61	61%	39	39%	100	100%

	sanitation regularly in your area?						
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With the above data gathered base on the percentage score results, 62% reported that ignorance plays a major role in the sanitary state of Uselu Quarter while 38% disagreed that it doesn't. Also, 40% agreed that there are enough sanitation workers in the Quarter while 60% did not agree that there are enough sanitation workers in the Quarter.

The study also revealed that 32% said that there are not enough sanitation facilities in the Quarter while 68% reported that there are not enough sanitation facilities in the Quarter. Table 4:6, question 4 showed that 61% of the

respondents said that people engage in regular sanitation while 39% of the responded negatively.

From the study, it can be gathered that majority are ignorant on sanitation but practice it regularly but lack adequate sanitation facilities and workers in the Quarter.

Research Question 2

What are the dangers of poor sanitation in Uselu Quarter?

TABLE 4:7 Dangers of Poor Sanitation

S/N	Questions	Yes	%	No	%	Total	
						Freq.	%

5.	Do you usually get sick of illnesses such as malaria, cholera, typhoid fever or diarrhoea?	33	33%	67	67%	100	100%
6.	Does any of these illnesses make you absent from school or work?	35	35%	65	65%	100	100%
7.	Are the drainage system in your area being blocked with	58	58%	42	42%	100	100%

	waste?						
8.	Do you usually money on drugs to cure sanitation related illnesses such as typhoid fever and cholera?	42	42%	58	58%	100	100%

Table 4:7 question 5 showed that 33% of the respondents usually get sick of sanitation related illnesses while 67% do not. Also, 35% said that these sanitation related illnesses make them to be absent from work or school while 65% said that it does not make them to be.

The study also showed that 48% of the respondents said that their drainage systems are usually filled with waste while 52% responded negatively to it. It was found out that 42% of the respondents usually spend money on drugs to cure sanitation related illnesses while 58% do not spend money to cure sanitation related illness.

Research Question 3

What are the strategies that could be employed to improve sanitation in Uselu Quarters?

TABLE 4:8 Strategies to Improve Sanitation

S/N	Questions	Yes	%	No	%	Total	
						Freq.	%
9.	Would mass campaign on proper sanitation practices improve sanitation in Uselu?	66	66%	34	34%	100	100%
10.	Does the negligence of duties by sanitary inspectors responsible for the poor sanitation	54	54%	46	46%	100	100%

	<i>practices in Uselu?</i>							
11	<i>Would the employment of more sanitation workers improve the state of sanitation in Uselu?</i>	77	77%	23	23%	100	100%	

From the study 66% agreed that mass campaign programmes on sanitation practices would improve sanitation in the area while 34% disagreed that it would not improve the sanitary state of the area. Also, 54% of the respondents reported that the negligence of duties by sanitary inspectors are responsible for the poor sanitary

state of the area/Quarter while 46% disagreed that the poor sanitary state in Uselu Quarters is not due to the negligence of duties by sanitary inspectors.

77% of the respondents therefore agreed that the employment of more sanitation workers would improve the state of sanitation in the Quarter.

Research Question 4

To what extent does the availability of sanitation facilities influence sanitation practices of the people of Uselu Quarters?

TABLE 4:9 Influence of Sanitation Facilities on Sanitation Practices

S/N	Questions	Yes	%	No	%	Total	
						Freq.	%
12.	Do people litter the surrounding or environment because they have nowhere to dump the waste?	63	63%	37	37%	100	100%
13.	Does the environment remain in a poor sanitary state despite the use of waste bins?	60	60%	40	40%	100	100%

14.	<p>If yes, are they caused by the negligence of waste disposal workers in carrying out their duties?</p>	47	47%	53	53%	100	100%
15.	<p>Are insufficient waste disposal facilities responsible for the negligence of duties of sanitation workers?</p>	56	56%	44	44%	100	100%

In Table 4:10 question 12, 63% of the respondents believed that people litter the environment because they have nowhere to dump the waste while 37% of the respondents did not agree that its because people have nowhere to dump the waste necessitated their littering of the environment. Also, 60% of the respondents reported that the environment still remain in a poor sanitary state despite the use of waste bins while 40% of the respondents said that the sanitary state of the environment would be improved if waste bins are used.

From the study, 47% of the respondents said that the poor sanitary state of the environment despite the use of waste bins, are being caused by the negligence of duties of

waste disposal workers while 53% of the respondents said that the negligence of duties of waste disposal workers is not liable for the poor sanitary state of the environment despite the use of waste bins.

Finally, 56% said that the insufficiency of waste disposal facilities is responsible for the negligence of duties of sanitary workers while 44% of the respondents disagreed that the negligence of duties of sanitary workers are caused by insufficient waste disposal facilities.

From the study, it can be deduced that the insufficiency of waste disposal facilities and it is a major factor that influences the sanitary state of Uselu Quarters.

Discussion of findings

From the study, it was obvious that majority of the respondents believed that ignorance on sanitation practices of the residents of Uselu Quarters is responsible for the poor sanitary state or condition of the Quarters. Majority of the respondents of Uselu Quarters also believed that people in the quarter regularly engage in sanitation regularly. It is shown here that the people regularly practice sanitation but are ignorant of proper sanitation practices which make the area to be in a poor sanitary state. Laws such as the environmental sanitation that takes place every last Saturday of every month which states that everybody must be at home from 7am to 10am to clean up their houses

and also the every Monday sanitation day in markets and business places in the area to remain locked till 10am in order to clean up their surroundings, might have been responsible for the regular sanitation exercises that the residents engage in but this has been found out to improve the sanitary state of the area largely because of the ignorance of the people on proper sanitation practices. They engage in sanitation exercises but its effectiveness is not being reflected.

Also, the poor sanitary state of the environment despite the regular sanitation practices by the people may also be attributed to the insufficiency of sanitation workers and facilities as well. The residents of the Quarter might try

their best to improve the sanitary state of the Quarter, but due to the fact that there are inadequate sanitary facilities such as waste bins, waste disposal vehicles and sanitary workers to evacuate these waste, the environment still remains in a poor state.

The study also highlighted that a few number of respondents usually fall ill of sanitation related illnesses and this also make some to be absent from school or work. This has implications generally in the teaching and learning processes of a school child, as well as in the finance of the people as money is being spent on drugs. Also, a greater number of respondents said that the drainage system are usually filled and blocked with waste which has been found

out to be a cause of flood and bad roads. This do result in loss of lives and properties on the long run. It can be seen that the dangers of sanitation are numerous as it affects the total wellbeing of the people of Uselu Quarters.

From the study, it showed that majority of the respondents agreed that the use of mass campaign programmes to enlighten the public non sanitation would help to improve its state in the area. Also, from the study, majority agreed that the insufficiency of sanitary inspectors is also a contributing factor for poor sanitation and if more are employed, coupled with the proper supervising of those sanitary workers, the state of sanitation would be improved.

Summarily, inadequate sanitary facilities plays a major rule in sanitation. The availability of sanitary facilities would lead to an improved state of sanitation. There might be a lot of sanitary workers but the availability of equipment might also lead to the negligence of the workers in carrying out their duties. The availability of sanitation facilities will improve the state of sanitation.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND

RECOMMENDATION

Summary

This study was designed to elicit information that will enhance the knowledge of sanitation practices and its implication in Uselu Quarters of Egor Local Government Area of Edo state.

The study was initiated with an introduction on sanitation and its influence on man and his activities. The purpose of study, statement of the problem, significance of the study and limitations of the study constituted the sub-headings that were highlighted in the introduction of the study.

Some relevant literature were reviewed in the second chapter for us to have a better understanding of sanitation,

its practices and implications on human beings and this was centred on the ten (10) sub-headings of the research work.

It was revealed that the inhabitants of Uselu Quarters are ignorant of what sanitation is. Although practiced, it was found out that its practice was ineffective as the sanitary state of the environment is still poor. In this study, it was also found out that the inadequacy of sanitary workers and facilities contributed to the poor state of sanitation in the Quarter.

The study showed that poor sanitation affects man in totality and that the provision of more sanitation facilities

coupled with the employment of more sanitary workers would improve its state.

In line with the purpose of the study and the research question drawn to guide the study, research questionnaire was constructed and information on the research design, study sample and sampling technique, and instrumentation was given. Also included were procedures for administration, collection of the questionnaire, data analysis.

Finally, data collected in the field were presented, analysed and discussed.

Findings

- *It was discovered that the high level of ignorance on sanitation practices is the main cause of poor sanitation in the Quarter.*
- *The study revealed that there are little sanitary facilities in the Quarter.*
- *It showed that sanitation was found to affect not just the health of an individual but also it affects the economy and environment of a place.*
- *The availability of sanitary facilities was found out to directly affect the sanitary state of the Quarter.*

Conclusion

Based on the outcome of the findings, the following conclusion was made. There is a high level of ignorance on sanitation practices. The poor practice of sanitation in the area were also hinged on inadequate facilities and insufficient sanitary workers. From all these, it can be stated that there is an obvious need to be met by the Local Government in the provision of sanitary facilities and also to increase the level of awareness of sanitation.

Recommendations

1. The organisation of campaigns on sanitation through mass media and public enlightenment talks by the government in collaboration with non-governmental

organisations. There is need to educate everyone in the locality on the causes and dangers of poor sanitation especially in markets and schools. This will encourage the proper practice of sanitation in the Quarter.

2. Sanitation topics should be given great recognition and should be taught intensively to students in schools both at the primary and secondary school level as well as the tertiary students so as to instil the knowledge of sanitation and its proper practices in them.

3. The Local Government Council should employ more personnel in the sanitary sector and also should provide more sanitary facilities.

4. Sanitary workers should be properly supervised and monitored so as to ensure that they effectively and efficiently carry out their duties.

5. Strict laws and policies should be made, formulated, implemented and enforced by the Local Government Council in order to checkmate sanitary activities in the Quarter.

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**DEPARTMENT OF HEALTH, ENVIRONMENTAL EDUCATION AND HUMAN
KINETICS**

FACULTY OF EDUCATION

UNIVERSITY OF BENIN

BENIN CITY

QUESTIONNAIRE

ON

**SANITATION PRACTICES AND IMPLICATIONS ON THE PEOPLE OF
USELU AREA OF EGOR LOCAL GOVERNMENT AREA, EDO STATE**

Dear respondent,

This questionnaire is designed to enable the researcher carry out a study on the implication of sanitary practices on the people of Uselu Area of Egor Local Government Area of Edo state.

9.	Would mass campaign on proper sanitation practices and schools improve sanitation in Uselu?		
10.	Does the negligence of duties by sanitary inspectors responsible for the poor sanitation practices in Uselu?		
11.	Would the employment of more sanitation workers improve the state of sanitation in Uselu?		
12.	Do people litter the surrounding or environment because there have nowhere to dump the waste?		
13.	Does the environment remain in a poor sanitary state despite the use of waste bins?		
14.	If yes, are they caused by the negligence of waste disposal workers in carrying out their duties?		
15.	Are insufficient waste disposal facilities responsible for the negligence of sanitation workers?		