ADEQUACY AND USAGE OF SANITATION FACILITIES AT KASENYI LANDING SITE, KATABI SUBCOUNTY, WAKISO DISTRICT, UGANDA

BY

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DECLARATION

I Ssekatawa Lawrence, declare to the best of my knowledge that this is my original work entitled "Adequacy and usage of sanitation facilities on kasenyi landing site, Katabi Sub county, Wakiso District, Uganda" and has never been presented to any higher institution of learning for any award. All referenced materials, citations and contributions of others have been duly acknowledged.

Signed:……

Date ……..

APPROVAL

This is to certify that this proposal entitled “adequacy and usage of sanitation facilities on Kasenyi landing site, Katabi Sub County,

Wakiso District, Uganda” has been submitted for the award of masters of environmental health with my approval as the university supervisor.

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DEDICATION

This dissertation is dedicated to the very special people in my life. my beautiful and loving siblings, and my two lovely daughters Maria and Theo. You have been my inspiration and the reason for my perseverance in my studies and life. I always want to do more because of you.
No words can truly capture and express the deep love that I have for you, my dearest mother Mrs. Teopista Ssempebwa. I am truly blessed to have you in my life. You are deeply loved and appreciated.

To the one who taught me the value of hard work and the fear of God, the one in whose eyes I only see strength, patience, courage and unconditional love: to my beloved father in heaven Mr. David Mayanja Ssempebwa (RIP). You will always have a very special place in my heart.

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LIST OF ACRONYMS

CHDP - Child Health Development Program

IMR - Infant Motility Rate

LGDP - Local Government Development program

MDG - Millennium Development Goals

MoH-Ministry of Health

NGO - None Governmental Organisation

PEAP - Poverty Eradication Action Plan

PHC - Primary Health Care

RWASS - Rural Water Supply and Sanitation

UN -United Nations

UNDP -United Nations Development Programme

UNICEF-United Nations Children's Fund

VIP - Ventilated Improved Pit latrines

WES - Water Sanitation and Environment

WHO - World Health Organisation

DEFINITION OF TERMS

Adequacy: The state of satisfactory for the of cleanliness of the facility, functioning hand washing facility

Hygiene: The practice of keeping oneself and the surrounding environment clean.

Improved latrines: Facilities that ensure hygienic separation of human excreta from human contact.

Latrine Coverage: Proportion of households having ownership of an improved latrine facility.

Latrine use: Use of latrine facility for the safe disposal of human waste(feces and urine).

Latrine: Facilities used for the safe disposal of human faeces and urine usually a pit dug in the soil.

Open defecation: Disposal of human faeces in fields, forests, bushes, bodies of water or other open spaces.

Sanitation: The provision of facilities for the safe disposal of human faeces and urine.

Shared latrines: Sanitation facilities of an otherwise acceptable type shared between two or more households. Shared facilities include public toilets.

Unimproved latrines: Facilities that do not ensure hygienic separation of human excreta from human contact.

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ABSTRACT

This study was investigating on the adequacy and usage of sanitation facilities at Kasenyi landing site, Katabi Sub county,Wakiso District, Uganda. The study was based on 3 objectives namely: to assess the types and state of sanitation facilities at Kasenyi landing site, Katabi Sub county,Wakiso District, Uganda; to study the usage of sanitation facilities at Kasenyi landing site, Katabi Sub county,Wakiso District, Uganda; and to examine people's awareness of the consequences of poor sanitation at Kasenyi landing site, Katabi Sub county,

Wakiso District, Uganda. The study was a cross sectional research design involving both qualitative and quantitative research approaches.

The required information was gathered using four methods namely; in-depth interviews, survey, focus group discussions and observation. Three categories of respondents were included in the study. LC1 chairperson, Health inspector and residents of the landing site. It was noted that although the landing site has some sanitation facilities, they were generally inadequate and it is exacerbated by the ever increasing population due to increased involvement in fishing and other businesses. Additionally, the available sanitation facilities were poorly utilized which was a result of many factors including resident's background and upbringing, discipline regarding personal hygiene and local authorities' weakness in implementation of sanitation and hygiene policies. The cleanliness of the available sanitation facilities was not at its best and it formed part of the reasons why some of the people ignored using the facilities and instead opted for use of the shore around the landing site.

This study will be used to develop sanitation programs under which the sanitation challenges will be tackled right from the root rather than to manage the resultant unpleasant consequences like outbreaks of diseases such as cholera which result from poor sanitation. The study recommended that there is need to develop sanitation programs which will tackle the challenges of inadequacy and poor usage, need to train concerned persons with suitable sanitation and hygiene strategies in order to make sure that they are well acquainted with sanitation and hygiene issues, strategies for their promotion and the roles they have to play.

CHAPTER ONE

Introduction

This chapter outlined the study background, problem statement, justification, objectives, research questions, delimitation, limitation and the conceptual framework.

1.1 Background to the study

1.1.1 Historical perspective

Uganda's population as of 2005 was estimated at 26.8 million, of which 88% or about 24 million lived in rural areas (ADF 2005). Access to safe water facilities was estimated at 57% for rural and 80% for urban areas and for sanitation it was estimated at 56% for both urban and rural areas which means almost half of Uganda's rural population does not have adequate water and sanitation facilities. It is one of the countries with high Infant Mortality Rate (IMR), 86 per 1000. Water borne diseases, including malaria followed by diarrhea have been identified as the main causes of infant mortality.
Among the pre-urban population of the developing countries only about 65% have house connections and additional 20% have access to public taps, about half of these are intermittent. Of the rural population only about 60% have access to safe water and few of these have house connections. Population growth particularly in urban areas means that capacity must be increased simply to prevent the percentage served from falling (Rugumayo, 2002).
Over the years, government will support from multilateral and bilateral agencies, NGOs and the private sector has supported programs aimed at improving sanitation situation. However, emphasis has mainly been on the provision of safe and clean water, with less emphasis on latrine construction and virtually no emphasis on other sanitation facilities. (Ministry of Health, 2000).

In 1997, Uganda formulated the Poverty Eradication Action Plan (PEAP) as the core of the government's strategies towards its goals of poverty alleviation and poverty-focused growth, and improved water supply and sanitation services were identified among the key priority areas for poverty eradication. PEAP was revised in 2001 and 2004 using a consultative process that involved the private sector, development partners, NGOs, civil society, central and local governments.
Government of Uganda has made some strides in developing the water sector and the requisite policies and strategies for the sector are embedded in the country's PEAP.
In 1999 a National Water Policy (NWP) was formulated with a mission of "integrated and sustainable management, development and use of water resources in Uganda for present and future generations".

PEAP has recognized adequate water supply and improved sanitation as necessary ingredients in promoting economic growth and hence fighting poverty.

In order to operationalise the National Water Policy and to achieve the MDG targets for water supply and sanitation, GOU carried out a number of sector reform studies. The final outputs included the Rural Water Supply and Sanitation (RWASS) program with annual targets, called Strategic Investment Plan for 2000-2015 (SIP). The RWSS program has been under implementation since 2001/2 and resulted in improved access to safe water from 49% to 57% and for sanitation from 46% to 56% by the year 2004. Following the PEAP review, a consolidated Sector Investment Plan (SIP) for the water sector was developed in 2004. The revised SIP aims at reaching 77% coverage for rural water supply and sanitation by 2015. To reach this target, an additional 13 million rural people in the country would be provided with water and sanitation services.

Around 1.1 billion people globally do not have access to improved water supply sources whereas 2.4 billion people do not have access to any type of improved sanitation facility. Sub Saharan Africa (including Uganda) which has the lowest drinking water coverage and the lowest sanitation coverage in the world, 39% of its population lack access to improved drinking water and 47% lack improve sanitary facilities. An improved drinking water source is one that by the nature of its construction adequately protects the source from outside contamination, in particular fecal matter. An improved sanitation facility is one that hygienically separates human excreta from human contact.

Water, sanitation and hygiene improvements are based on three related interventions:

Provision of sufficient quantities of and an improved source of water and/or improved distribution.

Provision of improved facilities of excreta disposal, through latrines or connection to the public sewer.

Introduction of sound hygiene behaviors.

Socio-economic surveys carried out by UN-HABITAT in more than 20 secondary towns around Lake Victoria reveal that less than 30% of the people have access to water and sanitation. Poor sanitation is a problem on Lake Victoria landing sites which lack adequate toilets where open defecation and throwing polythene bags with human waste into the water is not a shame and when it rains, most of the dirt is washed into the lake and yet it is the same water that people fetch for domestic use and consumption. Access to safe water and adequate sanitation is a basic human right and an essential first step to protect human health and social economic developments. Lack of safe water, pit latrines and hygiene education is a big problem in rural communities around Lake Victoria shores,

The toilet coverage in Buvuma and Kalangala, where most landing sites are located, is estimated at 21% and 41% respectively, compared to the national average of 70%, according to the Ministry of Water and Environment annual performance report (2012). This means that more than half the

population does not have access to toilets.

1.1.2 Conceptual perspective

By "good sanitation" means that every person should have ready access to a convenient and well maintained facility for the safe disposal of human waste, suitable anal cleansing materials, most important the means to effectively wash hands with soap after defecation must be provided and used (Waterkayn, 2000).

Sanitation encompasses the isolation of human excreta from the environment, maintenance of food and personal hygiene, safe disposal of solid and liquid wastes, safe drinking water chain and vector control (Ministry of Health, 2000).

The National Sanitation guidelines (2000) define sanitation as a process where people demand, develop, and sustain a hygienic and health environment for themselves erecting barriers to prevent the transmission of disease. The process thus involves building, use and maintenance of latrines and other sanitation facilities; such as construction of urinals, hand washing facilities, anal cleansing materials and safe water supply. It also involves learning, behaviour change, organizations, and collective action with other community members.

Usage involves proper human waste disposal, water handling form the source to the point of consumption and effective washing hands with soap after using the toilet. (Waterkay, 2000).

National sanitation guidelines (2000) defines adequacy of sanitation facilities as the state of cleanliness of the facilities, it involves presence of clean latrines and urinals, functioning hand washing facilities with soap and water.

Lack of sanitation facilities can cause distress. Women and girls in particular face problems of distance, lack of privacy and personal safety. Poor sanitation is also a serious threat to the cleanliness of the environment and the water resources used for the supply of drinking water. But beyond being just an issue of convenience, children have a right to basic facilities such as toilets, safe drinking water, clean surroundings and basic information on hygiene. concepts and practices on sanitation and hygiene back to their families (Protos Uganda 2005).

More critically, improved hygiene practices are essential if transmission routes of water and sanitation-related diseases are to be cut and contagious diseases prevented. Diseases such as diarrhoea, parasitic worm infections, skin and eye diseases, need to be tackled by making improvements to water and sanitation facilities. These improvements in facilities must go hand in hand with hygiene behaviour change and practice, if the transmission of disease is to be prevented.

According to WHO (2008), pit latrines are the most commonly used facilities for disposing human waste in developing countries. Studies indicate that the percentage of people using latrines as a means of sanitation in some part of East Africa is as follows: Kenya 30%, Uganda 60%, Tanzania 77%, and Ethiopia 7%. Sanitation service is much lower when compared with corresponding coverage on other African countries which ranges between 30-50%. It has been observed that in situations where sanitation facilities are inadequate or absent, hand washing is very crucial in terms of interrupting faecal oral disease transmission routes (UNICEF/NETWAS 2005). Diarrhoea, worm infections and eye and skin infections are diseases related to water and sanitation. About three million children die from diarrhea each year (IRC 2004). Each of the three common worms (roundworms, whipworms and hookworms) is estimated to infect more than 500 million people. Roughly 6 million people have become blind from trachoma, an eye disease. In view of the above the IRC (2004) counsels that good hygiene can help prevent much of this, saving lives and preventing illness. For example, it is estimated that washing hands with soap can reduce the risk of diarrhoea by more than 40%. Simple hygiene behaviours – that is what people do, their practices for cleanliness – are key to improving health. Hygiene promotion must therefore be recognised as an essential part of water and sanitation programs if the maximum health benefits are to be gained from provision of improved facilities.

Sanitation in Uganda has been traditionally accorded low priority in national development. It has been often marginalised and rarely talked about in national debates. Equally, individuals and the private sector have not accorded sanitation priority. Other consequence, sanitation has previously suffered inadequate political and public support, lack of legislative and policy guidelines, poor technology choice, inadequate resources allocation (human, financial and material) as well as inadequate corroboration and coordination among all concerned parties (Ministry of Health, 2000).

1.1.3 Contextual perspective

Uganda's infrastructure, suffered a great deal of neglect during the 1970s and 80s – because of wars and political and economic mismanagement at every level, from central government down to the community (Rugumayo 2002).

National latrine coverage was 90% in the 1960s, but dropped to 30% in the 1980s and only rose to 47% in the 1990s. Uganda has a sanitation history that many people are rightly proud of. In the 1960s, the country was well covered with good deep pit latrines, and the prevailing culture and law dictated that a pit latrine was a necessity for all households (RUWASA, 1997).

Sanitation is a United Nations declared human right and without access to it, many communities are left vulnerable to impacts on health, dignity, negative economic and education effects (WHO, 2012a).

Lack of latrines mostly affects the poor, rural and marginalized communities as majority (71%) of those who do not use improved latrines live in rural areas where 90% of all open defecation takes place. The global health burden associated with these conditions is staggering, with an estimated 4,000– 6,000 children dying each day from diseases associated with lack of access to sanitation (WSSCC, 2004).

Despite these realities, progress towards meeting the sanitation Millennium Development Goal (MDG) target for all by 2015 is woefully off track (WHO and UNICEF, 2013).

The most important measure to control these diseases is to dispose off faeces in a sanitary way, and to protect food and water supplies.

Sanitation conditions have the most significant effect on water and sanitation related diseases. Improved excreta disposal (especially in infant excreta) and hand washing (after defecating and before handling food) can reduce under 5 years mortality by 60% and diarrhoeal diseases mortality by 66%. Proper excreta disposal can reduce diarrhoeal morbidity by 36%, schistosomiasis by 77%, ascariasis by 29%, trachoma 27 - 50% and severe and moderate nutritional stunting by 38% and improved hygiene (notably hand washing) can reduce diarrhoea morbidity by 33% (Ministry of Health,2000).

Sanitation encompasses the isolation of human excreta from the environment, maintenance of food and personal hygiene, safe disposal of solid and liquid wastes, safe drinking water chain and vector control (Ministry of Health, 2000).

Ministry of health (2000) defines adequacy of sanitation facilities as the state of cleanliness of the facilities, it involves presence of clean latrines and urinals, functioning hand washing facilities with soap and water.

There were many diseases associated with poor disposal of excreta. They included: Viral diseases like poliomyelitis, infectious hepatitis and gastroenteritis; Bacterial diseases like cholera, typhoid, paratyphoid and bacillary dysentery; protozoa diseases like amoebic dysentery and worm infections like ascariasis, trichuriasis and pinworm. The main route of infestations was oral-feacal (Esrey S 2000). The most important measure to control these diseases was to dispose-off faeces in a sanitary way, and to protect food and water supplies.

A study carried out by (Ministry of Health, 2000), showed that some families in Uganda had pit latrines and yet not using them, while others had them but in poor hygienic conditions, and others had no pit latrines at all. As a result of this, there was a high incidence of diseases caused by poor sanitary conditions especially worm infestation and diarrhoea.

1.2 Statement of the Problem

Grove (1990), observed that population growth is the major cause of poor sanitation in Africa. This argument bases on the fact that if a highly populated area like the slums is compared with a less populated area, the difference in the sanitary levels will clearly show that the highly populated area has very poor sanitation compared to the low populated area. This is also attributed to the housing situation in such areas like landing sites and other temporary settlements.

There were so many different kinds of business done at this landing site; it was highly populated and very busy with a lot of economic activities and settlements. On this landing site, latrine adequacy and usage practices were found to be lacking.

This condition puts the community in danger; the most serious ones were health problems.

The promotion of improved sanitation use coupled with the requisite knowledge, attitudes and practices has not received significant attention from researchers, Governments, programme designers, law enforcers and policy-makers. sanitation coverage levels both nationally and globally are well studied and documented in the National census, Uganda Demographic and Health Surveys and the WHO and UNICEF Joint Monitoring Programme reports. Whereas these studies have focused on ascertaining the sanitation coverage levels, there is limited information on sanitation facilities usage and awareness of the consequences that are result of poor usage among marginalized communities such as Kasenyi landing site. This study therefore set out to determine the adequacy and usage of sanitation facilities on Kasenyi landing site.

1.3 Scope of the study

Geographically, Kasenyi landing site is one of the Uganda's selected fishing sites located in Kasenyi, Entebbe, Central Uganda, hidden about 6 kilometers away from Abayita Ababiri Entebbe. Kasenyi coordinates are: 0°03'00.0"N, 32°27'36.0"E (Latitude: 0.0500; Longitude: 32.4600).It is a fishing town on the shores of Lake Victoria. It is one of the eight major landing sites on Lake Victoria. The study was carried out for a period of three months, that is between June and August 2018 because during this time there was so many different kinds of business done at this site like fishing, boat making, and trading. So movements were so active in this sense, this study was focused on human waste disposal with specific attention on adequacy and usage of the sanitation facilities. According (Uganda Bureau of Statistics ,2016), The population at the landing site is estimated to be 2000 because people come and leave every other day.

1.4. Objectives of the study

1.4.1 General objective

The overall purpose of this study was to find out the adequacy and usage of sanitation facilities at Kasenyi landing site, Katabi Sub county, Wakiso District

1.4.2 Specific objectives

1. To assess the types and state of sanitation facilities at Kasenyi landing site, Katabi Sub county, Wakiso District.
2. To study the usage of sanitation facilities at Kasenyi landing site, Katabi Sub county, Wakiso District.
3. To examine people's awareness of the consequences of poor sanitation usage at Kasenyi landing site, Katabi Sub county, Wakiso District.

1.4.2 Research questions

1. What types and state of sanitation facilities are at Kasenyi landing site, Katabi Sub county, Wakiso District?
2. How do the people use the sanitation facilities at Kasenyi landing site, Katabi Sub county, Wakiso District?
3. Are the people aware of the consequences of poor sanitation at Kasenyi landing site, Katabi Sub County, Wakiso District?

1.5 CONCEPTUAL FRAMEWORK

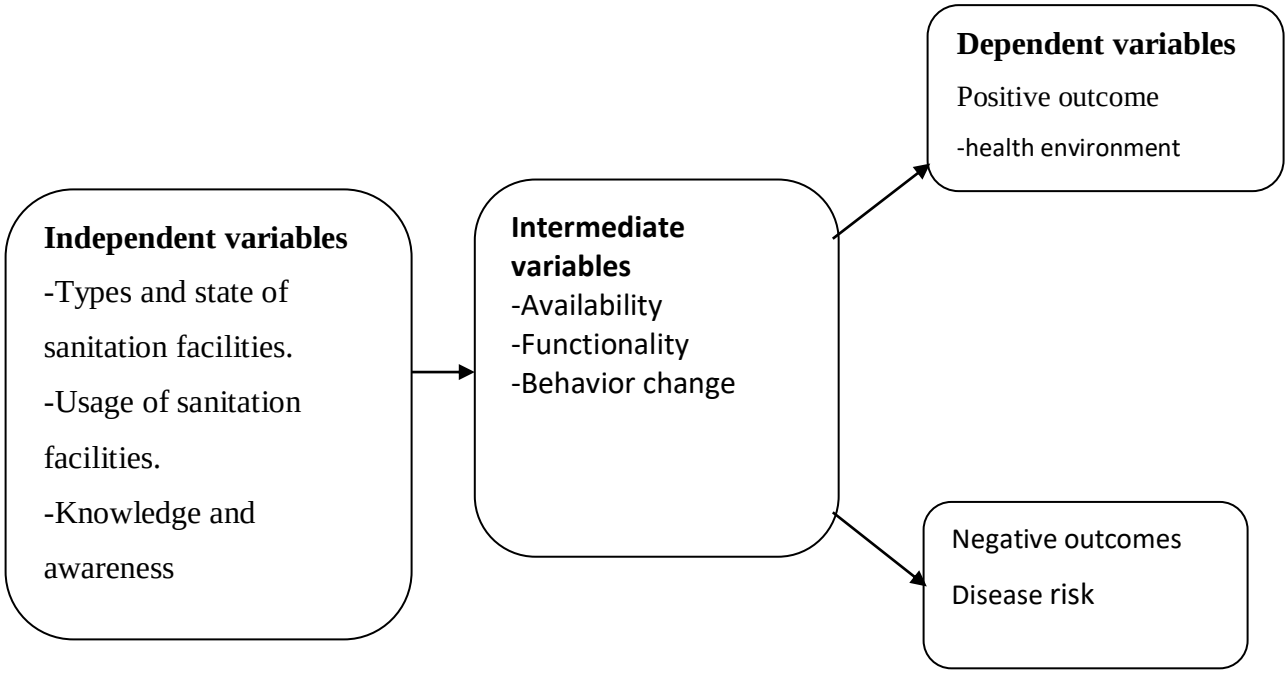


Fig. 1.1 Conceptual framework

The conceptual frame work suggests that, independent variables were conceptualized into, types and state, usage of sanitation facilities, and awareness and knowledge. The intermediate variables namely; availability, functionality and behaviour change which affected the dependent variables illustrated into positive outcomes and negative outcomes. The positive outcomes include: health environment, while negative outcomes were conceptualised into high disease risk. The model is based on the understanding that a person will take a health-related action (i.e., use improved latrines) if that person: feels that a negative health condition (i.e. diarrhoea) can be avoided, has a positive expectation that by taking a recommended action, he/she will avoid a negative health condition (i.e., using improved latrines will be effective at preventing diarrhoea) and believes that he/she can successfully take a recommended health action (i.e., he/she can use improved latrines comfortably and with confidence).

1.6 Significance of the study

The study findings will be of benefit to the following stake holders:

- Increasing use of sanitation facilities will make the realization for the community of broader health, social and wider development outcomes both likely and sustainable
- By investigating the adequacy and usage of sanitation facilities at the landing site, There is need to understand and document the underlying factors associated with the low sanitation usage on Kasenyi landing site.
- This study was set to provide valuable insights into what remains to be done. This is important to local leaders, health inspectors and government funding agencies concerned with sanitation given that this study is a form of evaluation of their work and to awaken them to put in more effort.
- The findings and the subsequent recommendations can be useful for the local officials to formulate policy guidelines particularly in relation to requirements for proper sanitation.
- The findings are also expected to be useful to residents in the sense that they will be able to know whether their practicing good sanitary conditions or not. In case of unsanitary conditions, this may lead residents to improve on them.
- This study will be useful to develop sanitation awareness amongst residents and will set programs under which the challenges should be tackled right from the root rather than attempting to manage the resultant unpleasant consequences.
- The Local administrations will have to prioritize the aspect of sanitation so as to prevent the outbreaks of diseases like cholera which result from poor sanitation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is guided by the specific objectives which included; to assess the types and state of sanitation facilities at Kasenyi landing site, to study the usage of sanitation facilities at Kasenyi landing site and to examine people's awareness of the consequences of poor sanitation usage.

This reviewed the literal materials that have been written on the subject area of latrine utilisation with a view to examining what has been researched/written before delineating what the current study is going to accomplish.

2.2 Types and state of sanitation facilities at Kasenyi landing site.

Three types of latrines are encountered in Uganda. The traditional pit latrine is one whose floor is made of rammed earth. The walls are usually composed of mud and wattle and roofing may be accomplished by temporary thatch materials like grass. These are temporary structures which are abandoned on filling. They have a disadvantage of being difficult to keep clean and free from flies although they are cheap to construct. The wittiness of the area near the squat hole renders them clammy and lucrative places of hook warm transmission and houseflies bleeding. Improved traditional pit latrines have concrete platform (the sun plat) surrounding the squat hole. This renders them easier to keep clean than the traditional ones but for a higher cost. The ventilated improved pit latrines (VIP) have a concrete slab covering the whole floor, and a vent communicating from just under the slab to the atmosphere. At the atmospheric end the vent is covered with a fly screen. Bad smells are led away from the pit into the atmosphere. Flies which are attracted from the pit into the atmosphere by light are attracted by the screen and die of heat and gases in the vent. VIPs therefore have least smells and the slab could be re-used or the pit emptied by a cesspool emptier. They are however more expensive to construct (Ministry of Health, 2000).

Hunter, (1997). Observed that sanitation conditions in rural Venezuela a developing country, infectious diseases like cholera and dysentery to escalate, was attributed to peoples. Lack of access to clean water and inadequate facilities for excrement disposal.

In Uganda the huge backlog in sanitation coverage indicated by the current national coverage of about 57% in both rural and urban areas is a challenge (Ministry of Health, 2000).

Adequate sanitation is the foundation of development but it has been found a half of the people in the world do not have access to toilets or latrines. The percentage of those with access to hygiene sanitation facilities has declined slightly over the 1990.s, as construction has fallen behind population growth (WHO,2004). Each method of waste disposal has its drawbacks. Reusing glass bottle can require more energy than in their initial manufacture, as they have to be sterilized. Incineration is a source of greenhouse gases and toxic chemical like dioxins and produce large qualities of methane gas. They must be managed so that pollutants do not sleep into ground therefore be kept dry, but this slows down the rate of decomposition.

Hand washing facilities in rural communities has not been considered important. Yet from a preventive health perspective hand washing is absolutely crucial. Without hand washing, all investment in fancy latrine construction is a complete waste of time and resources as faecal contamination from hand to mouth, food, friends etc is virtually guaranteed (Waterkayn 2000).

National sanitation guidelines (MOH,2000) defines adequacy of sanitation facilities as the state of cleanliness of the facilities, it involves presence of clean latrines and urinals, functioning hand washing facilities with soap and water.

Safe water and sanitation and knowledge of hygienic behaviour are the greatest of all public health breaks through. And the priority of human health and development in the early years of the 21st century must be to make sure that their benefits are finally made available to all (Water and Sanitation Programme, (2012).

Studies on water handling during collection, storage and use have shown that there is progressive contamination from source to the point of consumption due to poor sanitation and inadequate/inappropriate hygiene. A rural water and sanitation study showed that only 9% of 57 household surveyed were consuming acceptable quality of water (WHO, 2004)

There is lack of up-to-date statistics on the level of coverage of water supply in Uganda and what is available is somewhat differing. National sanitation guidelines (MOH,2000) reports that there is low level of domestic water supply in the country with only 40% and 75% coverage for rural and urban areas respectively. In the urban areas of Kampala, Entebbe, Mpigi and Jinja the current water demand is 27.5 millions cubic metres per year.

And according to the WHO (2008), in the last decade access to water supply rose from 61% to 71% in Uganda, but during the same period, the proportion of people with access to sanitation means of excreta

disposal declined from 36% to 34% as funding for sanitation decreased and population increased. But even the water supply to which access has increased, its quality of water has been degraded.

According to RUWASA (1997), there has been drastic deterioration of water quality ecology of the lake during the last two decades which in turn has affected the quality of water, further leading to disease to the urban population.

Across the world, billions of people still lack back sanitation unless it is controlled and safely disposed off. Human excreta pose a major treat to health, particularly infectious disease. But basic sanitation such as latrines can protect health, waste can also be a useful resource, for example human excreta and waste water are used and recycled in many countries for example in Agricultural and aquaculture and this can be done safely.

Despite continued effort to promote sanitation, 40% of the world's population is still without basic sanitation. This number does not tell the whole story. Sanitation coverage is often much lower in rural areas than in urban areas for example in Africa 84% of urban, 45% of rural residents have access to basic sanitation. The number is similar in Asia where 78% of urban and 31% of rural residents has access to basic sanitation (WHO, 2008).It is stated that 2.6 billion people lack access to basic sanitation.

According to World Health Organisation (WHO, 2004) assessment, it concluded that if the 1990/2002 trends hold, the world will miss the sanitation target by half a billion-nearly 2 billion people should gain access to basic sanitation by 2015.

Africa is one of the worst performing continents in sanitation and is sure to miss target by wide margins unless urgent radical action is taken to turn things around rapidly (U.N) Global sanitation coverage. It further states that, sanitation coverage in Sub-Sahara Africa is only 35% and that sanitation coverage in Sub-Sahara challenge worldwide.

In Africa today, more than two thirds (2/3) of the population lack sanitary means of excreta disposal (WHO, 2012b). It further states that lack of access to safe drinking water and poor sanitation remains one of the causes of mortality especially among children and women who suffer most due to poor living conditions.

Bryant (1998) observed that sanitation conditions in rural Venezuela a developing country, infectious diseases like cholera and dysentery to escalate, was attributed to peoples" lack of access to clean water and inadequate facilities for excreta disposal

In Africa, lack of clean water and basic sanitation is the main reason for diseases transmitted by fasces to escalate (UNICEF & NETWAS, 2005).faecal matter deposited near homes and on open ground

normally contaminates drinking water. This accounts for the ten percent disease burden in developing countries.

In Uganda the Ministry of Health (2000), stated that inadequate facilities combined with unhygienic practices and the general lack of clean water supply as well as safe disposal of domestic waste water and solid waste present sanitation problems.

In Uganda the huge backlog in sanitation coverage indicated by the current national coverage of about 57% in both rural and urban areas is a challenge (UNICEF, 2005). It further states that many urban settings in Uganda do not have access to adequate sewerage facilities. It adds that piped water and sewerage services are available to only ten of the eleven towns covered by National Water and Sewerage Corporation and that even in these towns; it's only a small proportion of the population (approximately 10%0 that has access to this service.

Bryant (1998) states that in many cities, disposal of wastes is a major problem. Garbage and rubbish tends to be dumped, burnt and converted into landfills at a minimum distances commensurate and converted into landfills at a minimum distances commensurate with public opinion. As long as the process removes refuse and as long the disposal site is not a health hazard and does not affect aesthetic values too greatly; the operation is considered successful. However, the side effects on health, atmosphere, soil, water bodies and the appearance of the of the landscape may be considerable especially in terms of pests, smoke, odours, litter paper polythene bags and water pollution.

Rejaepalan (1999), writes that according to studies, the external assistance variables influence participation of a community in waste management, for example, community members become motivated to participate in sanitation programmes if they are being aided with external resources in form of labour, funds and materials.

Adequate sanitation is the foundation of development but it has been found a half of the people in the world do not have access to toilets or latrines. The percentage of those with access to hygiene sanitation facilities has declined slightly over the 1990"s, as construction has fallen behind population growth (UNICEF & NETWAS, 2005). Each method of waste disposal has its drawbacks. Reusing glass bottle can require more energy than in their initial manufacture, as they have to be sterilized. Incineration is a source of greenhouse gases and toxic chemical like dioxins and produce large qualities of methane gas. They must be managed so that pollutants do not sleep into ground therefore be kept dry, but this slows down the rate of decomposition. Good sanitation and improved hygiene means of disposing their waste. This is a growing nuisanc678/ o0e for heavily populated areas, carrying the risk of infectious diseases, particularly from diseases that lower their resistance. Poorly

controlled waste also means daily exposure to unpleasant environment. The build up of faucal contamination in rivers and waters is not just a human risk; other species are also infected threatening the ecological imbalance of the environment. The disadvantages of untreated waste water and excrete into the environment affects human health by several routes;

- By polluting drinking water
- Entry into food chains for example via fruits, vegetables and fish
- Bathing, recreation and other contact with contaminated water.
- By providing bleeding sites for flies and insects that spread diseases.
- Poor nutrition from loss of important fish protein source due to environmental pollution.

Daley *et al*. (2015) also found that disparities in health between the indigenous Arctic population and non-aboriginal Canadians were associated with inadequate levels of sanitation and hygiene.

2.3 Usage of sanitation facilities

Proper latrine use is behaviour much beyond structures. Using a latrine, hand washing after latrine use, maintaining a latrine in an adequately sanitary state, is in many cases, more of factors of attitude and habit than existence of structures. In Hoima district 24% of studied subjects normally used the bush (Amin, 2005).

Grove, H. (1990). asserts that much as the majority of the population living around lake shores and river banks do realise the importance of water in life, minority do actually ensure its quality before use. This has greatly led to poor sanitation in many regions especially landing sites.

Viessman and Hammer (1990), stated that sanitation in also a very culture specific issue. Defecation is in most cultures, an extremely personal practice and controlled by strict taboos. Because is in most cultures, an extremely personal practice and controlled by strict taboos. Because of its strong cultural dependence sanitation improvements are very difficult to introduce to the general public, since improving sanitation in practice means intervention to the persons and personal life habits. More so fishermen and pastoralists have beliefs attached to waste disposal. That they may not catch enough fish or their cows will not produce enough milk if they use latrines.

Improving water and sanitation facilities does not necessary lead to a decrease in water and sanitation related diseases. To bring about real improvement in health, the installation of facilities has to go

hand in hand with their proper use and maintenance, hygiene promotion aims to ensure the proper use and maintenance of facilities by motivating people to change their behaviour (IRC 2004).

According to Abwoke (1998), over 70% of children in primary schools in Mpigi district knew washing hands before meals and after latrine use and brushing teeth were important from disease prevention and also that indiscriminate disposal of excreta caused diseases. Cholera count result from drinking contaminated water and that water can be made safe to drink by boiling it. A less of children knew the qualities of a good latrine.

In many cases improving sanitation can be as simple as installing a well-designed ventilated pit latrine (VIP) or compositing latrine. However in other cases improving sanitation will be more challenging particularly in rapidly growing urban slums; moreover, while building improved sanitation facilities is a crucial intervention, the full health benefit will not be realized without proper used and maintenance of the facilities and good personal and domestic hygiene (Carr and Stauss, 2001).

The provision of safe water and sanitation facilities is a first step towards a healthy physical environment benefiting health. However, the mere provision of facilities does not make them sustainable or produce the desired impact (WELL, 2003). It is the use of technical facilities and the related appropriate hygiene behaviours of people that provide health benefits.

A study conducted by Child Health and Development Centre, Makerere University (CHDC, 2006), found that almost all schools surveyed did not meet the minimum sanitation and hygiene school standards. Government efforts have focused on construction of toilet facilities in government-aided schools through the School Facilitation Grant (SFG), UPE funds and Local Government Development Programme (LGDP). As such the, emphasis has been on facility development with less focus on changing practices in sanitation and hygiene.

Feachem (1982), asserts that much as the majority of the population living around lake shores and river banks do realise the importance of water in life, minority do actually ensure its quality before use. This has greatly led to poor sanitation in many regions especially landing sites.

Govdie and Brum (1986), noted that wastes dumped in open areas or indiscriminately in surrounding environmets are major source of surface and ground water sources contamination due to washing down of contaminants and deposition into water sources such as wells, streams and rivers.

UNICEF (2005), reported that improper waste disposal is a universal problem. Worldwide 2.6 billion people were without proper means of excreta disposal facilities by 1990 and the gap widened in 1994 to 2.9 billion people.

A study by RUWASA (1997), revealed that twenty percent (20%) of the homesteads in the districts of Kamuli, Iganga and Mbale had scattered faeces. The study further revealed that sanitation problems have been reported to be a result of Uganda's sanitation related bodies. The reasons that were given are lack of funds and inadequate space. Due to the above reasons, residents decided to dump garbage where they desired. This is an indicator of the sanitation problem in Uganda.

Moeller (1992) stated that until World War II, most solids or municipal wastes (leaves and grass droppings) newspapers, cans, bottles, coal and ashes street sweepings and discarded materials. Such waste was not considered hazardous and was simply transported to the local land disposal facility and set on fire to reduce its volume and discourage the breeding of insects and rodents.

The National Sanitation guidelines (2000) define sanitation as a process where people demand, develop, and sustain a hygienic and health environment for themselves erecting barriers to prevent the transmission of disease. The process thus involves building, use and maintenance of latrines and other sanitation facilities; such as construction of urinals, hand washing facilities, anal cleansing materials and safe water supply. It also involves learning, behaviour change, organisation, and collective action with other community members. Sanitation encompasses the isolation of human excreta from the environment, maintenance of food and personal hygiene, safe disposal of solid and liquid wastes, safe drinking water chain and vector control.

Usage involves proper human waste disposal, water handling from the source to the point of consumption and effective washing hands with soap after using the toilet. (Waterkay, 2000).
Studies conducted in Rwanda and Uganda show that households in informal settlements share sanitation facilities due to overcrowding; there is insufficient space for every household to build their own toilet. In Uganda, 78% of households shared latrines with an average of six other households (Gunther *et al*., 2012).
In 2010, at least 10% of South Africa's population (at that time 44 million) lived in urban informal settlements that are characterized by poor living conditions and inadequate water and sanitation services (Misselhorn, 2010).

Using proper sanitation and hand washing - preferably with soap - prevents the transfer of bacteria, viruses and parasites found in human excreta which otherwise contaminate water resources, soil and food. This contamination is a major cause of diarrhoea, the second biggest killer of children in developing countries, and leads to other major diseases such as cholera, schistosomiasis, and trachoma.

Improving access to sanitation is a critical step towards reducing the impact of these diseases. It also helps create physical environments that enhance safety, dignity and self-esteem. Safety issues are particularly important for women and children, who otherwise risk sexual harassment and assault when defecating at night and in secluded areas. (WHO, 2012b.)

2.4 Awareness of the consequences of poor sanitation

Poor sanitation, hygiene and inadequate water supply are also related to the spread of other diseases, including tropical diseases such as schistosomiasis (sometimes called Bilharzias) rank second in terms of socio-economic and public health importance in tropical and subtropical areas (Esrey 1994) .

Hunter,(2014). Noted that, education level is a paramount factor in as far as sanitation is concerned. Education which he defines as an instrument in human capital as it involves passing on preserved values, knowledge and skills from one generation to another whether formal or informal; is important to community members and stimulates change among the beneficiaries.

Grove, (1986). states that lack of community awareness and participation in the promotion of sanitation influences the level of sanitation. It further points out that health education in essential if people are to learn how to live a sanitary life. It helps people to care about their heath and take part in organising sanitary services and disease control programmes.

Bryant (1998), argues that in Uganda today, diarrhoea diseases rank second among the five killer diseases being transmitted mainly through swallowing faecal germs. This has been mainly because of the poor disposal of faecal and unprotected water source. He further reveals that the provision of safe water resource and sanitation is very important, but constructing latrines and digging wells would have little effect on health unless people use these facilities.

One gram of faeces can contain ten million virus, one million bacteria, one thousand parasite cysts and a hundred warm eggs, that is what makes the safe disposal of faeces the most important of all public health priorities. Still today, the majority of illnesses in the world is caused by the fact that faecal matter enters the human body because of lack of safe sanitation and lack of hygiene. To prevent this huge burden of illness, safe water and sanitation are only half of the answer. The other half is getting people to use them wisely and well. Millions of people have still not been adequately informed about the link between faeces and diseases (MOH, 2000).

Sanitation reduces or prevents human faecal pollution of the environment thereby reducing or eliminating transmission of diseases from the source. Effective sanitation isolates excreta and inactivates the pathogens or within faeces. High technology solutions are not necessarily the best. Some simple latrines can be very effective while untreated sewage distributes pathogens in the

environment and can be a source of diseases. Interventions that work in rural areas may not be very different from those in urban areas.

The majority of the people living in developing countries are suffering from diseases, hunger and ignorance. In most cases problems are interlinked. Due to lack of knowledge the people are exposed to hunger while having enormous resources around them. Over half of the population suffers from diseases caused by poor sanitation when simple sanitary measure can make a big difference. Poor sanitation, hygiene and inadequate water supply are also related to the spread of other diseases, including tropical diseases such as schistosomiasis (sometime called Bilharzias) rank second in terms of socio-economic and public health importance in tropical and subtropical areas (Esrey 1994).

The diseases are endemic in 74 developing countries Uganda inclusive, infecting more than 200 million people of these; 20 million suffer severe consequences from the disease. 40% of the world populations still have no basic sanitation; many people do no realize the health benefit to individuals, community and to the society from improving sanitation. The high cost of improving sanitation is often cited as a barrier to implementing sanitation projects.

Sanitation facilities interrupt the transmission of faecal–oral disease at the most important source by preventing human faecal contamination of water and soil. Poor waste disposal practices are responsible for significant proportion of world's infectious disease burden. Diseases due to poor tap water supply, sanitation and personal and domestic hygiene cause 4.0% of all deaths and 5.7% of all disability or ill health in the world. This burden distributed equally, water borne illness predominantly affect the poor and the young. However, when basic water, sanitation and hygiene interventions are applied, water born illness can be effectively reduced low cost interventions such as compositing latrines can be used to reduce the transition of many diseases. This study therefore investigated the sanitation and hygiene practices of students in secondary schools; by establishing the availability, the adequacy and utilization of the facilities as well as the consequences of poor sanitation.

According to out-patient records in 1990 available with the Health Planning Unit through Health Information System (HIS), mortalities in under-fives due to waste related diseases are still prominent for instance.

- Diarrhoea 12.0%
- Dysentery Epidemic
- Cholera Epidemic

- Typhoid fever 1.0%
- Bilharzias 7.7%
- Worm of all types 7.7%

Under-fives are more at risk of suffering from these diseases. They are also prone to malnutrition and diarrhoea diseases which account for almost 30% of all the infant deaths. It is therefore essential that all wastes are disposed off in a hygienic manner. It is therefore essential that all wastes are disposed off in a hygienic manner.

According to the International Water and Sanitation Center (IRC 2004), the challenge for Uganda is enormous. With a deficit of over 50% is excreta disposal and around 70% for social waste management coupled with inadequate provision and broken down infrastructure for drainage and water management in general, the task of addressing the grave sanitation in the country requires a major effort. The following impact of poor sanitation in Uganda makes the challenge even bigger:

1) Health:
   - Almost 50% of all the diseases are related to poor sanitation.
   - Hundreds of thousands of citizens suffer from intestinal worms as a result of poor sanitation.
   - High level of stunting among children under 5years of age.
2) Economic
   - Expenditure on the cure of sanitation related diseases for outweighs that are spent on prevention.
   - Many thousands of schools days are lost from sanitation related illnesses each term. The non-availability of toilet facilities is one of the major causes of such drop out among adolescent girls in Uganda.
   - Many thousands of work days are lost from sanitation related sickness every month.
3) Environmental:
   - Degradation of the urban environment indiscriminate disposal of solids and liquid wastes.
   - Eutrophication of fresh water lakes and rivers is significant by untreated by untreated human waste demonstrated by the human rise in water hyacinth. Impacts on the fishing industry and livelihood in the lake region of phenomenal.
4) Social cultural factors
   - Taboos, myths and beliefs.
   - In-laws should not share a pit latrine.

- A person with diarrhoea is to defecate in the open and must not use pit latrine. If done, it will spread it to others.
- Pregnant women should not defecate in the pit latrine. If they do so, they will get a miscarriage etc.

5) Attitude on personal hygiene.
   - One should only was hands with soap after eating.
   - Hand washing is simply soaking hand in water at meal times.
   - After eating fatty meat, one should not wash his or her hands because of fear of indigestion.

Bryant (1995) noted that, education level is a paramount factor in as far as sanitation is concerned. Education which he defines as an instrument in human capital as it involves passing on preserved values, knowledge and skills from one generation to another whether formal or informal; is important to community members and stimulates change among the beneficiaries.

The global sanitation status coverage (UN) further states that families pay highly to care for children who suffer from diarrhea. Children who suffer from severe early childhood diarrhoeal enter school later than their age mates and perform worse in non-verbal intelligence tests, poor sanitation in schools affects attendance rates. Sanitation and hygiene is one of the factors contributing to the mortality rates in Uganda (UN). Global sanitation status.

Timberlake (1985) noted that at least 95 people out of every 100 in Europe have piped water. In Africa, 90 out of every 100 are without it. Over Eighty percent (80%) of all illness in the developing world is directly or indirectly associated with a poor water supply and sanitation. He went ahead to estimate that the provision of safe drinking water and sanitation could reduce infant mortality by half in much of Africa. But the provision of safe drinking water in the poorest parts of Africa is low even by third world standards hence pausing the sanitation problems.

Moeller (1992) noted that we become afflicted with a disease when there is upset of complex delicate balance that normally exists between our bodies and the environment. He further observed that the upset may result from factors in the physical environment (air, water, food or sun); the biological environment (bacteria, viruses, plants and animals including man), the social environment (work, leisure and cultural habits and patterns such as smoking, diet or excessive drinking) or any combination of these three sources.

Hobson (1990) asserted that Bacillic dysentery is caused by Shigella dysentery, an infectious agent common whenever sanitation is a problem. Two thirds of all cases and most deaths that occur in infants less than 10 months old is unusual. Secondary attack rates in households can be as high as

fourty percent (40%). Shigella is commonly present in human faeces and transmission is favoured by crowded conditions, where personal contract is unavoidable. He further states that food handlers can readily spread the infection through contamination of food. Files can also transfer the organisms to non-refrigerated food, where they can multiply; ingestion of a relatively large number of organisms is required and on set of the disease is delayed for 1-3 weeks, while the bacteria multiply in the body. Personal cleanliness, particularly in handling food is an important factor in the control of this disease.

UNICEF (2005), noted that water being not just for drinking, its scarcity contributes to illness through bad hygiene and this in turn fosters the spread of infections that affect the eyes, skin and the intestinal tract. According to the study carried out in Bangladesh by the International diarrhoeal diseases research Centre, hand washing can cut diarrhea diseases dramatically by fourty percent (40%) in the under-five age group, twenty percent (20%) in the five to nine age group and by ten to fifteen percent (10-15%) in the other age groups. Those who wash hands, food or eating utensils in the unclean water risk catching typhoid, cholera, dysentery, gastroenteritis and hepatitis.

Moeller (1992), noted that science of preserving health and preventing disease in rural communities with poor settlements should be taught as one of the most important sciences. General techniques such as housing programmes, development of community facilities and

suitable methods of population control, developed by community effort should be emphasized.

Environmental sanitation is the control of factors in the physical environment at may cause disease. It is a Cornerstone in primary prevention of disease. Physical environment comprises water, air, soil and other non-living surroundings to man. Control of environment involves supply of adequate quantities of safe water, proper excreta and refuse disposal and proper personal hygiene and housing (Wood *et al*, 1990).

Water is essential in life. It is part of all cells and necessary in many basic chemical reactions and functions in the body. It is a good solvent of many substances-both harmful and harmless to life. (Bhore *et al*, 1992) described the relationship between water and cholera for the first time, he demonstrated that typhoid fever was transmitted by water and showed that there was a relationship between water and filariasis, while Wood (1990) demonstrated a relationship between water and malaria. When water is not enough in quantity, water-washed diseases (e.g scabies, diarrhea, trachoma) result. When water drank is contaminated with diseases causing organisms' water borne diseases result (e.g. cholera, typhoid, dysentery, polio, hepatitis A).

Excreta are a combination of human faeces and urine. Many pathogens leave the body through urine and faeces. These organisms may reach other susceptive individuals through media like water and other fluids, food or directly on fingers or via insect vectors like flies or contaminated soil (Wood *et*

al, 1990). Therefore, an excreta poorly disposed off is not only unsightly, but also gives off offensive smells, and is a source of many diseases. Inadequate sanitation is a major source of diarrhea which kills 2.5 million children yearly and of intestinal warms which cause poor growth and development (Simpson, 1994).

In a concept paper entitled "promotion of sanitation" Uganda's Ministry of Health (2000) stated that inadequate sanitary facilities combined with unhygienic practices and general lack of formal water supplies as well as safe disposal of domestic waste water and poor solid waste management, present sanitation problems in Uganda.

National economies are weakened by the need to spend significant amounts of funds on health care and medicines. Many working days are lost to ill-health resulting from poor water, inadequate sanitation and low investments in water quality and quantity.

Bryant (1998) observes poor sanitation as having a serious effect on the environment. He further states that faecal do pollute undergoing water sources and degrades the surrounding environment.

It has been observed that in situations where sanitation facilities are inadequate or absent, hand washing is very crucial in terms of interrupting faecal oral disease transmission routes (UNICEF/NETWAS 2005). Diarrhoea, worm infections and eye and skin infections are diseases related to water and sanitation. About three million children die from diarrhoea each year (IRC 2004). Each of the three common worms (roundworms, whipworms and hookworms) is estimated to infect more than 500 million people. Roughly 6 million people have become blind from trachoma, an eye disease.

A study conducted in Kenya found that the risk of diarrhea attributed to WASH can be curbed by improving excreta disposal, hygiene practices and water quality (Bisung, Elliot, et al 2015).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The chapter presents the research design used in the study; sample size and selection method, study population, data collection and data analysis methods used.

3.2 Study design

A descriptive cross-sectional survey research design was adopted with both qualitative and quantitative approaches. Amin (2005) opines that a descriptive cross-sectional survey research design is a research plan that is concerned with systematic description of the characteristics of an event, place, population or item being studied at a given time. This study was cross-sectional because the researcher intended to pick a cross-section of respondents over short period of time and the follow up of the respondents was not necessary.

The quantitative aspects was used to capture quantifiable patterns and the qualitative aspect was used to explore in-depth the issues at hand. The study was cross-sectional survey given that the issues involved concerned of more than one section of the study population.

3.3 Variables

The intermediate variables namely; availability, functionality and behaviour change which affected the dependent variables illustrated into positive outcomes and negative outcomes. The positive outcomes include; health environment, while negative outcomes were conceptualised into high disease risk.

3.4 The Sample Size

A sample is a set of respondents selected from the target population for purposes of a survey ,It is a sub set of the total population that could be studied. The ideal sample was one that is large enough to serve as an adequate representation of the target population about which the researcher would like to generalize and small enough to be selected economically in respect to degree of accuracy, time, money, complexity of data analysis and respondent availability(Amin 2005).

Therefore, in order to determine a representative sample size from a cross-section of the population that fulfilled the requirements enumerated by Amin (2005),the Yamane formula (1967) and use of proportions was adopted.

The Yamane formula is stated as:

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

Where n=sample size;

N=Population size and

e=level of precision/sampling error at 0.05.

Therefore;

According (Uganda Bureau of Statistics ,2016), The population at the landing site is estimated to be 2000 as provided by the katabi subcounty because people come and leave every other day.

$$n = \frac{2000}{1 + 2000\ (0.05)^2}$$

$$n = \frac{2000}{1+5}$$

n= 333, *the number of respondents in the sample was 333.*

The breakdown of this was simple random sampling technique was used so as to save time and research costs.

Table 3. 1: Summary of sample selection

Source of respondent	**Purpose**	**No.**
Landing site occupants	5 FGDs (10 people in each)	50
Landing site occupants	Survey interviews	281
Total		**333**

All in total, the study utilized 333 respondents.

For the other respondents the key informants such as local council chairperson and Inspector of Health were purposively sampled due to the key position they held.

3.5 Data collection methods

As already stated the study employed both qualitative and quantitative data collection instruments. And these included:

3.5.1 Survey questionnaires

Questionnaires were used because they allowed for confidentiality, collection of a lot of data in a short time with a large number of respondents who were geographically apart. Questionnaires do not call for close supervision; they are cheap and can allow respondents to fill them at a time convenient to them (Koul, 2009, Kothari, 2004).

The sample survey questionnaires constituted the main research instruments because it was easy to use on a large number of subjects. It had an advantage of facilitating collection of a lot of information in relatively short time and was answered by respondents without explanation. The survey Questionnaire is provided as *Appendix 11*.

3.5.2 In depth Interview

The researcher conducted interviews with key informants like; LC1 and the Katabi Sub-County Health Inspector as by Appendix III:

The researcher adopted this method because it enabled him to come across new ideas. This interview method was appropriate as it brought the interviewer and the interviewee too close to each other. It enabled probing and cleared ambiguities, generated firsthand information, had a high response rate and enabled acquisition of data there and then.

3.5.3 Observation checklist

This comprised of items to be observed (Appendix V). Particularly the researcher used this method to observe the adequacy and usage of the different sanitation facilities.

3.5.4 Focus Group Discussions (FGDs)

These were group discussions with respondents from the landing site (Appendix IV). They were adopted so as to compliment the quantitative method by soliciting for explanations that cannot be quantified through sampling views.

3.6 Data analysis and management

3.6.1 Data Analysis

Data analysis was the process of examining what has been collected in a survey and making deductions and inferences. It involves scrutinizing the acquired information and searching for patterns of relationship that exist among the data groups (Kombo& Tromp, 2006, Kothari, 2004). The researcher

employed both quantitative and qualitative research paradigms in data analysis for purposes of methodological triangulation in order to enhance the validity and reliability of the study (Amin, 2005).

3.6.2 Quantitative Data

Data collected from the field was examined for its accuracy and completeness of information given. It was cleaned, sorted out and entered into the SPSS computer software and analyzed. Frequencies and percentages were used because they could easily communicate to the research findings to majority of the readers. Frequencies can easily show the number of times a response occurred and the number of respondents in a given category while percentages informed the comparison of the sub groups that differ in size and proportion (Gay, 1992).

3.6.3 Qualitative Data

Qualitative data analysis was done by narrative as was recorded during face to face interview and through observation. The researcher used a quick impressionist summary in analyzing qualitative data; summarized key findings by noting down the frequent responses of the respondents during the interview on various issues concerning adequacy, usage, cleanliness, and diseases that result from poor sanitation at Kasenyi landing site. This technique of qualitative data analysis was chosen because it saved time and it was not very expensive. Interviewees were listened to attentively, in order to identify the emerging themes and through sorting, recording, reflection and interpretation of the meaning of data. (Amin, 2005).

3.7 Ethical considerations

During the planning, collection and processing of data, the researcher followed a number of research guidelines to maintain ethical standards which included; seeking informed consent of the respondents and making it known that their participation is voluntary and they are free to withdraw from the study at any time or may not answer questions they are uncomfortable with.

The researcher accorded due respect to the respondents privacy and confidential treatment so that the names of the participants and their schools cannot be identified; the respondents will remain anonymous.

The researcher got permission from the Kasenyi landing site LC1 to gain access to landing site and this was followed by officially writing to the concerned authorities requesting them to allow the researcher to conduct the study (Amin, 2005).

The researcher was objective in conducting the research process to avoid bias, by for example employing research assistants to collect the data. The researcher also displayed high level of

confidentiality with data collected from the respondents and will obtained consent from them before administering data collection instruments.

The researcher assured the respondents that she is seeking data from them for research purposes alone and the data will be used for academic purposes alone. In this ways the researcher did not demand for their identity, and assured them of how the information they give was not be used for any other purposes other than research.

The researcher informed the respondents the purpose of the study, why and how they would be selected. The research went ahead to seek for informed consent of each respondent both orally and in writing.

The researcher told the respondents of the long-term and short-term benefits of the study. And in case a respondent refused to participate in the study, their opinion was respected.

The researcher tried as much as possible to minimize embarrassing questions especially during interview. In order to obtain the best results, the researcher tried as much as possible to avoid perceptual biases during questionnaire administration and interviews.

The above ethical considerations were vital in ensuring that respondents do not withhold desired information and ensure that the data collected reflected a true and fair image of the views of the study respondents.

3.8 Limitations

In the research process, the researcher faced a number of challenges that affected the progress of the study. These included;

- Respondents were shy to give the right information, like usage of sanitation facilities, this was solved by encouraging the respondents to express themselves freely as this findings were to be kept confidential.
- The time was not enough to fully assess all respondents for interview and questionnaire administration as well as to analyze all the information in journal and other documentary sources/ articles. This problem was solved by conducting interviews fast, administering questionnaires fast and getting a good number of relevant documents such as journals and going through them quickly.
- Some respondents did not return the questionnaires in time, and some were not willing to take part in the study. This problem was tackled by use of different data collection methods for example observation in order to generate more data to come up with good presentation of work.

- Resources in terms of money were not enough. The problem of resources was solved by using the money sparingly.

3.9 Arrangement of the dissertation

This research study was arranged in five chapters. Chapter one contained the background to the study that was statement of the problem, purpose of the study, and objectives on which evaluations were done and where the study problem was outlined, chapter two contained the study literature arranged in line with the study objectives. Chapter three contained the methodology, chapter four had data presentation, analysis and interpretation and chapter five had the summary, conclusion, recommendations of the study and areas for further study.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND ANALYSIS

4.1Introduction

The major findings of the study are presented in this chapter in relation to the objectives of the study. The presentation follows the order by which the specific objectives of the study are stated. Methods that involve graphical illustrations and frequency tables have been used in the presentation to reflect statistics that accompany explanations for better understanding.

4.2 Socio-demographic characteristics of the respondents

Overall, a total of 333 study respondents participated in the study. A total of four demographic variables were investigated and they included:, gender, age, education, and area of work. Results in Table 4.1 present the socio-demographic characteristics of the study respondents.

Table 4.1: Socio-demographic characteristics

Socio Demographic variables		**n(333)**	**%**
Gender	Male	143	43.8%
	Female	190	56.2%
Total		**333**	**100%**
Age	8 to 20 years	73	28.3%
	21 to 40 years	136	45.3%
	More than 40 Years	124	41.3%
Total		**333**	**100%**
Level of education	None	85	28.3%
	Primary	153	50.9
	Secondary	70	23.3%
	Tertiary	25	8.3%
Total		**333**	**100%**
Area of work	Landing site	227	75.6%
	Somewhere else	106	35.3%
Total		**333**	**100%**

Source: *Field Data 2018*

4.2.1 Gender

The study as presented in Table 4.1. involved 56.2% females and 43.8% males, this shows that the study was gender sensitive and both respondents gave useful information. These findings were similar to observations made during the FGDs where more (28 out of 50) female participants were present compared to their male counterparts (22 out of 52).

This means that both male and female provided useful information on the adequacy and usage of sanitation facilities at kasenyi landing site.

The fact that there were more female respondents can be explained that ladies are more involved in the business of selling fish as well as operating kiosks at the landing site.

4.2.2 Age of household head

The study found that the majority of the respondents (45.3%) were between the ages of 21 to 40 years of age (Table 4.1), 28.3% were of age between 8 to 20 years, 41.3% were respondents more than 40 years. Similar observations were made during the FGDs where most participants were observed to be adults of middle age and above.

4.2.3 Level of education for respondents

The study found out that 28.3% had no formal education, 50.9% had primary education, 23.3% had secondary education and 8.3% had tertiary education.

The study population exhibited high illiteracy levels; this was confirmed by The Health Officer of Katabi Sub County during the Key Informant Interview (KII), that majority of the study population had low literacy rates (Table 4.1).

4.2.4 Area of work for respondents

75.6% of the respondents indicated that they work on landing site on the daily basis while 35.4% of the respondents work elsewhere (strangers).

4.3 Types and state of Sanitation Facilities at Kasenyi landing site

This was the first objective of the study. Through observations and inquiries with administrative authorities, the data in table4.2: was collected.

Table 4.2: Types of Sanitation Facilities

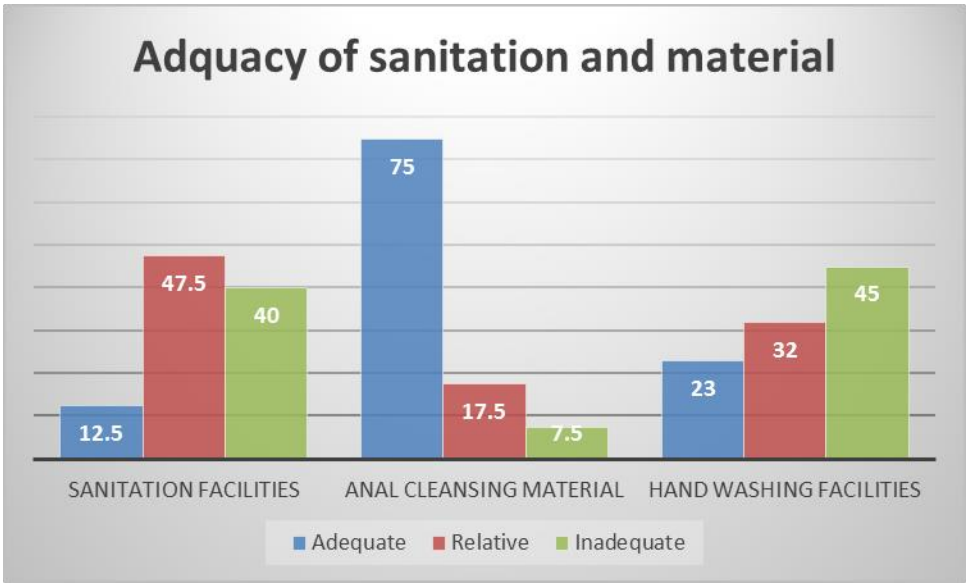
Type of sanitation facility/excreta disposal.	n(333)	%
Pit Latrines	34	10.2%
Flush Toilets	250	75.1%
Lake	29	8.7%
Plastic bags	20	6.0%
Total	**333**	**100%**

Source: *Field Data 2018*

Majority (75.1%) of the respondents at the landing site indicated that they use flush toilets, 10.2% noted that they used pit latrines, 8.7% the lake, 6.0% plastic bags.

Many fishermen pretend they are going to bath at the shoreline, but when they reach there, they defecate or throw polythene bags with human waste into the water and go back

The majority of the respondents used flush toilets; this could be attributed to the problem of the land tenure system. Apparently most of the land around Lake Victoria is owned by individuals who stop fishermen from erecting permanent structures including pit-latrines. The minority 6.0% noted that they use plastic bags; this could be presumably due to failure to pay the fees attached for use of pit latrines and flush toilets and. many fishermen believe that going to the toilet would bring a curse that could deter a good catch. This category of respondents was unaware of the health dangers associated with improper disposal of excreta.

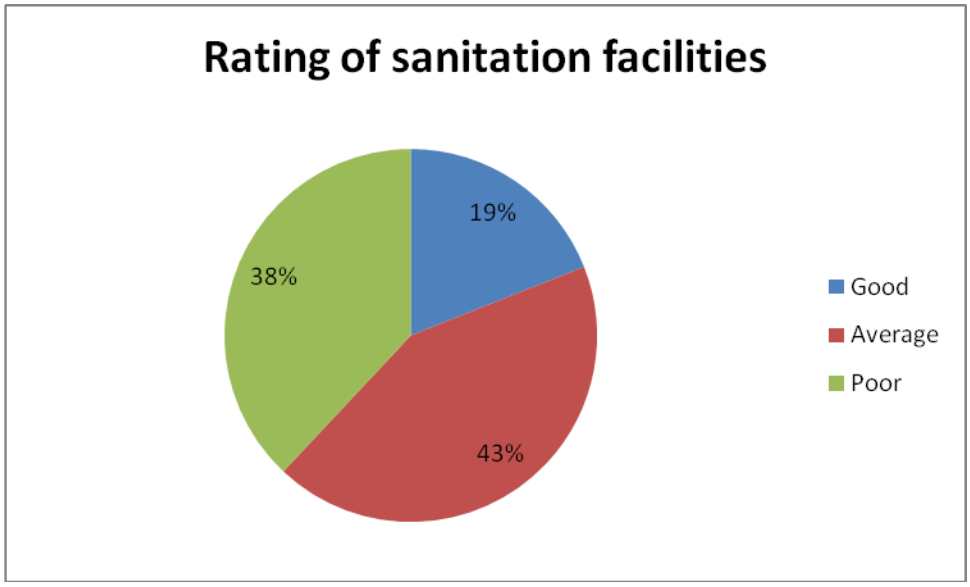


Source: *Field Data 2018*

Figure 4.1: Adequacy of sanitation Facilities and materials.

The number of toilets serving the landing site were 5 totaling to 17 stances for the population of 2000 which makes the ratio of 1 stance to 117 people which is very inadequate comparing to the recommended 1 to 30.

A relatively big percentage (47.5%) indicated that sanitary facilities were relatively adequate. while40% held that the facilities are inadequate. Only 12.5% mentioned that sanitary facilities were enough, these findings are in agreement with Rugumayo (2002). The study made effort to establish the ratios showing the adequacy of sanitation facilities and materials at the landing site and the findings are presented in figure 4.1.

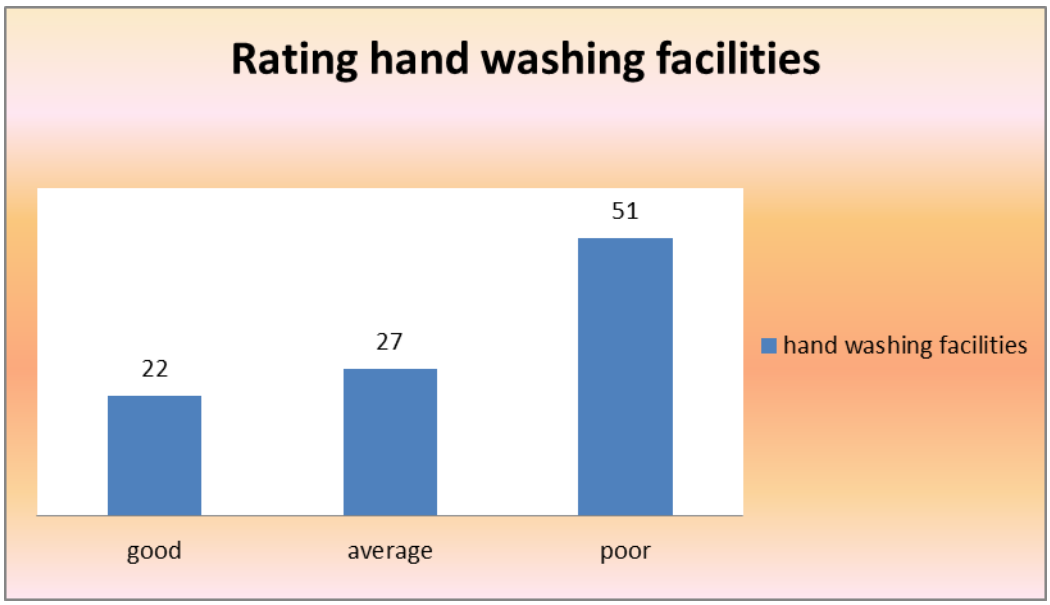


Source: *Field Data 2018*

Figure 4.2: Rating of the Sanitation facilities.

A small proportion of respondents (19%) rated cleanliness of the sanitary facilities as good. A proportion of 38% rated the general condition of the sanitary facilities as poor while 43% ranked them at average standards.

The sanitation facilities are fairly clean but the unclean part is relatively big and should not be ignored since it can lead to spread of diseases especially in the rainy season.



Source: *Field Data 2018*

Figure 4.3: Rating of the hand washing facilities.

While rating the hand washing facilities, the study found out that 51% of the respondent indicated that the condition of the hand washing facilities is poor. Only 22% indicated that the hand washing facilities at their landing site are good while 27% indicated that the condition of the hand washing facilities at the landing site are of average status. During the study, it was observed that a lot of water was available for hand washing, however soap or detergents were not provided to the respondents. This situation can lead to rampant spread of diseases such as typhoid, dysentery and cholera among others.

Plate 1: The photograph showing the researcher at the Kasenyi landing site on the 10th June 2018 at 2:30pm.

4.2 To assess the usage of the available sanitation facilities at the Kasenyi landing site.

This formed the second specific objective of the study. It aimed at assessing the level by which the facilities are used. Having provided their views about the type and state of the sanitation facilities (in the first objective), the study went ahead to establish the usage of the facilities. Responses are presented as below:

Table 4.3: Whether hand washing facilities are functional

Response	**n(333)**	**%**
Water & soap available all the time	89	26.7%
Only water available	237	71.1%
Water & soap not available	7	0.2%
Total	**333**	**100%**

Source: *Field Data 2018*

A majority of respondents, 71.1% indicated that there was only water available, 26.7% noted that water and soap were available and a minority of 0.2% noted that water and soap were not available. From the above, it was noted that the authorities at the sanitary facilities provided water and soap; however the soap was not adequate or presumably it was stolen by some respondents due to high poverty levels. Due to inadequate soap at the sanitation facilities, this could lead to dirty hands or poorly washed hands that could lead to disease spread among the respondents.

Plate 2: The photograph showing the hand washing facility with only water at Kasenyi landing site on the 10th June 2018 at 2:40pm.

Table 4.4: Level of usage of the hand washing facilities

Response	n(333)	%
Nobody bothers even when water & soap are available	44	13.2%
I wash sometimes, sometimes I just go	132	39.6%
Most people do not wash their hands	157	47.2%
Total	**333**	**100%**

Source: *Field Data 2018*

From the findings(table 4.4) it was found out that,13.2% noted that nobody bothers even when water and soap are available to wash hands,39.6% noted that they wash sometimes or sometimes they just go and 47.2% noted that that most people do not wash their hands.

The above could be attributed to the lack of toilet manners and poor knowledge that lead to such poor usage / utilization of the hand washing facilities provided at the places of convenience.

In addition, the study endeavored to establish whether the sampled population have accessional cleansing / materials like toilet paper. The findings are presented in the table as follows:

Table 4.5: Availability of anal Cleansing materials

Response	n(333)	%
Available	179	53.7%
Not available	154	46.3%
Total	**333**	**100%**

Source: *Field Data 2018*

Sizable proportion of the respondents 46.3% indicated that there are no anal cleansing materials such as toilet paper in the landing site. They said that it is up to the users to find the materials to use when in need. This is a big challenge and needs urgent attention to avoid likely unpleasant consequences. Some of the key informants supported this by indicating that respondents are expected to come along

with their own cleansing/cleaning materials. They mentioned that it is quite hard to maintain provision of such materials to the usually big population.
A majority of 53.7% indicated that the materials are present at the landing site.

The study proceeded to establish whether there were separate facilities for the male and female in the landing site. The table 4.6 reflects the findings:

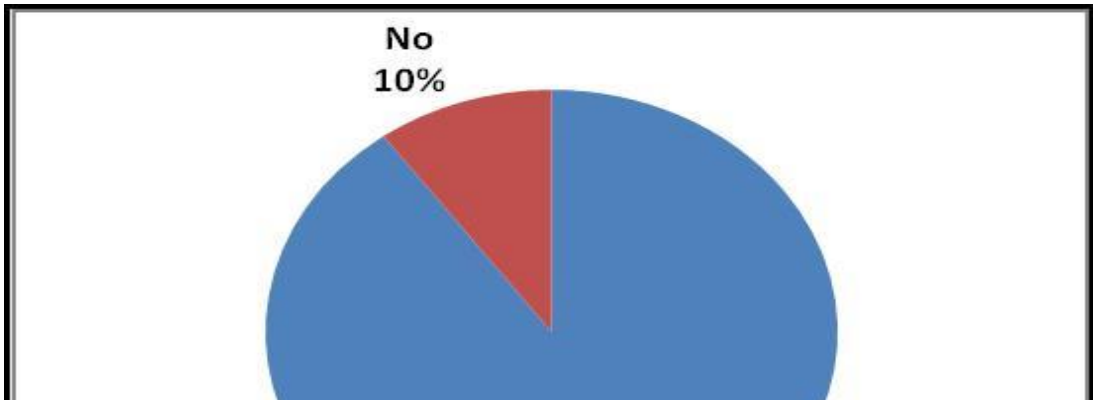
Table 4.6: Separate Toilets for men and women

Response	**n(333)**	**%**
Available	284	85.3%
Not Available	49	14.7%
Total	**333**	**100%**

Source: *Field Data 2018*

Majority 85.3% indicated that there are separate toilet facilities for the male and female respondents were available. They mentioned that this was convenient. However, 14.7% of the respondents indicated that the facilities are not separated, both male and females respondents used same toilet facilities. However, participants in some of the focus group discussions conducted by the study indicated that most of the sanitation facilities have separate facilities for males and females but the problem is that some are not clearly marked as so, as a result, respondents end up using any of the facilities that is closer to then at a given time and with time, this becomes a generally acceptable practice. Generally, the toilet facilities of the male are separated from those of the female in most of areas sampled in the landing site.

Besides separation of the facilities for male and female, the study endeavored to establish whether the facilities were enclosed for privacy of the users. The pie chart that follows presents the findings on this matter.



Source: *Field Data 2018*

Figure 4.4: Whether facilities are enclosed for Privacy

From the findings (figure 4.4), Majority 90% of the respondents indicated that the facilities are enclosed and the user enjoys privacy when using the sanitation facilities, while 10% indicated no privacy. In general terms, majority of the sanitation facilities are enclosed. Information from key informant interviews supported this and was the case with the participants from the focus group discussions. There is therefore desirable level of privacy in the usage of the sanitation facilities at the landing site.

Table 4.7: reasons for not using the sanitation facilities

Response	**n(333)**	**%**
No Problem Using them	31	9.3%
Distance is too long to the facility	79	23.7%
Paying for the facility	84	25.2%
Cultural and religious beliefs	**25**	**7.5**%
Not clean enough	**114**	**34.3**%
Total	**333**	**100%**

Source: *Field Data 2018*

When asked about the challenges of using the sanitation facilities, the study found out that, 34.3% stated that were not clean enough, 25.7% stated that paying for the facility,23.7% stated that the distance is too long, 9.3% stated that they had no problem using them and 7.5% stated that they had cultural and religious beliefs such as they would catch less fish or no fish if they used the facility .

Therefore, most of the respondents were not satisfied with the cleanness of the facilities yet they go ahead and use them out of absence of alternatives.

However, some of the key informants blamed the poor cleanliness of the facilities to landing site occupants who they say come from poor backgrounds are not used to safe sanitation and hygiene practices. They said that in some of the facilities, walls are stained with fecal markings revealing poor practices by especially the males. And for the females, urine was said to be flooding the floors of their places of convenience.

4.5 People's awareness of the consequences of poor sanitation

Reflecting on the third objective, the study endeavored to establish whether respondents have knowledge of the consequences that would arise out of poor sanitation and hygiene practices. The responses are tabulated as follows:

Table 4.8: Types of Diseases from poor Sanitation and hygiene

Response	**Frequency**	**%**
Stomach worms	100	30%
Diarrhoea	173	52%

Other	60	18%
Total	**333**	**100**%

Source: *Field Data 2018*

When asked about the types of diseases from poor sanitation and hygiene, it was found out that 30% stated stomach worms,52% stated that diarrhea,18% stated others.

Majority of the respondents mentioned that poor sanitation and hygiene practices may lead to contracting of diarrhoea while a slight majority of respondents indicated that poor sanitation and hygiene may lead to stomach worms. Others 18% mentioned that adoption of poor sanitation and hygiene practices like drinking of unsafe water would lead to contracting typhoid fever and dysentery. Respondents are therefore knowledgeable of the dangers of poor sanitation and hygiene practices.

Table 4.9: Knowledge of Diseases acquired through use of unsafe water

Response	**n(333)**	**%**
Eye diseases	27	8**%**
Skin rash	113	34**%**
Diarrhoea	100	30**%**
Scabies	93	28**%**
Total	**333**	**100%**

Source: *Field Data 2018*

Efforts were also made to establish whether respondents have knowledge of the diseases that would arise out of using unsafe water, it was found out that 8% stated eye diseases, 34% stated skin rash, 30% stated diarrhea and 28% stated scabies.

This reveals that respondents are fairly knowledgeable about the dangers of using unsafe water.

Respondents are therefore less likely to use unsafe water in effort to avoid catching related diseases as mentioned.

In conclusion therefore, as stated in the studies reviewed in chapter two, improving water and sanitation facilities does not necessary lead to a decrease in water and sanitation related diseases. To bring about real improvement in health, the installation of facilities has to go hand in hand with their proper use and maintenance, hygiene promotion aims to ensure the proper use and maintenance of facilities by motivating people to change their behaviour (IRC 2004).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusion on the major findings of the study and gives tailor-made / suiting recommendations basing on what was found out as according to the specific objectives; the types and state of sanitation facilities, usage of sanitation facilities and people's awareness of the consequences of poor sanitation at Kasenyi landing site.

5.2 Summary

5.2.1 Socio-demographic characteristics of the study population

The study recorded more female than male respondents in this community, More gender awareness on shared responsibilities in sanitation related matters may be necessary to bridge this apparent gap.

The study population exhibited relatively low education level. The level of education of the respondents had a direct bearing on the health related decisions made for good sanitary related practices. Proper usage knowledge was higher among respondents with secondary and tertially education. While those with primary or no education had minimal or no knowledge regarding adequacy and usage of sanitation facilities. The study is in line with findings from the Ministry Of Health(2000) that indicated that lack of awareness on sanitation and hygiene were key hindrances to up scaling sanitation facilities use as this study established that the knowledge levels related to latrine use were generally high yet the practice of actually using latrines remained low compared to the global and national targets.

the study recorded more respondents working on the landing site than some where else, This implied that living in close proximity to landing site necessitated the need to have sanitation facilities considering that most traders were doing business for the better part of the day. Also These findings were consistent with those reported by Shakya *et al.* (2012) which indicated that living in close proximity to main centers was found to increase sanitation facilities use.

5.2.2 Types and state of sanitation facilities at Kasenyi landing site

While the study found that there were different types of sanitation facilities used at the landing site. The majority of the respondents used flush toilets; this could be attributed to the failure to dig pit latrines due to low water table and the problem of land tenure system. Apparently most of the land

around Lake Victoria is owned by individuals who stop fishermen from erecting permanent structures including pit-latrines. The minority noted that they use plastic bags,

This finding supports the literature which notes that there is a lack of access to adequate sanitation facilities in sub-Saharan Africa due to weak infrastructure and a lack of resources (WHO & UNICEF, 2015).

These findings are also in line with that reported by WSSCC, (2004). Lack of proper sanitation usage mostly affects the poor, rural and marginalized communities as majority (71%) of those who do not use improved latrines live in rural areas where 90% of all open defecation takes place. The global health burden associated with these conditions is staggering, with an estimated 4,000– 6,000 children dying each day from diseases associated with lack of access to sanitation

A relatively big percentage (47.5%) indicated that sanitary facilities were relatively adequate. While 40% held that the facilities are inadequate. Only 12.5% mentioned that sanitary facilities were enough. These findings are in agreement with Rugumayo‟s 2002 findings in which he indicated that the National latrine adequacy was 90% in the 1960s, but dropped to 30% in the 1980s and only rose to 47% in the 1990s.

A small proportion of respondents (19%) rated cleanliness of the sanitary facilities and sanitation facilities as good. A proportion of 38% rated the general condition of the sanitary facilities as poor while 43% ranked them at average standards.

The biggest proportion of unclean should not be ignored since it can lead to spread of diseases, as well as people avoiding to use the facilities.

the hand washing facilities were poor 51% , Only 22% indicated that the hand washing facilities at the landing site are good. while 21% indicated that the condition of the hand washing facilities at the landing site are of average status.

5.2.3 Assessing the usage of the available sanitation facilities at Kasenyi landing site.

A majority of respondents, 71.1% indicated that there was only water available, 26.7% noted that ware and soap were available and a minority of 0.2% noted that water and soap were not available. From the above, it was noted that the authorities at the sanitary facilities provided water and soap; however the soap was not adequate or maybe it was stolen by the facility users.

From the findings it was found out that,13.2% noted that nobody bothers even when water and soap are available to wash hands,39.6% noted that they wash sometimes or sometimes they just go and 47.2% noted that that most people do not wash their hands.
The above could be attributed to the lack of toilet manners and poor knowledge that lead to such poor usage / utilization of the hand washing facilities provided at the places of convenience.
Drawing from the reviewed literature proper latrine use is a behaviour much beyond structures. Using a latrine, hand washing after latrine use, maintaining a latrine in an adequately sanitary state, is in many cases, more of factors of attitude and habit than existence of structures (Amin, 2005).

Majority of the respondents 46.3% indicated that there are no anal cleansing materials such as toilet paper in at the landing site. They said that it is up to the users to find the materials to use when in need. A majority of 53.7% indicated that the materials are present at the landing site. This is a big challenge and needs urgent attention to avoid likely unpleasant consequences.

Still under usage of sanitation facilities, the study proceeded to establish whether there were separate facilities for the male and female in the landing site. Majority 85.3% indicated that there are separate toilet facilities for the male and female respondents were available. They mentioned that this was convenient. However, 14.7% of the respondents indicated that the facilities are not separated, both male and females respondents used same toilet facilities. the toilet facilities of the male are separated from those of the female in most of areas sampled in the landing site.

Majority 90% of the respondents indicated that the facilities are enclosed and the user enjoys privacy when using the sanitation facilities. They further added that the facilities are placed a relatively favorable distances from the main building structure. There is therefore desirable level of privacy in the utilization of the sanitation facilities at the landing site.

When asked about the challenges of using the sanitation facilities, the study found out that, 34.3% stated that were not clean enough, 25.7% stated that paying for the facility, 23.7% stated that the distance is too long, 9.3% stated that they had no problem using them and 7.5% stated that they had cultural and religious beliefs. The study results were consistent with the Water Sanitation Programme (2004) findings that identified nomadic pastoralism and cultural factors to be major hindrances to improved latrine use.

5.2.4 People's awareness of the consequences of poor sanitation

When asked about the types of diseases from poor sanitation and hygiene, it was found out that 30% stated stomach worms,52% stated that diarrhea,18% stated others.
Majority of the respondents mentioned that poor sanitation and hygiene practices may lead to contracting of diarrhoea while a slight majority of respondents indicated that poor sanitation and hygiene may lead to stomach worms. Others 18% mentioned that adoption of poor sanitation and hygiene practices like drinking of unsafe water would lead to contracting typhoid fever. Respondents are therefore knowledgeable of the dangers of poor sanitation and hygiene practices. Regarding illnesses related to poor sanitation and hygiene practices, literature reveals that diarrhea diseases in Uganda rank second among the five killer diseases being transmitted mainly through swallowing faecal germs (bryant, 1998). This has been mainly because of the poor disposal of faecal and unprotected water source.

Drawing from the reviewed literature, one gram of faeces can contain ten million virus, one million bacteria, one thousand parasite cysts and a hundred warm eggs, that is what makes the safe disposal of faeces the most important of all public health priorities. Still today, the majority of illnesses in the world is caused by the fact that faecal matter enters the human body because of lack of safe sanitation and lack of hygiene. To prevent this huge burden of illness, safe water and sanitation are only half of the answer. The other half is getting people to use them wisely and well. Millions of people have still not been adequately informed about the link between faeces and diseases (Ministry Of Health, 2000).

Efforts were also made to establish whether respondents have knowledge of the diseases that would arise out of using unsafe water, it was found out that 8% stated eye diseases, 34% stated skin rash, 30% stated diarrhea and 28% stated scabies.
This reveals that respondents are fairly knowledgeable about the dangers of using unsafe water.
Respondents are therefore less likely to use unsafe water in effort to avoid catching related diseases as mentioned.

The majority of the people living in developing countries are suffering from diseases, hunger and ignorance. In most cases problems are interlinked. Due to lack of knowledge the people are exposed to hunger while having enormous resources around them. Over half of the population suffers from diseases caused by poor sanitation when simple sanitary measure can make a big difference. Poor

sanitation, hygiene and inadequate water supply are also related to the spread of other diseases, including tropical diseases such as schistosomiasis (sometime called Bilharzias) rank second in terms of socio-economic and public health importance in tropical and subtropical areas (Esrey 1994). The diseases are endemic in 74 developing countries Uganda inclusive, infecting more than 200 million people of these; 20 million suffer severe consequences from the disease. 40% of the world population still has no basic sanitation; many people do not realize the health benefit to individuals, community and to the society from improving sanitation. The high cost of improving sanitation is often cited as a barrier to implementing sanitation projects.

5.3 Conclusion

Concerning the specific objective one, it can be stated that although the Kasenyi landing site owns a variety of sanitation facilities, there is generally inadequate sanitation facilities at the landing site. The phenomenon is exacerbated by the ever increasing population due to increase in resulting from the booming businesses at the landing site. The concerned administrations seem to find a big challenge with increasing the adequacy of the facilities saying that it required relatively large budgets to set-up the facilities and the land tenure system.

There is considerable congestion for landing site occupants trying to access the facilities at the landing site. This leads to unhygienic conditions and greatly increases the risk of cross contamination and infection that can result into rampant spread of waterborne diseases such as cholera and dysentery among others.

On the second objective of usage of the sanitation facilities, the few sanitation facilities are poorly used which is a result of many factors including people's background and upbringing, discipline regarding personal hygiene and weakness by the local authorities in implementation of sanitation and hygiene policies. For instance, key informant interviews and physical observations revealed poor disposal of waste. The cleanliness and positioning of the facilities themselves is not at its best coupled with the charges of two hundred shillings every time one uses the facility. This forms part of the reasons why some of the respondents ignore using the facilities and instead opting for the shore and bushes around the landing site this exposes the respondents to illnesses related to poor sanitation and hygiene as evidenced by the high number of case by the nearby health centers. There is a very real and imminent risk of major outbreaks of cholera and other killer diseases

On people's awareness of the consequences of poor sanitation usage. The respondents were knowledgeable of the dangers of poor sanitation and hygiene practices

The study therefore implies that although the community exhibited higher levels of knowledge pertinent to awareness of the consequences of poor sanitation usage, this knowledge was yet to translate into practice among the community members in the study area. This indicates an apparent gap in knowledge, awareness and practice that may need to be bridged by encouraging communities to translate their knowledge and awareness levels into the practice of proper sanitation usage.

Generally, all the issues mentioned regarding sanitation and hygiene depend on the planning and management by the concerned authorities. They have the power to come up with appropriate policies and programs, design working strategies and they own the resources to change all that may not be right with the landing site sanitation and hygiene for the better.

To bring about real improvement in health, the installation of facilities has to go hand in hand with their proper use and maintenance, hygiene promotion aims to ensure the proper use and maintenance of facilities by motivating people to change their behaviour (IRC 2004).

5.4 Recommendations

From the study findings, the following recommendations were put in place;

- There is need to develop sanitation programs under which the improper sanitation practices should be tackled right from the root rather than attempting to manage the resultant unpleasant consequences.
- The Ministry of Health itself should conduct regular monitoring and evaluation of landing site sanitation and hygiene standards as part of its regulatory roles.
- Landing sites which do not meet the recommended health standards should be closed until they upgrade to desirable and acceptable sanitation standards.

- Despite the different backgrounds of the respondents at the landing site, the concerned authorities should design sanitation and hygiene policies and programs to groom persons

and general Kasenyi population into practically responsible citizens with good knowledge and practices as far as sanitation and hygiene are concerned.

- The landing site administration should conduct regular monitoring and evaluation of the male and female sanitation facilities instead of leaving the task to the sanitation to the Health inspectors.
- Regular cleaning of the latrines and urinal sanitation facilities should be ensured especially in the morning and evening hours of the day. Regular maintenance should also be ensured by the landing site administrations to avoid possible break-down of the facilities which would comparatively make repairs more costly than maintenance.
- The landing site should be encouraged and facilitated to put protected wall painting, word curving and clay portraits that depict hygiene and sanitation messages. This can be installed in such a manner that there are not easily removed.
- There is need to train concerned persons with suitable sanitation and hygiene strategies in order to make sure that they are well acquainted with sanitation and hygiene issues, strategies for their promotion and the roles they have to play.

5.5 Areas of further studies.

After carrying out the study so as find out the adequacy and usage of sanitation facilities on Kasenyi landing site, the following areas of further studies were recommended.

1. To investigate the prevalence of water borne diseases at the landing site as a result of poor sanitation and hygiene.
2. To assess the perception of the people on the quality of sanitation and hygiene at the landing site.
3. To determine the relationship between the economic level of the people and the accessibility to the sanitation facilities.

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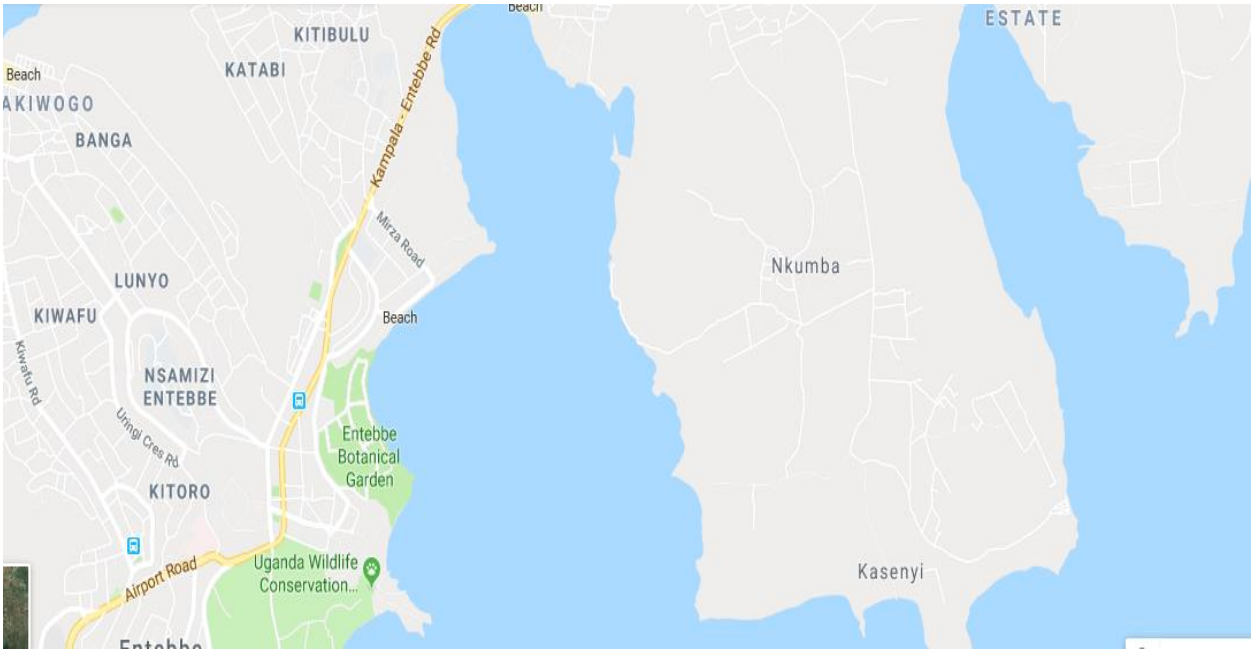
APPENDICES

Appendix 1: A map of Wakiso District showing Katabi sub county and Kasenyi landing site



Appendix I1: Questionnaire for occupants at the landing site

Dear respondent,

My name is Ssekatawa Lawrence. I am a student of Nkumba University pursuing a Master Degree in environmental health. I am currently conducting research on the "adequacy and usage of

sanitation facilities on Kasenyi landing site". You have been chosen to be part of this study as a respondent. I therefore request you to kindly give me your honest views on the few questions below. The questionnaire is anonymous because we do not need your name so your views will remain confidential and your identity will not be mentioned. Where you feel you cannot answer feel free to skip. I thank you in advance.

1. The respondent is

   A male……. ☐

   B female……. ☐

2. Age of respondent…….. ☐

3. What is the highest level of education of the respondent?

   a. No Formal Education…… ☐

   b Primary……. ☐

   c. Secondary……. ☐

   d. Tertiary……. ☐

4. Do you permanently work here?

   a. Yes…… ☐

   b. No ……. ☐

6. How do you dispose off your excreta waste?

   a. Toilet…… ☐

   b. Latrine…….. ☐

   c. Lake……. ☐

   d. Plastic bags…….. ☐

   e. Others (specify)…….

7. Can give a ranking of the general cleanness of the sanitation facilities at the landing site by giving a rank of 1 (bad), 2 (average) or 3 (good). Write your ranking in the blank space provided Toilets:……..

8. Which of the following is true about the sanitation facilities? You may tick more than one answer.
   a. People just dispose off their excreta anyhow……..... ☐
   b. The place is never cleaned…….. ☐
   c. Even if they clean, the place will be dirty in a short time ……. ☐
   d. The place is kept clean as much as possible……..... ☐
9. Tell us about the adequacy of the sanitation facilities and materials
   a. Enough, there is no overcrowding (adequate)…… ☐
   b. Not enough but somehow we manage (relative)…….. ☐
   c. Not enough, there is overcrowding (inadequate)……. ☐

10. Tell us whether the following are available Anal cleansing materials (toilet paper etc)
   a. Available and enough (adequate)…… ☐
   b. Not available (inadequate)…….. ☐
11. Separate toilets for women and man:
   a. Available…….. ☐
   b. Not available…… ☐
12. Are the hand-washing facilities functional?
   a. Water and soap available all the time…… ☐
   b. Only water available……. ☐
   c. Water and soap not available…… ☐
13. Are the facilities enclosed to ensure privacy?
   a. Yes, the user is completely not seen from outside while using……..… ☐
   b. The user is somehow seen from outside while easing themselves……..….. ☐
14. Which of the following is true about the use of hand-washing facilities?
   a. Nobody bothers to wash even if there is water……..... ☐
   b. Sometimes I wash, sometimes I just go…….. ☐
   c. Most people don't bother to wash their hands……... ☐
15. reasons for not using the sanitation facilities
   a. No problem using them……. ☐
   b. Distance is too long to the facility……... ☐
   c. Paying for the facility…….. ☐
   d. Cultural and religious beliefs…… ☐

16. Do you know any disease caused by poor sanitation and hygiene?

a. Yes……..... ☐

b. No…….... ☐

17. If yes, what are these diseases?

a. Diarrhea……..... ☐

b. Others (specify)…… ☐

18. Where do you obtain water for drinking and other uses at the landing site?

a. lake water……..... ☐

b. tap water…….. ☐

c. Protected water spring…… ☐

d. Un protected water spring……...

e. Others (specify) ……..

19. What diseases are associated with drinking, bathing and washing using bad or unsafe water?

a. Skin rush…… ☐

b. Scabies…….. ☐

c. Diarrhoea…….…….. ☐

d. Eye diseases…….. ☐

e. Others (specify) ……..…….. ☐

Appendix III: Interview guide for key informants

1. What types of sanitation facilities do you have at the landing site?
2. Are these facilities appropriate for the landing site? or could you provide better facilities if you were given more resources?

3. (In case of an affirmative answer to the latter part of the above question) Do you think this inappropriateness could be affecting the way people on the landing site use the facilities?
4. Are the facilities you have enough or you could do more if given more resources?

5. Do you provide complementary facilities like hand-washing, anal cleaning?
6. (In the case where they don't have the above) Do you think if you had such complementary facilities they would be fully used by the people at the landing site?
7. Can you comment on the practices of sanitation facilities used by the people at the landing site: Do you think people have a culture of observing high sanitary standards?
8. What are the major challenges you face in providing sanitation facilities to people at the landing site?
9. How do you attribute the challenges faced in providing sanitation facilities on the side of landing site occupants?
10. How do you assess the knowledge/awareness of people at the landing site with regard to sanitation/hygiene observance and what they actually do in practice?

Appendix IV: Interview guide for FGS

1. What types of sanitation facilities are available at the landing site?
2. Comment on the general cleanliness of the sanitation facilities at the landing site?
3. What is your attitude towards using the sanitation facilities; is it a place you are happy to go to or you go begrudgingly?

4. What do you have to say about how landing site occupants use these facilities?
5. Tell me about the adequacy of the sanitation facilities: Are they enough?
6. Are the following available: anal cleansing materials (Such as toilet paper.) and facilities for washing hands after use?
7. Are the hand-washing facilities functional?
8. Are the facilities enclosed to ensure privacy?
9. What challenges do you face in the use of hand-washing facilities?

Appendix V: observational checklist of sanitary facilities

Please tick the appropriate box or fill in observation where required. Please tick only one entry unless otherwise stated.

1. Availability of toilets/urinals
   a. Available……. ☐
   b. Unavailable……. ☐

3 Type of sanitation facility

a. Pit latrines…….. ☐

b. Flush toilets…….… ☐

4 Anal cleansing material

a. Available…….. ☐

b. Unavailable…….. ☐

5 Hand washing facilities

a. Available…….. ☐

b. Unavailable…….…. ☐

6 Are hand washing facilities functional?

a. There is no water and no signs of recently being used……. ☐

b. There is no water but looks recently used……... ☐

c. There is water……... ☐

d. There is water but no sign of recently being used……. ☐

7 Are facilities enclosed?

a. Doors are there……. ☐

b. no doors…… ☐

8 Privacy guarantee of facilities especially the

a. User can be completely invisible from outside ladies‟ side while using…… ☐

b. User can be seen while using……. ☐

9. Walls are smeared with *human excreta*

a. Yes……. ☐

b. No…… ☐

10. There are dropping of human excreta on top

a. Yes……. ☐

b. No…….. ☐

11. General appearance of facilities

a. Generally clean…….. ☐

b. Generally not clean……... ☐