THE EFFECTS OF POOR SANITATION ON THE COMMUNITY OF KABALAGALA SUB- COUNTY, MAKINDYE DIVISION, KAMPALA, CENTRAL UGANDA.

BY:

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REG.NO:BEM/8079/51/DU

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ADISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR AWARD OF THE BACHELOR OF SCIENCE DEGREE IN ENVIRONMENT MANAGEMENT OF KAMPALA INTERNATIONAL UNIVERSITY.

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DECLARATION

I Arao Jacqueline, declare that all that is included in this work is my own effort and has not been presented by any other student for award of a degree or its equivalent in this institution or any other.

Where other individuals, groups, authors, organizations, reports and others have been used has clearly been indicated.

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SIGNED:.....

DATE:.....6/9/2008.....

SUPERVISOR: DR.TWAHA .A B.

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DATE:.....6.9.2008.....

DEDICATION.

I dedicate this piece of work to my mother Mrs.Kemigisha Prisca and my uncle Mr. Henry Bagazonzya.

ABSTRACT.

A research to explore the effects of poor sanitation on the community was carried out in Kabalagala sub county, Makindye division, Kampala, central Uganda. The researcher focused on establishing the existing sanitary facilities, causes of poor sanitation, effects and measures to reduce the impacts of poor sanitation in the area.
Different data gathering tools were used among which were observation, questionnaires, and documentation.

The study revealed the following as the state of sanitation in this sub county; sanitary facilities were; Shared latrines, unshared latrines, urinals, toilets, rubbish pits and bathrooms. The causes of poor sanitation; weak leaders ; lack of skips, condition of trenches, weak laws, high population, filled up latrines and stagnant water. The effects were diseases, bad smell, filth, leachates and conflicts.
And the measures to reduce the impact of poor sanitation was to introduce skips, strengthen laws, free nets (mosquito nets), repair and construct trenches, spread responsibility, free rubbish collection, sensitization, construct public toilets, rubbish collection time schedule revised, continuous inspection and support projects in the area dealing with sanitation.

The study shall therefore benefit in one way or the other the local government planners and local council leadership in the area as gaps on sanitation situation in the area have been identified and presented there in this report at the same time the researcher obtained a lot on how to conduct scientific research and exposure to its community application with the guidance of the different data gathering tools.

Generally, sanitation in Kabalagala Sub County is poor since the area is a highly populated suburb with numerous unsanitary and unplanned settlements, poor waste management together with poor drainage system which has then exposed a large number of this population to conditions unfit for human survival.

ACKNOWLEDGEMENTS.

Appreciation goes to the almighty God who kept me well all throughout the time in the field and during the production of this report.

On the same note my heart felt gratitude to my mother Mrs.Kemigisha Prisca whose financial, material and emotional support enabled me go through my learning time, research and sitting down to combine this document. Equal thanks go to my uncle Mr. Henry Bagazonzya.

I am grateful to my supervisor Dr.Twaha.A.B who guided me all throughout my time as a student and specifically in the correction and direction during the time of writing my proposal and dissertation.

Finally, to my friends who also helped in which ever kind of way may God reward your efforts.

Acronyms.

KCC	Kampala City Council.
NEMA	National Environment Management Authority.
DWD	Directorate of Water Development.
MOFPED	Ministry of Finance Planning and Economic Development.
MOH	Ministry Of Health
WHO	World Health Organization

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CHAPTER ONE

1.0.INTRODUCTION

1.1. Background

Water supply and sanitation rose up the development agenda more than 20years ago. The 1977 UN water conference in Mar del Plata, Argentina, recommended that the 1980s should be proclaimed the international drinking water supply and sanitation decade (IDWSSD) .In preparation for the launch of the decade, the World Bank and the World Health Organization (WHO) carried out rapid assessments of the water supply and sanitation sectors in more than 100 developing countries.

These, together with WHO`s five yearly monitoring of water supply and sanitation coverage, provided the baseline statistics against which progress in the sector is generally measured. The picture was a depressing one: 1.2billion people out of a total third world population of 2.2billion (china was not included in the statistics at that time) were without access to safe drinking water; 1.7billion had no proper means of excreta disposal. As a result, an estimated 10million people a year were dying from diseases directly related to poor sanitation and half of the world's hospital beds were occupied by patients suffering from water related illnesses.

Also, IDWSSD (1981-1990) was launched at the UN general assembly in November 1980, with all countries adopting the declared target of achieving 100 percent coverage in water supply and sanitation by 1990. To reach the targets would have meant doubling the rate at which new water supply services were then being provided, and more than quadrupling the provision of sanitation /sewerage facilities, Sector investments by governments and donors would have to rise threefold.

The launch of the decade gave water supply and sanitation a publicity boost and led to concerted efforts to speed up progress. The economic climate of the 1980`s,however,was not conducive to massively increased funding, and anyway most sector institutions in developing countries did not have the absorptive capacity to cope with the type of programmes needed to come close to the 100percent coverage goals. Provision of

improved water and sanitation services did speed up in comparison with previous years, though in the case of sanitation, it still could not even keep pace with rising population and so the number of people unserved continued to rise. (DFID, 1998).

1.2. Problem statement

Every year, millions of the world's poorest people die from preventable diseases caused by inadequate water supply and sanitation services. Hundreds more suffer from regular bouts of diarrhea or parasitic worm infections that ruin their lives.

Women and children are main victims burdened by the need to carry water containers everyday. They must also endure the indignity, shame, and sickness that results from lack of hygienic sanitation.

The impact of deficient water and sanitation falls primarily on the poor unreached by public services; people in rural and peri-urban areas of developing countries make their own inadequate arrangements. Their poverty is aggravated and their productivity impaired, while their sickness puts severe strains on health services and hospitals (DFID, 1998).

The poor drainage (sewers, septic tanks, and pit latrines) can become a source of faecal contamination when floods occur, as the flood waters mix with the excreta and spread the contamination wherever the water flows. Piles of rubbish in the streets and at dump sites can provide a habitat for rats and contribute to spread of a number of diseases (DFID, 1998).

1.3. Objectives

1.3.1. General objectives

- To asses the effects of poor sanitation on the community in Kabalagala.

1.3.2. Specific objectives

- To find out the existing sanitary facilities in the community of Kabalagala.
- To identify causes of poor sanitation in Kabalagala.
- To find out the measures to reduce the impact of poor sanitation.

1.4. Research questions

- What sanitation facilities exist in Kabalagala community?
- What are the causes of poor sanitation in Kabalagala community?
- What are the effects of poor sanitation on the community of Kabalagala?
- What has been or is being done to combat or reduce the problem of poor sanitation?

CHAPTER TWO

2.0. LITERATURE REVIEW.

2.1. Causes of poor sanitation.

According to the Uganda Human Development Report (2005), about 10% 0f the urban solid waste generated annually enters the environment and remains undecomposed.This is equivalent to 70, 000 metric tones per year. In Kampala city alone, only 4% of the annual solid waste generated is disposed of properly.

In urban areas inhabited by poor people, shallow pits are used for sanitation where by sewage usually drains into the open channels which eventually fill up (Orone et al, 1996;Nuwagaba et al; 1997; Nakirunda, 2002).This contaminates water sources ,especially spring water, with faecal material which in turn increases the costs of treatment. Spring water used untreated has been cited as a cause of the high incidence of cholera in Uganda especially in urban areas. Cholera has been associated with high morbidity and mortality rates (NEMA, 2003).

MFPED (2003) showed that there is no single institution responsible for sanitation programmes. The responsibility is spread over three sectors namely health, education and water. The sectors have each given sanitation a very low priority partly because there are few resources available to address the issue .Consequently, environmental sanitation in the country, especially in the rural and Peri urban areas remains poor.

Poor slums and informal settlements are commonly found on low lying, flood prone, or low infiltration capacity land with high water table leading to poor drainage and sanitation problems. Many poor people rely for bathing, laundering and defecation on

drainage channels, canals and rivers which become clogged by garbage and flood when solid waste management is inadequate.
Research in Sao Paulo, Brazil showed that only 2% of slum dwellers have any form of sanitation (Harday et al, 1990).

According to the Ministry of Health (2000), recent studies indicate that the disposal of human waste is seldom practiced and a large percentage of the population does not wash their hands with soap and water after faecal disposal.
Even in homesteads where latrines exist, there is widespread faecal disposal.
The rapid increase in primary school classrooms and enrolment in response to universal primary education (UPE) increased pressure on the limited sanitation facilities available.

The cycle that leads to faecal-oral disease transmission begins with poor sanitation. Failure to dispose of human excreta safely can contaminate the environment and new victims through a variety of routes while contaminated water supplies are one route, poor personal and household practices can spread disease in other ways. Even where acceptable sanitation facilities are installed, the risks are not eliminated, as poor hygiene can still spread disease through a variety of feacal oral routes. (Feachem and Cairncross,1993).

2.2. Effects of poor sanitation

It is estimated that 80% of the disease burden in Uganda is associated with poor sanitation and hygiene (MFPED, 2003).
By 2003, the national household latrine coverage was low, estimated at 48% compared to the Poverty Eradication Action Plan (PEAP) target of 60% access by 2004(MFPED, 2003).

According to NEMA (2004), heaps of rotting wastes can provide a fertile breeding ground for flies, mosquitoes and rodents among other objectionable vermins and vectors. Also, poor and haphazard waste dumping can result in pollution of surface and ground water bodies.

If people do not have adequate and appropriate sanitation facilities or the chance to develop good hygiene practices, diseases can be spread through the contamination of water or through other pathways in the home environment. At any one time about half of the people in developing countries are suffering from one or more of the six main diseases associated with inadequate water supply and Sanitation: Diarrhea, Ascaris, Hookworms, Dracunculiasis, Schistomiasis and Trachoma (Esrey et al, 1990).

In cities, the urban poor suffer the indignities of inadequate sanitation and frequently have to purchase water from private vendors.
Research in slum and squatter settlements in Jakarta showed that less than a quarter of the city's population have direct connections to piped water system and 30% depend on solely on purchasing water from vendors (Jarman ,1997).
Poor households can spend up to 40% of their total income on water (UNICEF, 1995).
According to Bern et al, (1992), although improvements in water supply and sanitation are important for everybody, children are the most vulnerable to the preventable diseases which result from the lack of water, dirty water and lack of sanitation.
Over three million children die every year from diarrhoeal diseases and dehydration and over half experience more than fifteen attacks of serious diarrhea before the age of five.

The impact on the health, dignity and quality of life of the poor is shaming. Squalid surrounding and continuous health hazards exacerbate the effects of poverty, particularly in the overcrowded slums which surround all third world cities.

According to WHO (2000), 3.3 million people die every year from diarrhoeal diseases and at any one time there are 1.5 million suffering from parasitic warm effects stemming from human excreta and solid wastes in the environment.
Increasingly, it is recognized that neglect of water supply and sanitation services for the poor affects all segments of the society .On top of the cost of the health care and lost productivity , the contamination of rivers and aquifers by untreated human wastes hinders industrial progress and economic growth and affects tourism .
"The 1991 cholera epidemic cost Peru an estimated one billion dollars in lost tourism and export earnings". That same amount would have more than paid for all the water and sanitation systems Peru needed to prevent such an outbreak from occurring.

National governments and the international community have continued to ignore the clamor from sector professionals for increased attention to sanitation for far too long.
The situation has been described as "shameful" and correcting it is now a global imperative (Richard, 1997). Change will require political commitment and diversion of resources and it will take time to achieve demonstrable results, but the longer it is delayed, the worse the crisis will become and the harder it will be for the poor to escape the squalor and indignity they now endure.

In formulating strategies for eradicating absolute poverty, governments and the international community should implement the commitment to meet basic needs including access to safe drinking water in sufficient quantities and proper sanitation for all (UNICEF,1995).

With regard to sanitation, women often have different privacy requirements from men. For example, in densely populated urban settlements without adequate sanitation, they are required to use public spaces by cover of darkness in the early morning and late evening and can suffer health problems related to urine retention as a result.

In a project in El Salvador it was found, for example, that women would not use the communal latrines designed by male engineers because the toilets have been designed with a gap at the bottom of the door which exposed their feet and offended notions of privacy (Moser, 1989).

Only 8% of primary schools had sufficient latrines for the number of the children attending and only one third of the schools had separate latrines for the girls (MOH, 2000).And 2.7 % of all students time is lost to sickness from sanitation related illnesses.

NEMA (1994) observed that, the main causes of mortality and morbidity are environmental in nature since they are caused by living and non living agents in the environment, poor sanitation and hygiene, and poor feeding habits. It is therefore, not surprising that Malaria, Diarrhea and Malnutrition are among the top 10 causes of mortality in Uganda.

Piles of rubbish in the streets or at dumpsites can provide a habitat for rat and flies and thus contribute to a number of diseases; rats are a major vector of Plague, Leptospirosis and other Infections, and flies are one of the transmission routes in the feacal-oral disease In addition, tin cans and tyres can contribute a significant breeding ground for Aedes mosquitoes, which transmit Denge and Yellow fever.

Apart from these direct health impacts, solid waste is also linked to feacal–oral transmission route in a number of ways.

Where sanitation is poor, feacal matter can often be a significant fraction of "solid waste." in Luck now, for example, DFID-funded studies of sanitation and solid waste estimated that the contents of "dry latrine" contributed 30 to 40 tones /day or 5%of total mass of solid waste chain; this excludes the feaces discharged to the small and large drains of the city given the lead required for replacement of dry latrines with more sanitary options, it was clear that attention had to be directed to the solid waste system in the short run to address the inherent health risks.

Also, unmanaged solid wastes usually ends up blocking surface water drains or sanitary sewers, and thus contribute to flooding and feacal contamination (DFID, 1999)

Pit latrines in the sparsely populated areas are in generally good condition each facility normally serves one family or household. In the densely populated areas, each facility serves several families or households, the latrines are heavily loaded and badly maintained .in locations where the water table is high and these are sites supporting slum settlements as land is relatively cheap and easy to obtain, the pits rarely go beyond 2metres deep. pit latrines in such areas are inaccessible for emptying and cave-in. the crowded nature of the area does not allow space for digging new latrines once the one in use is full up so that situations with no toilet facilities are common in such areas (KUS ,1994.)

In densely populated slums, some households have no access to sanitary facilities. These have inevitably been improvised by using "mobile toilets"-plastic bags used inside their houses and disposed off indiscriminately either by throwing them in the open at night or in the water courses. In some cases, people build supposed pit latrines near water drains which are in fact some "pour flush" latrines with the flush pipes leading to the open water drains. such sanitary conditions can be seen in slum areas of Ndeeba, Natete and Nakulabye(Kiwunya) in Rubaga Division, Bwaise, Mulago,Wandegeya (Katanga), Kyebando, Kawempe in Kawempe division, Ntinda, Naguru-go-down, Naguru Kasenke, Kitintale,Luzira in Nakawa division, Kibuli, Katwe-Kinyoro, Nsambya, Makindye, Kibuye in Makindye division,Katwe,Kisenyi and Makerere-Kivuulu in Central division (KUS ,1994.)

The situation in most areas of the city using pit latrines is that nearly all dwellers discharge their waste water by tipping in the yard. Bathing areas are mainly crude ones

consisting of some form of shelter made of old metal sheets and /or papyrus mats with a few stones to stand on and the waste water is allowed to run onto the ground. This water in many of the crowded areas renders the yards permanently wet and muddy. Some drains are dug to lead this water away but they are in most cases badly dug and poorly maintained so that they continually get blocked leading to poundage. The wet muddy yards conceal any feaces deposited by the children and this promotes development of worm eggs and larvae .the almost permanent poundage promotes breeding of mosquitoes. In the sparsely populated semi rural areas, tipping of waste water onto the yard causes no problems (KUS, 1994).

More to that, the containers for waste collection are located mostly in higher income areas. The transport service is infrequent. It is not difficult to see full containers with refuse piled on the side, accompanied by the characteristic smell of decaying garbage. The 80% household which do not benefit from the service provided by KCC have to make their own arrangements with respect to waste generation on their properties. Depending on the site location and size, some people bury the waste, some try to burn it, some just deposit it on land which serves as an unofficial mini dumpsite where the residents deposit domestic refuse. These are not only a source of visual pollution and offensive smell but also provide suitable environment for breeding of disease carrying rodents, flies and mosquitoes (KUS, 1993)

2.3. Measures to improve sanitation

The government of Uganda has formulated a health sector strategic plan II, 2005/6 – 2009/2010(UHDR, 2005). The plan has a framework for the delivery of what is known as the minimum health package under which environmental health related diseases are to be prevented and others eliminated under one of the four outcomes.
Core planned interventions are:

- Hygiene promotion and sanitation at household and village level

- Water quality surveillance
- Food safety and hygiene
- Vector control and capacity building for environmental health staff.

A classic study by Khan (1982) in Bangladesh showed that the simple practice of washing hands with soap after defecation was sufficient to reduce the secondary attack rates of dysentery within participating families by 85 percent.

In addition, after a long outcry by environmental experts and the general public, the government of Uganda banned use of kaveera (polyethylene carrier bags) of not more than 30microns effective July 1/ 2007.

In 2005, Kenya joined the war against plastic bags. The Kenyan government in conjunction with the United Nations Environment Programme (UNEP) and the Kenyan institute for public policy research and analysis, issued a report on feb.23.2005 suggesting that Kenya should ban the common plastic bag. However, media reports indicate that Kenya is currently maintaining a minimum thickness of 20microns and has also suspended implementation of a 120% exercise duty. This is done to allow time for further consultation with the plastic industry (NEMA, 2007.)

Also, Kampala city council through its public health department provides septic tanks emptying services at a fee. The council currently has two vacuum tankers supplied under the World Bank seven town water and sanitation project (KUS, 1993).

CHAPTER THREE

3.0. DESCRIPTION OF THE STUDY AREA AND METHODOLOGY

3.1. Description of the Study Area

The study was conducted in Kabalagala sub-county, Makindye division, Kampala.
Kabalagala is located at about 2kms from Kampala city and about 10 kms from Lake Victoria (Gaba landing site), Africa's largest fresh water lake.
It is bordered by Muyenga in the East, Nsambya in the West, Kibuli in the North and Kansanga in the South.

3.2. Methodology

3.2.1. Reconnaissance survey

This was the first stage of the research in the study area to discover the effects of poor sanitation and establish the boundary.

3.2.2. Sampling technique

This study involved selecting various people in the population of Kabalagala where by different households had an equal chance of being selected randomly to answer the research questions.

3.2.2.1. Purposive non-random sampling

It was used in selecting the study sample. Different categories of people were needed in the approach, however, since the area under study is a high density mixed commercial and residential area, it was difficult to give each house a code and therefore every five households/houses were left then a questionnaire administered to the sixth household head until the intended number of 40 respondents was obtained by the intended representative sample.

3.2.3. Data collection instruments

3.2.3.1. Questionnaire method

The researcher interviewed 40 respondents of Kabalagala area who were chosen at random. This helped to strengthen the information got from the other tools.

3.2.3.2. Observation and photography

The research used standardized methods of gathering data and information on the nature of solid waste management ,spacing of latrines, distance from residence, hotels/eating places, commercial buildings ,waste disposal and state of drainage through taking photographs and keen observation during transect walks so as to have clear picture of what exists on the ground.

3.2.4. Data analysis

The data was analyzed right from the beginning of the study through and after the data collection .The researcher edited, coded and tabulated the findings, interview responses were basically used to form or to confirm to the documented information from the questionnaire.

CHAPTER FOUR

4.0. RESULTS AND DISCUSIONS

4.1. Causes and effects of poor sanitation

4.1.1. Causes

There are many causes of poor sanitation that were noted by the researcher and include; The community leaders especially those in charge of sanitation in the different zones are not performing the expected roles as was given by most respondents.

The community lacks a skip for the dumping of solid wastes thus people finally dispose off their wastes in the nearby trenches, channels ,wetland, open dumpsites among others.

More still, the bad condition of the trenches that is they are broken and cracked paving way for wastes to accumulate leading to overflow inform of storm water to people's homes, roads, eating places around, shops and other residential, commercial and recreation areas.

Inability to strengthen and implement the different laws and by-laws relating to living in healthy environments by every individual.

The high population density especially in the crowded slum establishments, high illiteracy rate, and negligence among the population is a stumbling block it's self and the set back becomes great as the paths for vehicles that collect garbage are almost not available.

Also, some latrines are full; some about at the same time about to collapse yet there are no paths for emptying vehicles.

When water stagnates, it acts as a breeding ground for mosquitoes and other disease carrying vectors.

Finally, in most of the areas the children defecate in any place as long as they have felt like.

Table 1: Location of the latrine or toilet from homes

DISTANCE	FREQUENCY	PERCENTAGES (%)
Less than 30 meters	38	95
More than 30 meters	2	5
TATOL	**40**	**100**

A large number of latrines/toilets in Kabalagala Sub County are located less than 30m recommended distance by Ministry Of Health (MOH) for maintaining proper sanitation world wide(table 1).

However, the respondents had numerous reasons to back up the stipulated distance as;

Most of the facilities are toilets constructed in buildings and water born to channel the waste water through the pipe to the National Water and Sewerage Cooperation in Bugolobi, limited space as each owns a plot or apiece of land and worse still some just rent, for those that have their latrines located about more than 30m are people who own big plots like offices, hostels, bars, restaurants and others since they in most cases own large spaces and the need to reduce exposure to bad smell and flies coupled with the associated effects.

Table 2: How communities clean their compounds

CLEANING METHOD	FREQUENCY	PERCENTAGES (%)
Sweeping	30	75
Slashing	2	5
Weeding	6	15
Others	2	5
TOTAL	**40**	**100**

A great number of the people in the study area (about 75%) clean their compounds by sweeping, weeding, slashing respectively and others may include mopping(table 2).The sweeping that was noted as the common way of cleaning according to research findings is done everyday for most of the population and for a few others after two or so days. Indicating that if really these communities practice such a sanitation standard the route of disease could be eliminated or better still reduced hence enhancing good living with development in the minds of the local government workers and the people in general.

Table 3: Methods of disposing off wastes

METHOD	FREQUENCY	PERCENTAGE (%)
Open dumpsite	10	25
Rubbish pit	2	5
Sacks	15	38
Burning	4	10
Others	9	22
TOTAL	**40**	**100**

According to the research, the most used method of collecting and disposing wastes of any kind be it biodegradable or non biodegradable is greatly by use of sacks that are either kept in houses, within the home compound or even outside. Likewise, most of the communities dispose their wastes in some communal open dumping site near their homes mostly near a road or next to a wetland even in the pavements where they are collected or just burnt.

A limited number prefer using rubbish pits or even burn their wastes.

Others imply the "mobile toilets" or dumping in the trenches when it rains as "mobile rubbish pits." From this it can clearly be seen that the way wastes are managed is not stressing good sound environmental management hence the reason why most of the members of this community suffer from diseases such as Malaria and Diarrhea. So implying that, there is need for government intervention as far as proper sanitation in this community is concerned.

Table 4: Cleaning the latrines or toilets

CLEANING METHOD	FREQUENCY	PERCENTAGES (%)
Smoking	**8**	**20**
Sweeping	**16**	**40**
Mopping	**2**	**5**
Washing and scrubbing	**14**	**35**
TOTAL	**40**	**100**

Most of the respondents said they clean their latrines every day with exception of those who do clean once a week or twice and three times a day and for a few isolated cases they clean only when it is dirty. The highest percentage of the respondents mentioned sweeping and, washing and scrubbing as the most used method of cleaning their latrines and toilets. This is so because it is the easiest and cheapest way of maintaining this sanitary facility tidy. Putting chemicals is done after the cleaning or while cleaning but depending on whether this facility is shared or not meaning for the shared latrines if the

households using it are in disagreement then the possibility of extra costs in the cleaning are not incurred and these is done in the latter. Moreover the largest proportion of latrines in this community are shared thus with this trend of events, poor sanitation is most likely to prevail hence impacting significantly on the health of the residents in different ways.
In Muzana zone a respondent said "we are no longer interested in cleaning our latrine because people who pass by use it and live it dirty exposing us to disease in the process of cleaning and using the facility and worse still if we padlock it is always broken off."

Table 5: Common diseases in this community related to poor sanitation

DISEASE	FREQUENCY	PERCENTAGE (%)
Diarrhea	4	10
Cholera	0	0
Malaria	22	55
Others	14	35
TOTAL	**40**	**100**

The most prevalent disease in this community was Malaria, followed by other diseases then diarrhea. Other diseases were; Flue, Dysentery, Cough, Respiratory diseases and Typhoid and Others (table 5).
The respondents had these as the ways through which these diseases came to exist in their community; Stagnant water which acts as breeding ground for mosquitoes and other disease carrying vectors. Such breeding places as wetland and surrounding vegetation, potholes and trenches that contain water, a lot of dust especially during hot days after a dry spell causes flue and cough, negligence and the over crowded nature of the population and associated evils are other venues through which disease easily comes to this community..

Table 6: The worst affected population cluster

POPULATION CLUSTER	FREQUENCY	PERCENTAGE (%)
Children	20	50
The elderly	6	15
Youth	6	15
Women	6	15
others	2	5
TOTAL	**40**	**100**

The children are the worst affected cohort as compared to the rest of the clusters of the population(table 6) because of the following; Children can contract disease from school for flue and cough so easily from school and play friends, children are less resistant to disease ,no enough treatment as they fear medication whether medicine or injection ,lack of mosquito nets ,children are weak and also pregnant women are more vulnerable to disease while expectant exposing the lives of their babies to disease.

Table 7: Availability of information about sanitation

INFORMATION	FREQUENCY	PERCENTAGE (%)
Ever heard information on sanitation	18	45
Never heard information on sanitation	22	55
TOTAL	**40**	**100**

There is a little gap between those members of the community who have never heard any information and those who have ever on sanitation, for those who ever accessed it got from;

- Communal meetings.
- Radio programmes (NEMA, DWD).
- Health workers.
- Chairman LC1.
- Red Cross.
- Television program (UBC, WBS etc).
- Through the health organizations that had come to collect money for solid wastes.

4.1.2. Effects of poor sanitation

Some of the effects of poor sanitation that were noted from the study area were;
The diseases that result from this phenomenon can lead to a number of problems like; its expensive to carry out treatment, makes children cry all the time, some people die psychological torture, failure to do work, makes children fail to sleep at night, children fail to eat and play and children fail to go to school.
Such diseases are malaria resulting from many breeding areas like trenches, wastes piles, pot holes, wetland traces and bushes around among others.

The bad smell, leachates and filth from the decayed waste in trenches, poor waste management, crowded nature of the pit latrines with the associated untidy nature plus the urine which is poured every morning in the trenches or paths connecting house holds to major routes affects communities especially those whose homes the trenches /channels pass by.

The sanitation issue can bring about conflict especially those that observe proper hygiene and those that do not.

One of the outstanding problems that the communities in the different zones in Kabalagala face is the open trenches or channels that purposely were constructed for drainage yet now converted into "mobile rubbish pits" when it rains and urine poured in the morning after collecting in basins or buckets at night for reasons best known to only the individual residents/households, direct urination at night, dumpsite of children's feaces, dust bin for leftovers and others. This then becomes a menace when channels are blocked due to accumulation of polythene bags and subsequent accumulation of both biodegradable and non biodegradable waste brings about filth smell, unappealing to sight, breeding place for disease carrying vectors. This is worsened when the blockage occurs next to an eating place (hotel, restaurant), residential area and so on .This majorly affects those members of this community who stay or occupy flat or valley areas.

4.2. Measures to reduce the impact of poor sanitation

There are several measures pertaining how to reduce the impact of poor sanitation to the community of this area as seen here below;

The government should introduce more skips so that the different community members (in different zones) can deposit their wastes in this making it readily available and easy to collect by those city vehicles when full. this reduces the expenses communities directly and indirectly incur in paying door to door garbage collection more over exposing their homes to insecurity, the difficulty to access areas as it will be strategically located, the diseases that occur due to un healthy waste dumping allover the area near the homes which would cause aesthetic conditions, filth, over flow of leachates among others and the associated impacts to human health and their general well being.

There is need to strengthen the laws concerning sanitation in the community of Kabalagala for instance by- laws like law breakers pay fines, no dumping rubbish any where(in unauthorized places)such as in the water channel and evicting residents who do not observe proper sanitation.

So as to reduce the cases of malaria especially among the vulnerable groups in the population that is the children, the old and pregnant women, the community advocates that government should embark on supplying free mosquito nets, mass sensitization on how to control malaria and free drugs and others.

The trenches that are meant to lead water down the hill or residential areas should be let to that purpose by the residents if other externalities are to be reduced.

Also, there is need for the government(KCC) to carry out massive repair, construction of new trenches, cementing the un cemented and ensuring they are covered with a provision for removing rubbish(emptying) incase of blockage this will reduce on the bad smell (odour), filth, leachates, breeding grounds and so on.

As was observed among the responses most of the community work is done by majorly chairmen local council one (LC1) in the zones of this area which is quite heavy for them and of course doing duties not made for them. Here other community workers and non-governmental organizations should give a helping hand especially in matter concerning sanitation in this community.

The KCC should collect rubbish free or at subsidized prices such that the community members who do not have or are not in position to be giving in the required amount of money each day of waste collection can stop /reduce dumping wastes in the trenches illegally hence reducing adverse effects from poor sanitation practice.

The government should also start or continue educating and sensitizing people directly in their respective zones on matters concerning health, water, sanitation and its related diseases. This will send an appropriate message and the corresponding response hence good sanitation.

Public toilets and latrines with cleaners(care takers) should be established so that passers by can pay or freely use such a facility and stop using other resident's facilities without

permission leaving them dirty some even urinate on peoples walls, defecate in dark corners, in the channels or even use "mobile toilets".

If the channels are to remain open, then, it would be good if by-laws and laws on un authorized dumping of wastes in drainage channels should be enacted, implemented with associated severe corresponding punishments.

The vehicles that collect rubbish should revise their schedule especially rubbish should be collected every weak as waste generation rate has increased.
Conducting subsequent/sequential inspection to find out the peoples standard of sanitation, what part of sanitation is missing, which community has the biggest specified problem, who is responsible for sanitation in this community and others.

Government should establish, support and finance sanitation projects in the area.

The government to supply hoes slashers and containers for garbage to be dumped in and other projects.

CHAPTER FIVE

5.0. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The causes of poor sanitation as weak leaders, lack of skips, bad condition of trenches, weak laws, high population, filled up latrines and stagnant water.

The effects were; diseases, bad smell, filth, leachates, and conflict. While the measures included; introduce skips, strengthen laws, free garbage collection, free nets, repair and construction of trenches, spread responsibility, sensitization, public toilets and inspections.

However, the sanitation situation in the study area was so bad and if serious inspection is conducted then this area would more or less be established unfit for human survival.

5.2. Recommendations

A large population in the study area lacks information on proper sanitation so it would be paramount if government especially the local government on carrying out service delivery ensures this community is sensitized and educated thoroughly on matters of proper sanitation so that they lead a some what good living with minimal diseases especially related to sanitation.

Increase the number of inspections on public health and give a corresponding response to improve people's health.

More research should be conducted whether not on sanitation but in several other fields relating to sanitation in this area.

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RESEARCH QUESTIONNAIRE.

I am Arao Jacqueline a student of Kampala international university pursuing a degree course in environment management. I request that you give me all the necessary information. Any information given shall be kept confidential.

(PLEASE TICK THE RIGHT OPTION IN THE BOX OR FILL THE RIGHT ANSWER IN THE SPACES PROVIDED)

SECTION A.

Social economic characteristics.

1. LC1 area zone.....

.....

2. Sex;

Male ☐ Female. ☐

3. Marital status.

Married ☐ single ☐ widow ☐ widower. ☐

4. Level of education.

Primary ☐ secondary ☐ tertiary ☐ university ☐

N/A ☐

5. Occupation.

Teacher ☐ doctor ☐ nurse ☐ student ☐

Others .....

.....

6. Age.

15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐

55-64 ☐ 65+ ☐

SECTION B.

7. Do you have any of these sanitary requirements?

Latrine ☐ urinal ☐ rubbish pit ☐

Others if any .....

8. What is the distance of your home from a latrine, urinal, and rubbish pit?

Less than 20meters ☐ more than 20meters ☐

9. Why are they at that distance? .....

.....

.....

10. How do clean your compound?

Sweeping ☐ slashing ☐ weeding ☐

Others if any .....

11. How often do you clean your home? .....

.....

12. How do you dispose off your wastes? .....

.....

13. How do you clean your latrine? .....

.....

14. How often do you clean the latrine? .....

.....

15. What are the common diseases in your community?

Diarrhea ☐ cholera ☐ malaria ☐

Other if any.....

.....

16. Do you have any view of how they came to exist in this community?

.....

.....

19. Who do you think are the worst affected by these diseases?

Children ☐ the old ☐ youth ☐ women ☐

Others if any.....

.....

20. Why are they the worst affected? .....

.....

.....

21. Where do you access treatment? .....

.....

22. How does the prevalence of disease affect you? .....
.....
.....
23. How you ever got any information about sanitation? .....
.....

24. In what way do you get that information? .....
.....
.....
.....

25. Do you have any body responsible for sanitation in your community?
Yes ☐ No ☐

26. Who is that? .....

27. What are the roles that they play? .....
.....

28. Are their any by laws regarding sanitation? Yes ☐ No ☐

29. If yes which ones? .....
.....
.....
.....

30. What is the governments' contribution towards sanitation in this community?
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.....
.....
.....
.....
.....

31. What is the local governments' response towards this? .....
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.....
.....
.....
.....

32. Apart from the government who else helps this community solve the problem of sanitation? .....
.....
.....
.....
.....
.....

33. If they are there, who are they? .....
.....
.....
.....
.....

34. What kind of help? .....

.....

.....

35. In your point of view, what do you think can be done to improve sanitation in the area? .....

.....

.....

.....

.....

I AM SO GREATEFUL FOR THE TIME AND INFORMATION YOU HAVE GIVEN ME.