# HOUSEHOLDS' LATRINE STATUS IN FISHING COMMUNITIES OF MALONGO AND JAGUSI SUB COUNTIES, MAYUGE DISTRICT

**KINAWA MODEST**

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## DEDICATION

This research work is dedicated to my beloved wife Mariah Louise Nakiwa, my children Mutukiriza Joshua and Nicole Janelle Kirabo and my parents for the moral and spiritual support they accorded me during this study.

## ACKNOWLEDGEMENTS

First, glory to God for giving me the wisdom, courage and strength that enabled me to complete this research and my studies at large.

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## LIST OF ABBREVIATIONS AND ACRONYMS

**BMU:** Beach Management Unit

**FGD:** Focus Group Discussions

**GOK:** Government of Kenya

**HoPE:** Health of People and Environment

**IEC:** Information Education Material

**LVB:** Lake Victoria Basin.

**MDG:** Millennium Development Goals

**NETWAS:** The Network for Water and Sanitation (NETWAS Uganda)

**NGO:** Non-Governmental Organization

**UBOS:** Uganda Bureau of Statistics

**UN:** United Nations

**UNDP:** United Nations Development Programme

**UNICEF:** United Nations International Children's Emergency Fund.

**VHT:** Village Health Team

**VIP:** Ventilated Improved Pit

**WHO:** World Health Organization

**WSP:** Water and Sanitation Program

**WSSCC:** Water Supply and Sanitation Collaborative Council

## OPERATIONAL DEFINITION OF KEY TERMS

**Latrine:** A hole with a superstructure designed for defecation.

**Latrine status:** Level of latrine coverage and its utilization

**Latrine coverage:** The number of households owning latrines in the study area

**Latrine utilization**: Usage of a latrine for excretion purpose of feces and urine including disposal of children excreta

**Functional latrine -** Latrine that provided services at the time of data collection even if the latrine required maintenance

**Hygienic latrine**: Means no faecal matter presents inside the facility on floor or walls, which are not full and not smell bad.

**Access to hand washing facilities**: is availability of hand washing facilities at the entry or adjacent to the latrine.

## ABSTRACT

**Introduction:** This study examined the households' latrine coverage and latrine use associated factors among the fishing communities in Malongo and Jagusi sub counties Mayuge district.

**Objectives**: Specifically, the study established the level of latrines coverage among the fishing communities, examined the knowledge and practices of the fishing communities regarding latrine use in Malongo and Jagusi sub counties Mayuge district, established the factors that promote or hinder latrine use in the fishing communities, and established the relationship between the associated factors and latrine use.

**Methodology:** The study used cross-sectional designs with a combination of qualitative and quantitative research approaches where by data was collected using questioners, ket informant interviews and FGDs.

**Results:** The study findings revealed that out of the six socio-demographic variables investigated, four had a statistically significant relationship with latrine use, they included gender (p=0.0114), occupation (p=0.001), education (p=0.001), and average monthly income (p=0.011).

The study findings revealed that all the 5 knowledge related factors on the causes of diarrhea which were studied had a statistically significant relationship with latrine use. Latrine use was higher among households that had the correct knowledge on: human faeces being the principle source of diarrhea (p=0.022) and children's feaces can cause diarrhea (p=0.043). Further still, latrine use was higher among households that had the correct knowledge on open defecation being able to cause diarrhea (p=0.013) and risk of getting diarrhea if neighbor was not using latrines (p=0.042) and the causes of diarrhea (p=0.041). The results showed that latrine use was found to be higher among households that had latrines with a convenient source of water and soap around the latrine (p=0.015) for hand washing and those that presented adequate conditions of privacy (p=0.011). However, there was no significant relationship found between latrine that hygienically separate human excreta from contact and latrine use (p=0.61) and latrines that presented adequate conditions of cleanliness (p=0.42). The study findings showed that obstacles to latrine construction had a statistically significant association with latrine use (p=0.002). The study revealed that latrine use was hindered by obstacles such as culture, lack of money, lack of land, lack of construction skills, and unsuitable hydro-geological conditions. The findings indicate that majority of the households who were not using latrines reported lack of land as the major obstacle 210(53.0%). In most cases these results were supported by the FDG participants. In addition, the views of the FDG participants were similar to the findings above.

**Conclusion:** The study concludes that much as the number of households with latrines was relatively higher, latrine coverage is still low. In the same line latrine use is also still low. The study also concludes that despite the low use of latrine coverage in the study area, the people's knowledge about latrine relatively high. The study further concludes that several factors influence both latrine availability and use. These factors were categorized as Socio-demographic /economic, community related, institutional, and geographical factors. The study recommends that among others there is need to develop information, education communication (IEC) materials for communities regarding pit construction and use.

# CHAPTER ONE
# INTRODUCTION

## 1.0 Introduction

This study was set to examine latrine coverage and the factors associated with latrine use in the fishing communities of Malongo and Jagusi sub-counties. Included in this chapter is the background to the study, problem statement, purpose of the study, objectives of the study, research questions, scope of the study, justification of the study and significance of the study.

## 1.1 Background to the study

Sanitation is a United Nations declared human right and without access to it, many communities are left vulnerable to its negative impacts on health, dignity, economy and education (WHO/UNICEF, 2012a). Lack of latrines mostly affects the poor, rural and marginalized communities. The majority (71%) of those who do not use improved latrines live in rural areas where 90% of all open defecation takes place. Consistently, the global health burden associated with poor sanitation is still alarming with an estimated 4,000–6,000 children dying each day from diseases associated with lack of access to sanitation (Water Supply and Sanitation Collaborative Council - WSSCC, 2004). Despite these realities, progress towards meeting the sanitation Millennium Development Goal (MDG) target for all by 2015 woefully failed to achieve its target (WHO and UNICEF, 2013).

Globally, 15% of the world's population do not use improved latrine facilities forcing over one billion people to resort to open defecation. It is on record that the overall global latrine coverage as at 2011 was approximately 64%. This implies that the world was set to miss its 75% sanitation MDG target by more than half a billion people if the current trends continued (WHO and UNICEF, 2013). In like manner, the World Health Organization (WHO) and United Nations

Children's Fund (UNICEF) report released in July 2015 (WHO/UNICEF, 2015), it was established that one in every three people in the world still do not have access to toilets.

The Joint Monitoring Program report, titled *Progress on sanitation and drinking water: 2015 update and MDG assessment*, notes that, an estimated 2.4 billion people do not have access to sanitation facilities worldwide. This figure includes 946 million people who choose to defecate in open areas. This lack of progress regarding sanitation is viewed as a threat to the health and safety of the public as people without toilets contribute to the pollution of water sources.

In relation to sanitation still, Sub-Saharan Africa has been established to be trailing farthest from behind in comparison to other regions in the world amidst its attempts towards accelerating access to improved latrine facilities (UN, 2015). This is evident in the regional estimates which indicates that only 30% of the population in Sub Saharan Africa use improved latrine facilities whereas, an estimated 26% practice open defecation due to lack of latrines (WHO and UNICEF, 2015). Thus, requires a number of interventions by the different stake holders to improve latrine coverage and use.

In Uganda, sanitation has been at the centre of government programmes since 1934 when the then Colonial Government, laid down rules and regulations to effect appropriate sanitation practices due to their appalling situation (G0U, 1994). Although such a policy framework has been in place, little success has been achieved. This scenario has led to a conclusion that issues of sanitation have not been given priority by government as demonstrated by the low level of latrine coverage noted to be less than 50% in rural areas of most districts in Uganda (Nakiboneka, 1998).

Sanitation is a relatively broad concept. It involves among others the construction and use of sanitary facilities as a way of preventing diseases arising out of inappropriate hygiene habits such as poor disposal of excreta (Bukuluki, 1995). Studies conducted in different communities in Uganda indicate that the sanitation situation in those respective communities are appalling (Bewule, 2011). Generally, their findings indicate the high magnitude of practices such as open defecation among most communities of Uganda irrespective of their social cultural practices. As such sanitation remains one of the key health issues in Uganda. Many people lack access to adequate sanitation facilities, propagating disease and causing high rates of child death approximately 1.5 million deaths annually (UBOS, 2016). Although the overall toilet coverage in the country has increased, recent national population and housing census figures released by the Uganda Bureau of Statistics (UBOS) show that almost 75% of Uganda's disease burden is preventable and linked to poor hygiene and inadequate sanitation facilities and practices. Latrine coverage in Uganda stands at 74%, leaving out 26% without latrines (UBOS, 2016).

The East African Sustainability Watch (SusWatch) (2011) pointed out that, possession and use of sanitary facilities in communities are two different things. It further observed that even in situations where some members of the fishing communities possessed sanitary facilities, the use of such facilities were not certain. Notably, the report gives an outlay of varying factors, which influence possession and/or use of sanitation facilities. Additionally, Graham and Polizzotto (2013) identified poverty, illiteracy and taboos as key factors influencing the possession and/or use of sanitation facilities in most communities in Uganda. They also noted that the nature of the soils has a bearing on the possession of latrine in most fishing communities as it influenced the frequency of replacement.

In Mayuge district, health challenges among fishing communities in Malongo and Jagusi remain a major concern. Low latrine coverage in the fishing communities of Malongo and Jagusi leads the community to dispose off their fecal matter within the surrounding thickets and in water. Other community members defecate in the lake especially fishermen. This not only cause spread of bilharzia but also leads to outbreaks of diarrheal diseases like cholera, dysentery and disrupts the eco system in the lake. Common areas for the majority who do not have latrines do open defecation in gazetted places known as "LUBUBU". Onsite situation analysis highlights poor fecal disposal resulting from lack of latrines. Efforts taken by the community to address these challenges have not yielded any positive results. Despite the commitment of Mayuge district authorities and BMUs to improve the livelihoods of the people of fishing communities, there is insufficient financial and institutional capacity to address the problem of lack of low latrine coverage.

Whereas most studies conducted have focused on establishing the latrine coverage levels, there is a clear gap in the investigation of the underlying factors leading to the low latrine coverage levels especially in marginalized areas such as fishing communities. Therefore, this study was set out to determine the latrine coverage and latrine use associated factors among the fishing communities in Malongo and Jagusi in Mayuge district.

### 1.2 Statement of the problem

The lack of improved latrine use in fishing communities in Malongo and Jagusi in Mayuge district continues to be a widespread health and environmental hazard. Latrine coverage in these areas is generally low with the proportion of the population using latrine facilities (WSP, 2014). According to the District Health Inspector of Mayuge latrine, coverage is at 67% way below the national target. The majority (83%) of the population in fishing communities in Malongo and

Jagusi practice open defecation (UBOS, 2016) due to lack of latrines. Health records of Malongo Sub County indicate that majority of the top ten diseases affecting the population were related to poor sanitation. In 2014, Malongo and Jagusi were adversely affected by a diarrheal diseases and cholera outbreak that left many sick and others dead. The promotion of improved latrine use coupled with the requisite knowledge and practices in Malongo and Jagusi Sub Counties have not received significant attention from researchers, the local government authorities, health programme designers, law enforcers and policy-makers. This calls for an urgent need to examine the households' latrine status and the associated factors for its use among the fishing communities in the area.

### 1.3 Purpose of the study

The purpose of this study was to examine the factors affecting households' latrine coverage or use among the fishing communities of Malongo and Jagusi sub counties Mayuge district.

### 1.4 Objectives of the study

i. To establish the level of latrine coverage among the fishing communities of Malongo and Jagusi sub counties Mayuge district
ii. To examine the knowledge and practices of the fishing communities regarding latrine use of Malongo and Jagusi sub counties Mayuge district
iii. To establish the factors that promote or hinder latrine use in the fishing communities of Malongo and Jagusi sub counties Mayuge district
iv. To establish the relationship between the associated factors and latrine use

### 1.5 Research Questions

i. What is the proportion of households with latrines among the fishing communities in Malongo and Jagusi sub counties Mayuge district?

ii. What do the fishing communities of Malongo and Jagusi sub counties in Mayuge district know about the benefits of using latrines?

iii. What are the latrine hygiene practices of the communities of Malongo and Jagusi sub counties in Mayuge district towards using latrines?

iv. What are the factors that promote/hinder latrine use in the fishing communities in Malongo and Jagusi sub counties Mayuge district?

## 1.6 Scope of the study

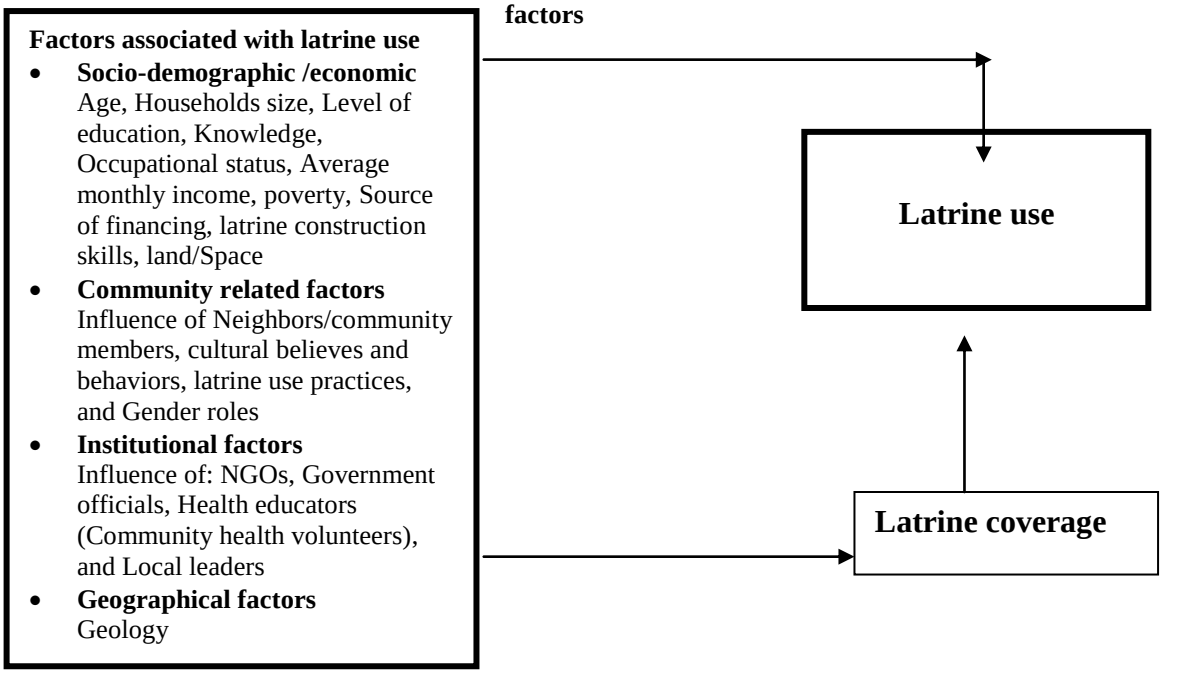
### 1.6.1 Geographical scope

The study was carried out in Malongo and Jagusi sub counties, Mayuge district. Jagusi sub-county has 6 parishes which are independent islands and Malongo has over 7 parishes that stretch up to landing sites.

### 1.6.2 Content scope

The study was confined on assessing the latrine use as the dependent variable and associated factors as the independent variables as illustrated in the conceptual framework below.

**Conceptualframework: Latrine use and the associated factors**




***Source: Compiled by the researcher from the literature re review***

### 1.6.3 Time scope

The study focused on a period of four years, which is from 2014 to 2017. This period was deemed enough to capture the latrine coverage trends and assess the people's knowledge and attitudes while assessing the factors that hinder or promote latrine coverage.

## 1.7 Justification

The world committed itself to halve the proportion of people without access to sanitation facilities by the year 2015; however, this has remained a pipe dream for many countries including Uganda which is one of the countries in Africa that is not on track to achieve the MDG goals on Sanitation (WHO and UNICEF, 2013).

The sanitation status has been declining among fishing communities. With a diverse population originating from different parts of the country, fishing communities face enormous challenges in providing sustainable access to sanitation for its fast-growing population. A significant portion of disease burden is caused by inadequate sanitation associated with low latrine coverage and open defecation practices which results in the prevalence of diseases such as diarrhea (UNDP, 2009).

Increasing coverage and use of improved latrine facilities will make the realization of broader health, social and wider development outcomes both likely and sustainable (WHO, 2012a). Despite its importance, achieving real gains in increasing latrine use has been challenging. There is need to understand the existing latrine coverage and document the underlying factors associated with the low latrine coverage and use in fishing communities in order to accelerate progress towards attainment of improved sanitation targets.

**1.8 Significance of the study**

Determining the pooled prevalence of latrine utilization at the sub county level will provide an overall figure with better estimation accuracy. Therefore, this findings from this study will have a paramount importance for decision makers revealing at what level the sub counties are in regard to latrine utilization.

This study will document information about the current latrine coverage, the factors that promote or hinder latrine coverage, and knowledge and attitudes of people living in fishing communities.

The findings of this study will provide both the residents of Malongo and Jagusi sub counties, Mayuge district and the entire country with helpful information regarding the possible consequences of poor hygienic practices and inadequate sanitation facilities.

Appropriate recommendations could generate or stimulate action for the improvement of the sanitation circumstances of people in the entire region thereby leading to increased coverage of latrines.

# CHAPTER TWO
# LITERATURE REVIEW

## 2.0 Introduction

This chapter contains the literature on the sanitation adoption. It mainly considers the motivators for, barriers and drivers adoption of latrines that influence their coverage and use. The literature was reviewed according to the research specific objectives and people whose works were cited were accordingly acknowledged.

## 2.1 Levels of Latrine coverage

Securing high coverage and use of latrines is the foundation of an effective sanitation strategy. Thus, an understanding of how sanitation interventions and sanitation characteristics impact latrine coverage is very vital to efficient work towards the Sustainable Development Goal of ensuring access to sanitation for all by 2030 (Agenda for Sustainable Development, 2015).

As a right, sanitation is considered fundamental to "human health and survival" (WHO, 2014b). Yet many people, especially those in low-resource settings, have no access to sanitation. Global estimates indicate that, 2.4 billion people still use unimproved sanitation facilities, such as hanging latrines, bucket latrines, pit latrines without a slab, with 40 percent living in Southern Asia (WHO-UNICEF, 2015). It is imperative to note that, 946 million people still defecate` in the open (WHO-UNICEF, 2015), behind bushes, into open bodies of water and street gutters, resulting in both transmission of disease and environmental contamination (WHO, 2014a).

In 2015, only 39% of the global population (2.9 billion people) used a safely managed sanitation service defined as use of a toilet or improved latrine, not shared with other households, with a system in place to ensure that excreta are treated or disposed off safely (UNICEF and WHO, 2015). The report further shows that 27% of the global population (1.9 billion people) used

private sanitation facilities connected to sewers from which wastewater was treated. While, 13% of the global population (0.9 billion people) used toilets or latrines where excreta were disposed off in situ. The report further revealed that 68% of the world's population (5.0 billion people) used at least a basic sanitation service.

In developing regions where people are most vulnerable to infection, only one in every three people has access to improved sanitation (UNICEF Joint Monitoring Programme, 2013). The Millennium Development Goal (MDG) sanitation target to halve the proportion of people with access to basic sanitation by 2015 missed the target by half a billion people (UNICEF Joint Monitoring Programme, 2013). The MDG target, which was expressed in terms of basic sanitation, was deemed to be context specific and to include 'the lowest-cost option for securing sustainable access to safe, hygienic, and convenient facilities and services for excreta and sullage disposal that provide privacy and dignity. It was also meant to ensure a clean and healthful living environment both at home and in the neighborhood of users (United Nations Millennium Project, 2005). Nevertheless, shared facilities represent a large and growing proportion of sanitation options available in low-income countries. Nearly a fifth of the population of sub-Saharan Africa (18%) and Eastern Asia (19%) reports using shared sanitation; the practice is particularly common in Ghana (59%), Congo, and Gabon (both 34%) (UNICEF Joint Monitoring Programme, 2013).

In Sub-Saharan Africa, access to sanitation has improved, but the region lags behind all other developing regions. Sub-Saharan Africa (SSA) has the lowest regional rate of coverage of improved sanitation, with an estimated 695 million people still using unimproved facilities (UNICEF Joint Monitoring Programme, 2015). Whilst estimating hygiene practice is

challenging, the prevalence of handwashing with soap at critical times (after defecation and before eating) for SSA has been estimated to be just 14% (Freeman et al., 2014). Beyond these regional figures, large ongoing disparities in WASH access are known to exist between urban and rural populations and between the rich and poor within countries (UNICEF Joint Monitoring Programme, 2015).

It has also been confirmed that low latrine coverage and the behavior of open defecation become important variables that affect the quality of life in the future (Dean, 2013). It is further explained that the behavior of open defecation mostly found in poor and developing countries, especially in rural communities and urban slums where latrine coverage is still low (Chandra, 2013). Related to the above, it is stated that the practice of open defecation is the behavior of people who do not have their own toilet and that low socio-economic conditions lead to prioritize the needs of society rather than making food consumption and provide toilet at home (Sholikhah, 2012). Research in the province of East Nusa Tenggara suggest that among people who suffer from diarrhea, some of which have a habit of open defecation. The use rate of family toilet is relatively low at 54%. However, the likelihood for one to suffer from diarrheal disease is 38% more among people who don't use toilets than those who use it (Faku, 2012).

In Uganda, due to low coverage of latrines, the incidence of intestinal worms, diarrhea and all diseases related to poor sanitation are reported to be amongst the top 5 causes of morbidity. There is a 5% higher incidence of diarrhea in children in households without improved latrine facilities and the continued prevalence of such diseases and indignities affect health, productivity and performance of school children in Uganda (UBOS, 2013). It also compromises individual and societal abilities to reduce and improve the quality of life. The Population and Housing

Census by the Uganda Bureau of Statistics (2013) shows that 83.3% of the population had access to some form of sanitation facility. It is shown that 62.4% of population had access to facilities up to national required standards which was an increase from 59% reported by the Ministry of Water and Environment (2014). However, these figures mask disparities in sanitation coverage across the country. Preliminary findings from a national service delivery survey conducted in 2014 indicated that 43% lacked toilet facilities due to ignorance; lack of knowledge and negligence; while 29% relate it to high investment costs. Due to the disparities in figures on sanitation coverage in Uganda, this study filled this gap by assessing the latrine coverage level in the country with specific reference to the fishing communities in Malongo and Jagusi sub counties Mayuge district.

### 2.3 Factors associated with latrine coverage and use

There are several factors influencing latrine use. For example, motivations relating to pride and social acceptance are salient drivers to sanitation adoption in Uganda and are associated with a desire to be a proud and socially acceptable member of society. A latrine is perceived to be one of the major responsibilities of the head of the household and it is considered irresponsible not to have a latrine, thus there is great social pressure to have a sanitation facility (Pankaj, 2013). This may well reflect ingrained social norms established through past widespread attainment of very high coverage levels, reported to have been 90 percent in Uganda in the 1970s, prior to civil unrest and economic breakdown, due in large part to highly organized and effective enforcement efforts. The study in Teso and Central Region (WaterAid, 2012) suggests that overall men are more likely than women to be driven by this category of motivations, citing in particular their sense of responsibility to provide a latrine and the additional confidence and respect having one affords them. This is perhaps not surprising giving men the status as the main breadwinner and

head of household. Although women were highly motivated by pride and social acceptance drivers, it was noted that having a latrine in particular makes one more confident to host guests.

In line with WaterAid report (2012), another motivator for latrine use is prestige. While a prestige drive implies social aspirations and is closely tied to a desire to enhance one's social status, pride links to a more basic drive to affiliate and be an accepted member of society. In this way, it is about social acceptance rather than status and should not result in the construction of latrines reserved only for household heads and/or visitors. With regards to targeting female-headed households, in Ghana and Tanzania formative research suggested that pride was in fact a greater driver for women than it was for men. Further, the WaterAid formative research report indicates that in Uganda pride was a driver for both men and women (WaterAid, 2012). Given the high percentage of female-headed households (40 percent) in rural Uganda, understanding the contrasting motivations and barriers to latrine construction across genders is of utmost importance for any demand-driven sanitation program.

The need for convenience is another factor that inspires people to use latrines. According to Awoke and Muche (2013), having a household latrine can greatly reduce the inconveniences associated with defecating in the bush or a neighbor's latrine. Using the bush can be physically uncomfortable, especially in the rainy season, while relying on neighbors' latrines can be stressful and may result in quarrelling, especially when children leave a mess. In both cases accessibility can be a constraint. The removal of such discomforts makes comfort and convenience among the most salient sanitation drivers cited in the available literature on sanitation demand in Uganda. However, further explorations are required to understand this set of drivers in more depth, particularly given that some respondents have no need for a latrine

because they do not perceive defecating in the bush to be uncomfortable (Awoke and Muche, 2013). The authors add that although not mentioned in either document, privacy is likely to be a major aspect of both pride and comfort-related motivations for sanitation, and is clearly an important determinant of sanitation adoption as indicated by the weight placed upon the importance of household latrines in providing a private place to defecate by the Ugandan Environmental Health Policy (Awoke and Muche, 2013).

According to Anteneh, and Kumie (2010), latrines are believed to provide a safe environment for defecation, reducing threats of the bush (e.g., snakes, insects) and reducing the risk of spreading diseases such as cholera and dysentery. The authors however indicate that it is not clear whether it is the risk of accident or disease that is most important to respondents, but findings from other settings might suggest the former, especially since this links in closely to a desire for a comfortable and convenient place to defecate. When considering health-related drivers, two key points need be considered; first, health benefits are often given as a rational reason for wanting/having something, as an explanation rather than a core driver; and second while people often cite sanitation as promoting good health, they rarely follow the biomedical model of disease causation and are more likely to believe that disease is caused by, for example, the sight, heat, or odor from feces, or by flies that land on them, than by touching and ingesting feces. Given that there is low coverage of latrines in the area of study, this action research finds it impossible to link people's perceptions to the use of latrines with safety and security (Anteneh, and Kumie, 2010).

The concentration of districts with high sanitation coverage in southwestern Uganda can be explained in part by the cultural beliefs of the region. In these parts it is culturally abhorrent for a

household not to have a latrine facility, though further exploration is needed to gain an understanding of the reasons behind this and whether they might actually be transferable to other areas, rather than culturally specific. However, sanitation coverage is somewhat lower among the Baganda of the central regions of Uganda where there is a traditional belief that children's faeces can be used in witchcraft; thus, it is important not to leave them exposed (Nuwagaba, 2003). Another belief of the region is that adult faeces may be cut with a razorblade causing serious diarrhea to the person who deposited it. Other cultures hold beliefs that predispose them against household sanitation.

Law enforcement is another key driving force to sanitation coverage and use. As noted, in some districts in Uganda, law enforcement has been a key driving force behind recent sanitation coverage increases. In the Teso and Central regions, however, enforcement was cited as a motivation to build a latrine but only by a minority. In the wider study by Nuwagaba (2003), enforcement appears only to motivate a minority as well. However, this likely reflects the different weights placed upon enforcement in different districts, and in the case of the high coverage areas in the southwest of the country, the preexisting cultural emphasis placed upon latrine ownership.

The diffusions of innovation theory notes the importance of familiarity and "trial-ability" in determining product uptake. Both studies here echo this, finding that most people know traditional pit latrines and thus chose to build pit latrines, having grown up with and experienced them, and knowing how they operate. New technologies are unfamiliar and therefore come with an element of doubt, thus the importance of latrine demonstrations and user education. It is to be

expected that any incoming technology is taken up slowly at first, the majority of households waiting to see how the early adopting houses fair (NETWAS, 2009).

As well as a determinant of sanitation uptake, costs play a major role in determining technology choice, especially given the large increases in cost associated with choosing a ventilated improved pit latrine (VIP) or ecological sanitation model, or ecosan, over a traditional latrine with or without SanPlat. There is need to devise locally cheap latrines that can be constructed using the locally available resources (WaterAid, 2012).

Many areas suffer from geological constraints that make latrine building difficult, restrict choice, and can make construction both more challenging and more costly. Geology appears to be a key constraint to latrine adoption with many areas suffering from extremely rocky grounds, collapsing soils, high water tables, and termites, which eat through wooden slabs causing them to give way. In such conditions, traditional latrines become untenable, undesirable, or costly to build (due to the need to pay extra for pit digging, lining the pit, raising the latrine), and even more expensive latrine technologies may not solve the problem. It is in response to such geological constraints that many NGOs, including the African Medical and Research Foundation (AMREF), have started to promote ecological sanitation (further discussion under "drivers of sanitation technology choice" section). However, in many areas, no suitable technologies are known (Wateraid, 2012).

Improving latrine use guarantees a wide range of benefits to an individual, the household and community at large. However many barriers exist at National level including weak national strategies and policies, inadequate financing and low prioritization of latrines by Governments. At the household level, higher priority has been accorded to water than latrines as water has

direct tangible outcomes compared to latrines. Poverty and gender inequalities could further explain the disparities in latrine use among communities with evidence suggesting that women place a higher value on private latrine facilities than men yet they have the least decision making power as well as control over household resources (UNDP, 2006).

In other studies, odor and fly problems have also been shown to hinder use of latrines at the household level (Anteneh, & Kumie, 2010). Globally, the misunderstanding on the linkage between sanitation and health, institutional and policy shortcomings limited infrastructure and social taboos further pose additional barriers (UN University, 2010). In Kenya for example, the main hindrances to up scaling latrine use have been reported to be low prioritization of sanitation by policy makers, inadequate funding for the sanitation sector, adverse hydro-geological conditions, flooding in low lying areas among others (WSP, 2004).

Presence of alternative defecation sites is another barrier to latrine adoption. This barrier to latrine adoption is a particularly rural phenomenon that tends to diminish as people move to urban areas or villages become more densely populated or turn to more arable agriculture, thus reducing the availability of private and/or convenient defecation sites. Further, in Uganda it appears to only be a barrier among a minority of people. However, it can be a real barrier; open defecation potentially offers the advantages of keeping feces and their scent out of the home, and the outdoors provides a breezy place to defecate, for example (NETWAS, 2013).

High cost of latrine construction is a key constraint mentioned in many documents and is the likely cause of low latrine coverage in rural areas where 96 percent of Uganda's poor live. However, traditional latrines without concrete slabs are not as costly to construct. Thus, the

financial barrier likely reflects a constraint to building the desired latrine rather than a simple latrine. It may also reflect a misinformed perception of high cost, as found in many rural and urban settings where local information, opportunities, and access to latrine building materials, designs, and good technical information about actual costs is actually very poor. Paying to have the latrine dug was the largest construction-related expense as is commonly the case through much of rural Africa for households seeking a more permanent latrine and a design that minimizes smells (Jenkins, 2013).

The inability of a household to raise sufficient funds to construct sanitation facilities was mentioned in all areas as a hindrance to the construction of better facilities than those currently used. Financial capability was mentioned not merely as a lack of resources but as an opportunity cost amidst other competing needs (WSSCC, 2014). A household would find it more useful to dispatch its able members to pursuits that will lead to the acquisition of other basic necessities as opposed to concentrating their resources (money, time and energy) towards sanitation facilities. Filled up pit latrines are left to overflow due to lack of funds to construct new ones (Gopal et al., 2009).

For households to own latrines and increase their coverage in a given community, there is need for having positive knowledge and attitudes towards latrines (Gok, 2010b). This is because improving sanitation is not limited to physical-structural aspects but also includes having the correct knowledge on latrine use, proper use and maintenance of latrine facilities as well as behavior change towards more hygienic practices (Gok, 2010b). For example, a study wsa conducted in Ja'afaru Secondary School, Zaria, Nigeria, to assess the knowledge of environmental health hygiene and availability of sanitation facilities at homes between June and September 2011, with a stratified random sampling of 192 pupils. With respect to environmental

hygiene, students had good knowledge of the subject. It was found that 70.1% of households used pit latrine for sewage disposal while 20.9% practiced indiscriminate disposal of faeces (Ebong, 2004).

The level of household's income is another factor cited in the literature to be influencing the use of latrines. A cross-sectional study was conducted in 12 rural communities in two Mexican states to assess the variety of socio-economic factors, including maternal education and employment levels showed that these factors were associated with intestinal parasite infection in rural school children. A total of 507 school children (mean age 8.2 years) were recruited and 1,521 stool samples collected (3 per child). It was found that children from lower-income families and with unemployed and less educated mothers showed higher risk of intestinal parasitism. Children who defecated in open areas were more likely to be infected than children who used pit toilets and latrines in both regions (OR = 2.45) (Quihui et al, 2006).

Lack of awareness of appropriate service providers appears to be a key constraint, particularly among women who are traditionally unable to dig their own pits. However, this constraint has not been explored anywhere in any depth. While visiting areas where masons were available and known throughout the community, the team was informed of the need for better coordination, communication, and training of masons to improve their access to, and awareness in, the community (Waterkeyn and Cairncross. 2014). Waterkeyn and Cairncross (2014) further show that there is a positive relationship between improvements in education, health and hygiene awareness and the demand for sanitation facilities. Households with members who had a higher level of literacy were most likely to demand and adopt safer methods of excreta disposal than

those with low levels of literacy. The higher level of literacy is also associated with a high premium placed on health status, which will lead to a demand for safer sanitation technologies. While cost and lack of information are perhaps the major barriers, inherent cultural beliefs and practices also contribute to non-adoption of latrine construction and use. Some ethnic groups are predisposed to household sanitation by virtue of their traditional beliefs and taboos. However, in other communities, traditional beliefs result in marked resistance to household sanitation. For example, in both Katakwi and Soroti (where sanitation coverage is below the rural average) it is believed that pregnant women must not use latrines for fear that they will miscarry and the baby will fall into the latrine, while among the Karimojong (traditionally nomadic) it is considered taboo to handle, touch, or live in a dwelling unit near a toilet facility. Such cultural fixedness may contribute to low sanitation coverage in non-conflict areas of northern Uganda where the Karimojong reside (WSP, 2012).

Much as the above literature reviews provide information on the latrine coverage levels and the associated factors, the situation in terms of coverage and latrine use associated factors differ from place to place as shown in the empirical literature. The differences could be attributed to the differing socio-economic, political and geographical factors. In addition, none of the reviewed studies was carried out among the fishing communities. This study therefore fills this gap by specifically looking at the situation in the fishing communities of Uganda.

# CHAPTER THREE
# METHODOLOGY

## 3.1 Introduction

This chapter provides an overview of the materials and methodological details used in the study. The chapter outlines the research design, study variables, study location, sample size, sampling techniques, pre-testing, validity, reliability, data collection techniques, logistical and ethical considerations and data analysis procedures.

## 3.1 Research Design

Burns and Grove (2003:195) define a research design as "a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings". The study used descriptive cross-sectional design with mixture of qualitative and quantitative research approaches. The study was cross-sectional in that it was conducted across respondents over a short period. The quantitative research approach was used in order to generate quantifiable data to explain the relationship between the associated factors and latrine use. Qualitative data was collected to capture detailed views and opinions of key informants and focus group discussions. The use of both qualitative and quantitative methods is also recommended by Amin (2014) as an important form of triangulation in a study that involves a large number of people.

## 3.2 Study area

This study was conducted among fishing communities of Malongo and Jagusi sub-counties in Mayuge District. These study areas were purposively selected based on the latrine coverage background information available that rank the two sub counties as the least in the district.

## 3.3 Study population

The study population included household heads or their representatives, and key informants (local council leaders, community health workers, BMU leaders).

### 3.4 Sampling procedures

#### 3.4.1 Sample size determination

In the two sub-counties, there was a total population (N) of 37502. For quantitative method of data collection, the sample size (n) being the number of people enrolled into the study was determined using Sloven's formula (1960) as indicated below;

$n = N/(1 + Ne^2)$

where n = sample size (?)

N = population size (37502)

e = margin of error (5% or 0.05 at 95% confidence level)

$n = 37502/(1 + 37502*0.05^2)$

$n = 37502/(1 + 93.755)$

$n = 37502/94.755$

n = 395.7786 or approx. **396**

In addition, six key informants were included; 2 local council leaders, 2 community health workers, and 2 BMU leaders.

#### 3.4.2 Sampling technique

The fishing communities of Malongo and Jagusi sub-counties were purposively selected based on the latrine coverage background information available that rank the two sub counties as the least in the district.

Simple random sampling was used to select the households to include in the study. Since two sub counties were selected, the researcher decided to sample equal number of households i.e. 198 per sub county. On data collection process the researcher managed to collect data from all the 396 households with 198 households per sub county. This process of sampling was enhanced by the

researcher first obtaining households registers from the District Local Government Headquarters which had the list of all households in the study area.

Systematic sampling was also used to sample households to participate in the study. However, for purposes of acceptance and freedom to carry out study the selected sub counties, the researcher first had a meeting with the Local Council three (LCIII) chairpersons. Thereafter, the researcher had also to meet all LCI of the villages in the respective sub counties. In every village, the list of the households is put on a flat surface and the LC I asked to close his/ her eyes and then point with a pencil against a name in the list. The name of the household pointed by the pencil was considered the index household in that village. Thereafter, the next household to be enrolled in the study was at the interval of five.

Purposive sampling (where the respondent is included because the researcher believes he/she possesses the information needed) was used to select the key informants as in this study; they possess information regarding latrine coverage and associated factors. These included; 2 local council leaders, 2 community health workers, and 2 BMU leaders. For the key informants two respondents were selected from each category thereby giving a total of 6 key informants.

### 3.5. Data collection methods and instruments

#### 3.5.1 Household questionnaire

Structured household questionnaire was designed to collect quantitative data relevant to the objectives of the study from a total of 396 study respondents. The questions in the research instruments were divided into various thematic sections in line with the study objectives to provide information relevant to the study. All research instruments were translated into the local language and then back translated into English to ensure precision in the wording of the

questions. The research instruments were subsequently revised to eliminate problems in translation and language comprehension.

All questions were asked in the local language; part of the household questionnaire required the principal investigator to ask questions on various topics to a respondent (pre-coded and un-coded responses are expected) and other questions required the principal investigator to make key observations as indicated in the observation checklist. Informed consent from all respondents was obtained prior to data collection.

### 3.5.2 Observation checklist

Observation, as a method of collecting research data was used during the study and it involved observing latrine coverage and use practices and systematically recording the results of those observations using an observation checklist. The key observations that were made in the study were guided by the research questions. For each household that was visited during the study, it was observed whether the household has a latrine or not and the type of latrine (improved or un-improved). Further, the adoption of good latrine hygiene practices by latrine users in the study area was observed and systematically recorded in the observation checklist. This included the cleanliness and privacy of the latrine and presence of a hand washing facility near the latrine. All observations were immediately recorded in the observation check list as they are made to avoid recall bias.

### 3.5.3 Transect walks

To complement the other data collection tools, a systematic walk along a defined path across the study area together with the local people was conducted to explore the sanitation conditions by observing, asking, listening and looking. Before undertaking the transect walk, a group of key informants and community members were selected and briefed on the purpose of the walk. A

common path to be followed was agreed upon to cover the full sanitation variation in the study area. All participants were sensitized on the key sanitation parameters that were observed and recorded. They include: availability of a latrine, latrine cleanliness, privacy offered by the latrine and availability of a hand washing device. Local definitions of these parameters were also be agreed upon.

During the walk, discussions were held with the participants on key observations made which were relevant to the study. The participants were probed further where observations or discussions are unclear before final observations or notes were recorded. In addition, selected people met during the walk were informally interviewed to acquire their views on the sanitation situation visible at that spot.

Transect walks through the study area were conducted to observe community diversity in terms of sanitation, gain an understanding of the sanitation situation of the study area and latrine coverage associated factors. The transect walks were also be used to compared to reactions and discussions of different Key Informants and community members involved in the study.

### 3.5.4 Focus Group Discussions and Key Informant Interviews

Key Informant Interview (KII) and Focus Group Discussion (FGD) guides were used to collect qualitative data. These guides contained a list of questions to guide and narrow the discussions to the relevant issues around the research questions. A total of four Focus Group discussions were conducted with a total of 12 participants per discussion. Two of the groups were women while the other two were men. In addition, Key Informant Interviews targeting the local council leaders, community health workers, BMU leaders were conducted. During the FGDs and KIIs, the principal investigator assisted by two research assistants took notes based on responses from all participants to enable comparison and ensure adequacy of information captured during the

interviews. The aim of the FGDs and KIIs was to supplement the quantitative data collected from the households as well as obtain background information to determine whether or not the situation in the surveyed areas reflected the general situation within the entire community.

### 3.6 Quality control methods

#### Reliability

Reliability refers to the consistency of the instrument in measuring whatever it is intended to measure. Sekaran, (2000) argues that reliability of an instrument indicates the stability and consistency with which the instrument measures the concept and helps to assess the goodness of a measure. The method of internal consistency was adopted by the researcher; a pilot study was carried out to check the consistency and logical flow of the questions before data collection. The results were fed into the SPSS computer software, to compute the Cronbarch's alpha for reliability testing. Overall, it was found that testing instrument of the study demonstrated reliability as all items related to the study variables returned an alpha of >0.7.

#### Validity

Validity is the appropriateness of the instrument. Content validity was used since it focuses on the extent to which the content of an instrument corresponds to the content of the theoretical concept it is designed to measure (Amin, 2014). He further states that for an instrument to be accepted as valid, the average index should be 0.7 or above. The researcher consulted colleagues, supervisors and other researchers, who reviewed the instruments before sending them out for a pilot study. A total of 08 questionnaires were administered during the pilot study; this helped to test the content validity of the questionnaire and interview guide. The observations made enabled the researcher to identify the mistakes and correct them before the actual data collection. The content validity index (CVI) was then computed as follows;

Content Validity Index (CVI) = No. of items declared valid

Total no. of items

### 3.7 Data processing and analysis

After the data collection exercise, the data was edited and the researcher made sure that every question is answered. Raw data was then be coded and entered into the computer. The researcher generated percentages and frequencies, which were used to make comparisons of the responses. Chi square and Fisher's exact tests were used for correlations to establish relationships between variables.

Data collected during the interviews and focus group discussion was also presented and discussed to supplement the quantitative data to bring out situations clearly for easy understanding by the readers.

### 3.8 Ethical considerations

The research proposal was approved by the Faculty Board of Faculty of Health Sciences of Uganda Martyrs University. Thereafter, an introductory letter was also obtained from the Dean Faculty of Health Sciences introducing the researcher to the study area.

The researcher went and presented the letter of introduction to the District Chief Administrative Officer (CAO) Mayuge District and explained to him the purpose of the study and also requested for his permission to conduct the research in the district. The CAO in return granted permission and introduced the researcher to the sub county Senior Administrative Secretaries (SAS) requesting them to support the researcher to carry on the study.

On arrival at the sub county, the purpose of the study was explained to the SAS who welcome and introduced the researcher to the LCIs in the villages who were to help move with the researcher in their respective villages during the process of data collection.

The researcher explained to the study participants the purpose of the research and told them that participation was voluntary and one was free to withdraw if he or she wished to do so. The researcher also explained to the participants that the information which they gave would used only for the purpose it was collected for and not any other. He assured them of utmost confidentiality in relation to the information that they would give. Thereafter the researcher sought their informed consent to participate in the study.

It should be noted that households were assigned numbers and nothing which could easy make an household identified was used. Also, pseudo names were used instead of the real names of the participants during the focused group discussions. Thus, confidentiality was maintained through use of anonymous identifiers and participants reserved the right not to participate or to withdraw at any time during their participation without being prejudiced.

### 3.9 Challenges faced during the study and they were overcome

The researcher encountered a problem of delays in response. Some respondents were not cooperative and it took a lot of time filling the questionnaires. This therefore required frequent movements to the respondents' locations to ensure that the questionnaires were answered.

Some respondents were suspicious and hence hesitated in giving the information. However, through clear explanation of the study objectives, the respondents were able to cooperate.

# CHAPTER FOUR
# PRESENTATION, ANALYSIS OF FINDINGS

## 4.0 Introduction

This chapter of the research report contains the presentation, analysis and discussion of the study findings. Both quantitative and qualitative data was analyzed. Quantitative data analysis was made from 396 respondents to whom questionnaires were administered to the household heads and 100 percent response rate was achieved. This is because the researcher personally administered the questionnaires. For qualitative data, responses acquired during interviews with the key respondents and focus group discussions have been included.

## 4.1 Demographic characteristics of respondents

The demographic characteristics analyzed include; households head gender, age, level of education, occupation, average income, and households' size. The results are presented in the table 1.

**Table 1: Demographic characteristics of respondents**

| Demographic characteristics | Indicators | Number | Percent |
|---|---|---|---|
| **Gender of household head** | Male | 313 | 79.0 |
| | Female | 83 | 21.0 |
| **Age of household head** | 18-30 | 88 | 22.2 |
| | 31-40 | 121 | 30.6 |
| | 40 and above | 187 | 47.2 |
| **Level of education of household head** | No formal education | 82 | 20.7 |
| | Primary | 114 | 28.8 |
| | Secondary | 131 | 33.1 |
| | Tertiary | 69 | 17.4 |
| **Occupational status of household head** | Formal employment (salaried) | 19 | 4.8 |
| | Informal employment (casual) | 66 | 16.7 |
| | Trader/business person | 111 | 28.0 |
| | Fishing | 172 | 43.4 |
| | Others | 28 | 7.1 |
| **Households size** | <5 | 109 | 27.5 |
| | >5 | 287 | 72.5 |
| **Average monthly income (UGX)** | <300,000 | 219 | 55.3 |
| | >300, 000 | 177 | 44.7 |

***Age***

The study findings show that the biggest percentage (47.2%) of the respondents who participated in the study were aged above 40 years. This was followed by those aged between 18 – 30 years (30.6%), and the least were aged between 30 – 40 years (22.2%). A similar situation was witnessed during the FDGs.

***Gender***

The study findings revealed that more male headed households (79.0%) compared to female headed households participated in the study as presented. These findings were similar to observations made during the FGDs where more male participants were present compared to their female counterparts.

***Level of education of household head***

The study population demonstrated moderate literacy levels; as presented as presented in table 1 where the majority (33.1%) of the household heads had formal education up to secondary level. These were followed by those who had only completed secondary education (28.8%) and the least had attained tertiary education. The area local leaders also reported during the Key Informant Interview (KII) that majority of the study population had some basic education up to secondary.

***Occupation of the household head***

As indicated in table 2, highest percentage (43.4%) of the household heads were involved in fishing activities compared to those who were engaged in other forms of occupation such as formal employment or trading business. As further reported during the FGDs, most of the community members in the study area were reported to be involved in fishing as the main source

of their livelihood. This came as no surprise as the study was carried out among the fishing communities.

***Household size***

The study results also showed that that majority (72%) of the households had large family sizes of o 5 people or more compared to others that had below 5. The family sizes depicted low use of family planning services in the area, which raises another public health concern.

***Household average monthly income***

The study results showed that majority (55.3%) of the households had an average monthly income of less than Ugandan Shillings 300,000 compared to the others who had a monthly income of more than 300,000. The low-income levels were also reported in all KIIs and FGDs where respondents indicated that the community members in the study area were generally poor. This could be attributed to reduced fishing activities in the area resulting from reduced fish stocks in the Lake.

## 4.2 Latrine coverage and use among the fishing communities in Malongo and Jagusi sub counties Mayuge district

The study examined level of latrine coverage and use among the fishing communities in Malongo and Jagusi sub counties Mayuge district and the results are presented in table 2 below.

**Table 2: Latrine status (Coverage/ownership, and use)**

| Latrine coverage and use | **Indicators/response** | **Number** | **Percentage** |
|---|---|---|---|
| Has latrine | Yes | 269 | 67.9 |
| | No | 127 | 32.1 |
| Type of ownership | Household Pit latrine | 80 | 29.7 |
| | Shared Pit latrine | 189 | 70.3 |
| Use of latrine (n= 396) | Yes | 239 | 60.4 |
| | No | 157 | 39.6 |
| Latrine use among households with latrines (n =269) | Yes | 210 | 78.1 |
| | No | 59 | 21.9 |
| Latrine use among households without latrines (n = 27) | Yes | 29 | 22.8 |
| | No | 98 | 77.2 |
| Categories of people who do not use latrines in a household (n =157) | Children (Under Five) | 58 | 36.9 |
| | Men | 26 | 16.6 |
| | Women | 11 | 7.0 |
| | Pregnant women | 29 | 18.5 |
| | Sick people | 33 | 21.0 |

### 4.2.1 Latrine coverage among the fishing communities in Malongo and Jagusi sub counties Mayuge district

Results presented in table 2 that out of 396 households 127 representing 32.1% did not have latrines, much as the study results indicated that the majority (67.9%) have latrines. This is still a big number that has to be minimized.

The results also showed that out of the 269 households reporting to be having toilets as indicated in table 2, an overwhelming majority (70.3%) were shared pit latrines, with only 29.7% with private latrines that are used by single households (table 3). This also presents another sanitation and hygiene challenge because maintaining shared pit latrines is not adequate as it would be for private ones.

### 4.2.2 Latrine use among the fishing communities in Malongo and Jagusi sub counties Mayuge district

The study results revealed in table 2 revealed that out of the 396 households, 157 (39.6%) do not use latrines in the two sub counties and this percentage of the population practice open defecation in the bushes around or in the lake.

#### 4.2.2.1 Latrine use among households that poses latrines

Out of 269 households with latrines (private or shared) (table 2), 210 (78.1%) used latrines while 59 (21.9%) did not use latrines and were practicing open defecation.

#### 4.2.2.2 Latrine use among households who do not possess latrines

Of the 127 without latrines as indicated in table 2, the majority 98 (77.2%) do not use pit latrines and they practice open defecation, while only 29 (22.8%) use latrines. For this few who use pit latrines, they use those of their neighbors if allowed or at times illegally use the shared facilities, as they are not members of such facilities. This is an implication that there is still a serious problem of disposing off human waste, which has resulted in continuous suffering of the community members, especially children from diarrheal diseases.

#### 4.2.2.3 Categories of people who do not use latrines in a household

In all households whether using a private or shared facility, the study results revealed that children formed the biggest percentage (36.9%) of households who did not use latrines followed by sick people (21.0%) and pregnant women (18.5%).

### 4.3 Knowledge and practices relating to latrine use

#### 4.3.1 Knowledge on latrine use

Understanding people's knowledge on a given public health problem is very crucial as people's behaviors are influenced by their level of knowledge. In this regard, the study examined the households' knowledge on the use of latrines in relation to the causes and transmission of diarrhea, prevention of diarrhea, and benefits of using latrines.

##### 4.3.1.1 Knowledge on causes and transmission of diarrhea

The study examined the respondents' knowledge on causes and transmission of diarrhea and the results are presented in table 3.

**Table 3: Knowledge on causes and transmission of diarrhea**

| Knowledge variables | Response | N(N=396) | % |
|---|---|---|---|
| Human faeces is the main source of diarrhea | No | 21 | 5.3 |
| | Yes | 375 | 94.7 |
| Children's faaces can cause diarrhea | No | 24 | 6.1 |
| | Yes | 372 | 93.9 |
| Effect of open defecation | Shame and Disgust | 298 | 75.3 |
| | Diarrheal diseases | 321 | 81.1 |
| Risk of getting diarrhea if neighbor practices open defecation | No | 23 | 5.8 |
| | Yes | 373 | 94.2 |
| Causes of diarrhea | Correct causes mentioned | 356 | 89.9 |
| | In correct causes mentioned | 40 | 10.1 |

Up to 94.7% of the study respondents reported that human faeces was the main source of diarrhea with 93.9% reporting that children's faeces can similarly cause diarrhoea. The majority (81.1%) reported that open defecation caused diarrheal diseases. While 94.2% of the respondents agreed that they were at risk of getting diarrhea if their neighbor did not use a latrine.

The majority 356(89.9%) of those interviewed reported the correct causes of diarrhea such as eating food or drinking fluids contaminated with faeces, not washing hands, not using latrines among others compared to only 40(10.1%) who mentioned incorrect causes such as-mosquito bites, witchcraft, rain among others.

#### 4.3.1.2 Knowledge on prevention of diarrhea

Knowledge on prevention of diarrhea among the households was also assessed and the results are presented in table 4.

**Table 4: Knowledge on prevention of diarrhea**

| Knowledge variables | Response | Number(N=396) | Percentage |
|---|---|---|---|
| Diarrhea prevention methods | Correct prevention methods mentioned | 298 | 75.3 |
| | Incorrect prevention methods mentioned | 98 | 24.7 |
| Daily hand washing with water and soap can prevent diarrhea | No | 37 | 9.3 |
| | Yes | 359 | 90.7 |

As shown in the table above, majority 298(75.3%) of the respondents mentioned the correct methods of diarrhea prevention such as good food and water hygiene practices, hand washing and using latrines. On the other hand, the minority 98(24.7%) mentioned incorrect diarrhea prevention methods such as use of mosquito nets and washing clothes.

Further still, the majority 359(90.7%) of the study respondents pointed out that daily hand washing with water and soap everyday could prevent diarrhea, while only 37(9.3%) reported not to be knowledgeable that daily hand washing with water and soap everyday could prevent diarrhea.

#### 4.3.1.3 Knowledge on benefits of using latrines

The study assessed the knowledge on the benefits of using latrines and the results are presented in table 5.

**Table 5: Knowledge on benefits of latrines Knowledge variables (N=396)**

| Knowledge variables | Response | Number(N=396) | Percentage |
|---|---|---|---|
| Problems of not using latrines | Diarrheal diseases | 319 | 80.6 |
| | Others | 77 | 19.4 |
| Main benefit of using latrines | Diarrheal disease prevention | 322 | 81.3 |
| | Others | 74 | 18.7 |

The results in table 5 show that an overwhelming majority 319(80.6%) of the respondents reported that the main problem attributed to lack of latrines was diarrheal diseases. On the other hand, only 77(19.4%) reported other problems such as stigma, shame, high medical expenses, smell and flies.

The study results presented in table 5 also show that the majority 322(81.3%) of the respondents reported that the main benefit of using latrines was diarrheal disease prevention. On the other hand, only 74(18.7%) of the respondents mentioned other benefits such as d privacy, convenience, status or prestige as the main benefits of using latrines.

### 4.3.2 Practices relating to latrine use

Transect walks and the observation checklists were used to assess the various latrine hygiene practices in the study area. Observations were made to assess the level of latrine cleanliness, privacy and availability of a hand washing facility with water and soap for hand washing and the results are in the table 6 below.

**Table 6: Latrine use hygiene practices at the household level (latrines observed during transect walk)**

| Latrine use hygiene practices (n=20) | Yes n(%) | No n(%) |
|---|---|---|
| Latrine hygienically separates human excreta from contact to people | 0(0) | 20(100) |
| Latrine has water and soap for hand washing | 5(25) | 15(75) |
| Latrine presents adequate conditions of cleanliness | 9(45) | 11(55) |
| Latrine presents adequate conditions of privacy | 11(55) | 9(45) |

As presented in Table 6, none (0.0%) of the responding households had latrines that hygienically separated human excreta from human contact. Further still, only 5(25%) of all observed latrines had a convenient source of water and soap for hand washing.

In addition, only 9(45.0%) of the observed latrines were found to be clean during the study and 5(55.0%) of the households had latrines that offered adequate conditions of privacy. These findings reveal moderate adherence to the latrine use hygiene practices at the household level implying that the attitude towards larine use is moderately positive.

## 4.4 Factors that promote or hinder latrine use in the fishing communities of Malongo and Jagusi sub counties Mayuge district

### 4.4.1 Promoters of latrine construction and use

As one of the general factors influencing latrine construction and use, the study examined the promoters of latrine construction in the fishing communities in Malongo and Jagusi sub counties and the results are presented in table 7 below.

**Table 7: Promoters of latrine construction and use in the study area**

| *Promoters* | *Frequency* | *Percentage* |
|---|---|---|
| NGOs | 87 | 22.0 |
| Neighbors | 3 | 0.8 |
| Local Leaders | 111 | 28.0 |
| Government health officials | 123 | 31.1 |
| Community health volunteers | 99 | 25.0 |
| Others | 22 | 5.6 |

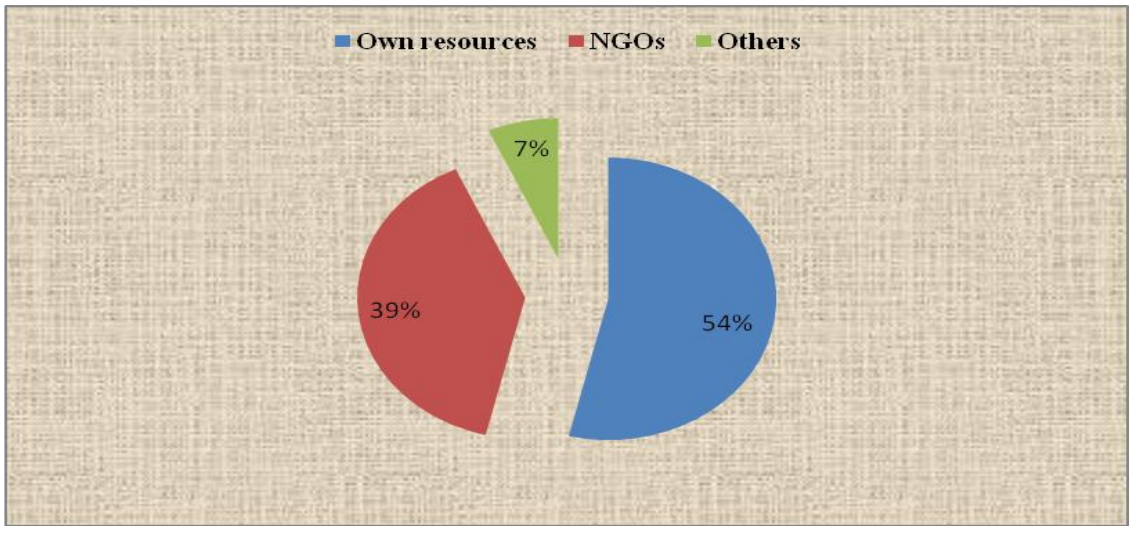
***NB: The total frequency and percentage is over 396 and 100 respectively due to multiple responses***

As presented in Table 7 above, the household survey findings indicated that the main promoters of latrine construction and use are government health officials (31.1%) followed by local council leaders (28.0%) and community health workers such as VHTs (25.0%). The results also showed that there is still low involvement of Non-Governmental Organizations (NGOs) in promoting latrine construction and use in the study area (22.05).

### 4.4.2 Latrine construction financing

Source of funds for latrine construction was another general factor that was examined during the study and the results are presented in figure 1.

**Figure 1: Latrine construction financing**

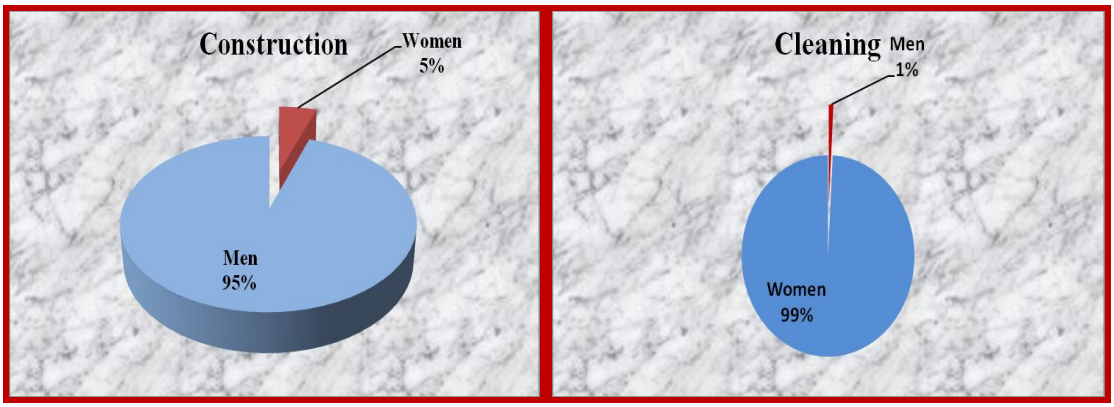


As presented in Figure 2 above, the majority (54%) of the latrines in the study area were constructed with own resources, while 39% with external support from NGOs in the form of subsidies such as materials, labor, finances, slabs among others. Other sources (7%) such as government and local statutory organs such as BMUs. These findings imply that with increased support to households from NGOs and government, latrine coverage and use will improve in the area.

### 4.4.3 Gender responsible for latrine construction and cleaning

Gender responsible for latrine construction and cleaning was examined as another general factor influencing latrine coverage and use in the study area and the results are presented in figure 2.

**Figure 2: Gender responsible for latrine construction and cleaning**

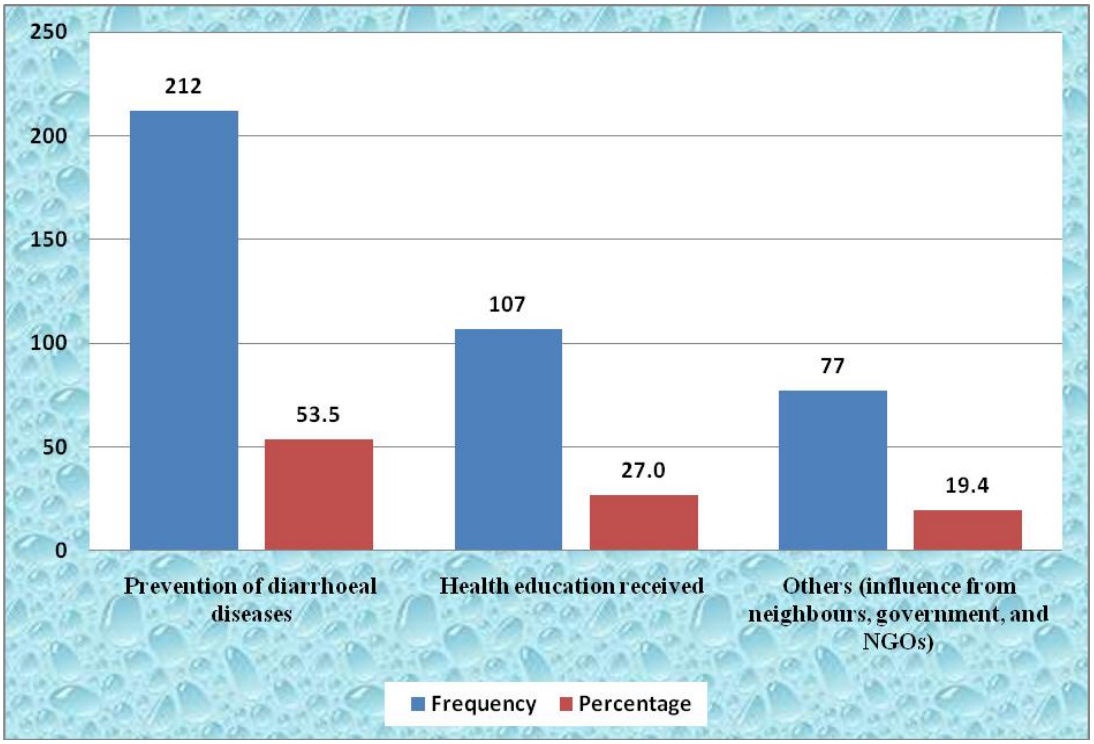



The findings of the study presented in figure four illustrate that among households who had latrines, majority of the respondents (76%) reported that men were responsible for construction latrines in their household while almost all the respondents (99%) reported that women were responsible for constructing latrine facilities in their community as presented in Figure 4.3. Similar views were expressed during all KIIs and FDGs whereby the participants reported that much construction is carried out mainly by men while cleaning is mainly for women.

### 4. 4.4 Main motivation for constructing and using latrines

The study examined the motivation factors for construction and use. Three main motives were reported for constructing and using latrines as presented in Figure 5 and these were prevention of diarrheal diseases, health education, and influence from neighbors.

**Figure 3: Main motivation for constructing and using latrines**




The findings indicate that majority 212 (53.5%) of the respondents reported that their main motivation for constructing and using latrines was to prevent diarrheal diseases while 107(27.0%) reported that they constructed latrines as a result of the health education they had received as well as influence from their neighbors 77(19.4). Similar views were reported out during both the KIIs and FDGs.

### 4.4.5 Obstacles to latrine construction

Several obstacles to latrine construction were identified. These included culture, lack of money, lack of land, unsuitable hydro-geological conditions, and lack of latrine construction skills. The results are presented in table 8.

**Table 8: Obstacles to latrine construction and use (N=396)**

| Obstacles | Number(N=396) | Percentage |
|---|---|---|
| Unsuitable hydro-geological conditions | 101 | 28.1 |
| Lack of money | 215 | 59.7 |
| Lack of latrine construction skills | 129 | 35.8 |
| Lack of land/Space | 319 | 88.6 |
| Culture | 67 | 18.6 |

Basing on the results in Table 8, it is evident that commonest obstacle was the lack of land/space for latrine construction 319 (88.6%) of the respondents mentioned. This was followed by lack of money/poverty (59.7%), while lack of construction skills, unsuitable hydro-geological conditions, and cultural beliefs were least mentioned 35.8%, 28.1%, and 18.6% respectively.

### 4.10 Relationship between the associated factors and latrine use

Both chi square and fisher's exact tests were used to establish the relationship between the factors and how they were associated with latrine use as presented in table 9.

**Table 9: Relationship between the associated factors and latrine use**

| **Factors** | | **Latrine use** | | | |
|---|---|---|---|---|---|
| **Socio Demographic** | | **Yes** | **No** | **Total N(%)** | ***p* Value** |
| Gender of households head | Male | 188(47.5) | 125(31.6) | 313(79.0) | 0.0114* |
| | Female | 51(12.9) | 32(8.1) | 83(21.0) | |
| Age | 18-30 | 63(15.9) | 25(6.3) | 88(22.2) | 0.061** |
| | 31-40 | 87(22.0) | 34(8.6) | 121(30.6) | |

| | | | | | |
|---|---|---|---|---|---|
| | 40 and above | 89(22.5) | 98(24.7) | 187(47.2) | |
| Occupation | Formal employment (salaried) | 12(3.0) | 7(1.8) | 19(4.8) | 0.001* |
| | Informal employment (casual) | 36(9.1) | 30(7.6) | 66(16.7) | |
| | Trader/business person | 75(18.9) | 36(9.1) | 111(28.0) | |
| | Fishing | 100(25.3) | 72(18.2) | 172(43.4) | |
| | Others | 16(4.0) | 12(3.0) | 28(7.1) | |
| Level of education | No formal education | 20(5.1) | 62(15.7) | 82(20.7) | 0.001* |
| | Primary school | 79(19.9) | 35(8.8) | 114(28.8) | |
| | Secondary school | 80(20.2) | 51(12.9) | 131(33.1) | |
| | Tertiary | 60(15.2) | 9(2.3) | 69(17.4) | |
| Average monthly income (UGX) | <300,000 | 118(29.8) | 101(25.5) | 219(55.3) | 0.011** |
| | >300, 000 | 121(30.6) | 56(14.1) | 177(44.7) | |
| Household size | <5 | 118(29.8) | 101(25.5) | 219(55.3) | 0.059** |
| | >5 | 121(30.6) | 56(14.1) | 177(44.7) | |
| **Knowledge on causes of diarrhea** | | | | | |
| *Human faces is the principle source of diarrhea* | No | 2(0.5) | 19(4.8) | 21(5.3) | 0.022** |
| | Yes | 101(25.5) | 274 (69.(2) | 375(94.7) | |
| *Children's faces can cause diarrhea* | No | 1(0.3) | 23(5.8) | 24(6.1) | 0.043** |
| | Yes | 9925.0) | 273(68.9) | 372(93.9) | |
| *Effect of open defecation* | Shame and Disgust | 113(28.5) | 185(46.7) | 298(75.3) | 0.013** |
| | Diarrheal diseases | 106(26.8) | 215(54.3) | 321(81.1) | |
| *Risk of getting diarrhea if neighbor practices open defecation* | No | 3(0.8) | 20(5.1) | 23(5.8) | 0.042** |
| | Yes | 118(29.8) | 255(64.4) | 373(94.2) | |
| *Causes of diarrhea* | Correct causes mentioned | 122(30.8) | 234(59.1) | 356(89.9) | 0.041** |
| | In correct causes mentioned | 6(1.5) | 34(8.6) | 40(10.1) | |
| **Knowledge on prevention of diarrhea** | | | | | |
| *Diarrhoea prevention methods* | Correct prevention methods mentioned | 155(39.1) | 143(36.1) | 298(75.3) | 0.021** |

| | | | | | |
|---|---|---|---|---|---|
| | Incorrect prevention methods mentioned | 2(0.5) | 96(24.2) | 98(24.7) | |
| *Daily hand washing with water and soap can prevent diarrhea* | No | 3(0.8) | 34(8.6) | 37(9.3) | 0.011** |
| | Yes | 154(38.9) | 205(51.8) | 359(90.7) | |
| **Knowledge on latrine benefits** | | | | | |
| *Problems of not using latrines* | Diarrhoeal diseases | 122(30.8) | 197(49.7) | 319(80.6) | 0.031** |
| | Others | 35(8.8) | 42(10.6) | 77(19.4) | |
| *Main benefit of using latrines* | Diarrhoeal disease prevention | 119(30.1) | 203(51.3) | 322(81.3) | 0.043** |
| | Others | 38(9.6) | 36(9.1) | 74(18.7) | |
| **Hygiene practices** | | | | | |
| *Latrine hygienically separates human excreta from contact to people* | No | 20(100) | 0( 0) | 20(100) | 0.061** |
| | Yes | 0 (0) | 0(0) | 0(0) | |
| *Latrine has water and soap for hand washing* | No | 3(15) | 2(10) | 5(25) | 0.015** |
| | Yes | 15(75) | 0(0) | 15(75) | |
| *Latrine presents adequate conditions of cleanliness* | No | 6(30) | 5(25) | 11(55) | 0.042** |
| | Yes | 9(45) | 0(0) | 9(45) | |
| *Latrine presents adequate conditions of privacy* | No | 4(20) | 5(25) | 9(49) | 0.011** |
| | Yes | 11(55) | 0(0) | 11(55) | |
| **Obstacles to latrine construction** | Culture | 47(11.9) | 20(5.1) | 67(18.6) | 0.002** |
| | Lack of money | 89(22.5) | 126(31.8) | 215(59.7) | |
| | Lack of land/Space | 109(27.5) | 210(53.0) | 319(88.6) | |
| | Unsuitable hydro-geological conditions | 99(25.0) | 2(0.5) | 101(28.1) | |
| | Construction skills | 78(19.7) | 51(12.9) | 129(35.8) | |
| **Promoters of latrine construction and use** | Neighbors | 1(0.3) | 2(0.5) | 3(0.8) | 0.002** |
| | Government health officials | 102(25.8) | 21(5.3) | 123(31.1) | |
| | Community health volunteers | 65(16.4) | 34(8.6) | 99(25) | |
| | Local Leaders | 87(22.0) | 24(6.1) | 111(28) | |

| | | | | | |
|---|---|---|---|---|---|
| | NGOs | 0 (0.0) | 87(22.0) | 87(22) | |
| **Gender responsible for constructing latrines** | Women | 0(0.0) | 20(5.1) | 20(5.1) | 0.001** |
| | Men | 107(27.0) | 269(67.9) | 376(94.9) | |
| **Source of financing for the construction of current latrine** | Own resources | 113(28.5) | 100(25.3) | 213(53.8) | 0.013** |
| | NGO's | 89(22.5) | 67(16.9) | 156(39.4) | |
| | Others | 11(2.8) | 16(4.0) | 27(6.8) | |
| **Gender responsible for cleaning latrine** | Men | 0(0.0) | 3(0.8) | 3(0.8) | 0.023** |
| | Women | 111(28.0) | 255(64.4) | 366(92.4) | |
| **Motivation for latrine construction and use** | Prevention of diarrheal diseases | 119 (30.1) | 93 (23.5) | 212 (53.5) | |
| | Health education received | 63 (15.9) | 44 (11.1) | 107(27.0) | 0.142** |
| | Influence from their neighbors | 57 (14.4) | 20 (5.1) | 77(19.4) | |

*** Chi Square ** Fisher's Exact Test**

### 4.10.1 Socio-demographic variables associated with latrine use

As seen in table 9, out of the six socio-demographic variables investigated, four had a statistically significant relationship with latrine use, they included gender (p=0.0114), occupation (p=0.001), education (p=0.001), and average monthly income (p=0.011). The results in the table 12 show the gender of the households head had a statistically significant relationship with latrine use (p=0.0114). In this respect, the study revealed that latrine use was higher among male headed households 188(47.5%) compared to female headed households 51(12.9%).

The study results also showed that the occupation status of the household head had a statistically significant relationship with latrine use. The results showed that latrine use was high among those with formal employment. Out of the 19 households heads with formal employment, 12(3.0%) were using pit latrines compared to 7(1.8%) who were not using latrines. However, the majority of the people who were not using latrines was high among fisher men 72(18.2%) as

these fell among those with no formal employement. The views expressed during the FDGs were also in support of these findings as one respondent pointed out that;

> *"For men who are farmers, defecation sites were unused land somewhere close to their agricultural fields". (FDG1, M7).*

The level of education also had a statistically significant relationship with latrine use. Latrine use was high among those who had attained tertiary education. Out of 69 households who had attained tertiary education 60(15.2%) were using pit latrines compared to 9(2.3%) who were not. Latrine use was lowest among those who had no formal education at all (20(5.1%). However, the issue of education in relation to latrine use was not raised during the FDGs.

The average monthly income also had a statistically significant relationship with latrine use. Latrine use was higher among those with income above 300, 000 Uganda shillings. For example, out of 177 with income above 300,000 Uganda shilling, 121(30.6%) were using latrines compared to 56(14.1%) who were not. The issue of income, which was related to the costs, was also raised during the FDGS.

On the other hand, there was no association between latrine use and the age of the household head (p=0.061) and the household size (p=0.059). However, the results indicated that the age category that used the toilets more was that which was above 40 years (22.5%). This was followed by those in the aged between 30 to 40 (22.0%) years, and the least users were those below 30 years (15.9%).

### 4.10.2 Knowledge on causes of diarrhea associated with latrine use

Fisher's Exact Test was used to examine the relationship between Knowledge on causes of diarrhea and latrine use and the results are presented in table 12.

All the 5 knowledge related factors on the causes of diarrhea which were studied had a statistically significant relationship with latrine use. Latrine use was higher among households that had the correct knowledge on: human faeces being the principle source of diarrhea (p=0.022) and children's faces can cause diarrhea (p=0.043). Further still, latrine use was higher among households that had the correct knowledge on open defecation being able to cause diarrhea (p=0.013) and risk of getting diarrhea if neighbor was not using latrines (p=0.042) and the causes of diarrhea (p=0.041). During the FDGs, the participants were much aware of the transmission of diseases due to open defecation as expressed by one of the female participants had this to say;

> *[…] If someone does not go far to help himself, the flies that sit on the feces would come and sit on the food, that would transfer the diseases to you". (FDG1, W1)*

### 4.10.3 Knowledge on prevention of diarrhea associated with latrine use among the fishing communities of Malongo and Jagusi sub counties in Mayuge district

Fisher's Exact Test was used to determine the level of significance in the association between knowledge on prevention of diarrhea and latrine use.

The results in table 12 above clearly show that respondents that reported the correct diarrhea prevention methods had statistically significant relationship with latrine use (p= 0.021) with higher latrine use 155(39.1%) compared to those who did not 2(0.5%). Further still, latrine use was higher among the respondents who believed that daily hand washing with water and soap 154(38.9%) and this had a statistically significant relationship (p=0.11).

### 4.10.4 Knowledge on latrine benefits associated with latrine use

Fisher's Exact Test was used to establish the level of significance in the association between knowledge on latrine benefits and latrine use determines the level of significance in the

association between knowledge on prevention of diarrhea and latrine use. The results are presented in table 12.

Basing on the above results, there was statistically significant association between respondents knowledge on problems attributed to not using latrines and latrine use (p=0.031). The study findings show that latrine use was higher among respondents that reported that diarrhoeal diseases are the problem of not using latrines 122(30.8%) compared to those who pointed out other problems 35(8.8%).

In addition, there was statistically significant association between respondents' knowledge on main benefit of using latrines was to prevent diarrheal diseases had (p= 0.043). Latrine use was higher among those who reported that benefit of using latrines was to prevent diarrheal diseases 119(30.8%) compared to those who did not 38(9.6%). The FDG participants further emphasized this as one of them mentioned that:

> *[…] It is very important for each household to have a toilet because we prevent diseases like cholera which have become very common. Because if one has no toilet and excretes".*

### 4.10.5 Hygiene practices associated with latrine use

Fisher's Exact Test was used to establish the level of significance in the association between hygiene practices and latrine use. A total of four hygiene practices related to latrine use were studied out of which three had a statistically significant relationship with latrine use. Households that were using improved latrine facilities during the study demonstrated several appropriate hygiene practices related to latrine use.

The results in table 12 show that latrine use was found to be higher among households that had latrines with a convenient source of water and soap around the latrine (p=0.015) for hand

washing and those that presented adequate conditions of privacy (p=0.011). However, there was no significant relationship found between latrine hygienically that separate human excreta from contact and latrine use (p=0.61) and latrines that presented adequate conditions of cleanliness (p=0.42). However, some of the participants in the FDGs acknowledged the importance of maintaining good hygiene as practices as it can prevent many diseases.

> […] *It is very good to practice good hygiene, because you avoid some sicknesses in that not every small disease that breaks out you would be the first one to suffer from it. If you practice good personal hygiene you avoid all that*.

### 4.10.6 Obstacles to latrine construction

The study findings presented in table 12 show that obstacles to latrine construction had a statistically significant association with latrine use (p=0.002). The study revealed that latrine use was hindered by obstacles such as culture, lack of money, lack of land, lack of construction skills, and unsuitable hydro-geological conditions. The findings indicate that majority of the households who were not using latrines reported lack of land as the major obstacle 210(53.0%). It was revealed during the FDGs that latrine construction costs have hindered many people in the area to construct their own latrines and hence they opt for open defecation in the bush and the lake. In addition, under the theme of cultural and taboos, some respondents posit that it is culturally wrong to share the same latrine with a son in-law. They believe this can bring bad omen to the family.

### 4.10.7 Promoters of latrine construction

The availability of promoters of latrine construction and use was also statistically associated with latrine use (p=0.002) (table 9). Respondents that mentioned government health officials as the main promoters of latrine construction and use 123 (31.1%). Latrine use was higher among

respondents who reported that government health officials are the main promoters of latrine construction and use 102(25.8%).

### 4.10.8 Gender responsible for constructing latrines

The findings in table 9 also show that gender responsible for constructing latrines had a statistically significant association with latrine use (p=0.001). Majority 376 (94.9%) of the respondents reported that men were responsible for constructing latrine facilities and the latrine use was higher among respondents that reported that men were responsible for constructing latrine 107(27.0%). There was also a statistically significant relationship (p=0.023) between latrine use and gender responsible for latrine cleaning; latrine use was higher 111(28.0%) among respondents that reported women were responsible for cleaning latrines in their community.

### 4.10.9 Source of financing for the construction

Source of financing for the construction of current latrine as presented in table 9 was also associated with latrine use (p=0.013). The findings show that latrine use was high among households that had injected in their own resources in latrine construction 113(28.5%) compared to those who had received subsidies from either NGOs or government.

### 4.10.10 Motivation for constructing and using latrines

Motivation for constructing and using latrines was had a statistically significant relationship with latrine use (p=0.142) (table 9). The findings indicate that majority 212(53.5%) of the respondents reported that their main motivation for constructing and using latrines was to prevent diarrheal diseases while 107(27.0%) reported that they constructed latrines as a result of the health education they had received as well as influence from their neighbors 77(19.4).

### 4.11 Analysis of the FDGS

Apart from the quantitative results obtained from the questionnaires, several issues that made up the qualitative data were obtained from the four FDGs held with the local people. Qualitative data generated from the focus groups discussions was analyzed and grouped as themes and sub themes. Direct verbatim which constitutes the constructs were quoted accordingly.

The following themes emerged: cost of constructing, few toilets, cultural norms and taboos on sharing toilets, benefits of using toilets, shame, disease transmission, lifestyle and economic activities, and poor uptake of health education and community awareness message. Other were negative attitude towards using latrines, rejection to use latrines, and hand washing practices

**Cost of constructing**

It was revealed during the FDGs that latrine construction costs have hindered many people in the area to construct their own latrines and hence they opt for open defecation in the bush and the lake.

> *[…] In the village, it is very easy to dig a pit and find pole to put on the pit. Yes, we think about constructing a toilet with a good door, a proper roof but you find that to have a good door made you need a carpenter to make you the door. It will cost 60,000 Uganda shillings for the door alone. A frame for the door 20,000 Uganda shillings and you need to pay the carpenter so you find that this cost is too high for you to meet but you need a toilet. It is when things turn out that way that we start making short cuts to just put a sack instead of a door. All this is because of the poverty in the villages. (FDG2, M2).*

The above statement is an indication that the cost of constructing a latrine is a serious constraint which has an impact on latrine availability in a home.

**Few toilets**

Non-use or limited use of toilets among the residents in the study area is also associated to the few toilets. It was clearly aired out during the FDGs that not every household has a latrine they really use the bush and other go to the lake as also supported by the following views of the participants;

> *[…] But you find that in the village there are ma ybe five or six toilets and everybody rushes there. You cannot stop them. The toilet becomes for common use and therefore the traffic to the toilet is very high* (FDG1, M1).

In addition, another male FDG participant stated that;

> *[…] To say the truth there are very few people who have pit latrines in their home. Most people use the bush and that is how pigs survive eating human waste. You may find in the village there are only two latrines in the whole village. You therefore ask the children to go to the bush while you use the latrine at home*. (FDG2, M5)

The above statements clearly depict that the few toilets in the community contribute to open defecation the fishing communities in this area. Few latrines and in most cases children are asked to use the bush then adults use the latrine.

**Cultural norms and Taboos on sharing toilets**

Under the theme of cultural and taboos, some respondents posit that it is culturally wrong to share the same latrine with a son in-law. They believe this can bring bad omen to the family.

> *[…] There are times when there is one toilet at home if that toilet is for the father then the children would have to go to the bush, if the toilet is for the children then the father has to go to the bush. Otherwise it is taboo for the children to use the same toilet with the father* (FGD1, W5)

Another FDG participant stated that:

> *[…] I would be right to say we do not use the toilet the way we should because here we respect each other too much. Our culture and norms do not allow us to use the same toilet with your grown-up daughters, son or daughter in law, mother in law and all other people. What have killed us in the villages are these cultural norms which we have clung to for so long.*

> *Our friends in town find nothing wrong with all this. They all use the same toilet in the house.* (FDG, M3)

In support of the above another participant added that;

> *[…] It is true like my brother has said you find your daughter can not use the same toilet as you or you cannot use the same toilet as your daughters. So, you take an axe and go to the bush to help yourself. It is just our tradition that you cannot use the same toilet as you're grown up daughters. Yes, in towns it is normal practice that the whole family uses one toilet but here in the village that is taboo. This still happens in the villages even today*. (FDG2, M3)

The above statements cultural norms on latrine usage especially with grown up daughters or in laws are adhered to in the area.

**Benefits of using toilets**

The study findings revealed that using toilet is a piece of hardware used for the collection or disposal of human urine and feces. In other words: "Toilets are sanitation facilities at the user interface that allow the safe and convenient urination and defecation". This was further emphasized by the FDG participants who.

> *[…] It is very important for each house hold to have a toilet because we prevent diseases like cholera which have become very common. Because if one has no toilet and excretes on the floor and is suffering from cholera, if the fly sits on their feces then come and sit on the food, then if a person eats food where the fly sit he would suffer from cholera and within a short time the person dies.* (FGD2, W5)

In support of the above, another FDG, participant added that;

> *[…] Yes, that would be the ideal situation, especially if you have a big family and older daughters. You need to have two toilets because older daughters cannot use the same toilet with their father. If it is you and your husband with small children then you would have one toilet*. (FDG2, W2).

In addition, another participant stated that;

> *[…] There is dignity especially for visitors. When a visitor comes at home and asks to use a latrine, you easily point it out. That person may be happy not to go in the bush. There is respect at a home if there is a latrine*". (FDG1, M2)

In addition, another FDG participant while emphasizing the importance of the toilet pointed out that:

> *[…] Let us say when you start building a house, you should build a toilet first, build a bathroom, dig a pit and start digging the foundation and then build you house once the house is finished make a stand where you will dry your plate and pots* (FGD2, W3*).*

This statement is an indication that to some people, a toilet is taken as a basic need of a good household and what should come first when setting up a home.

> *[…] The advantage of using a toilet is that our pigs would not eat the human waste and therefore would not carry the diseases which they get from eating human waste. We would prevent the spread of disease if we use the toilet*. (FGD2, M2).

The above statements are an illustration that some of the community members value toilets as important.

**Shame**

Shame was also pointed out as another factor influencing latrine use in the area. As stated by one FDG participant;

> *[…] Let me tell you the truth. Usually in home there is only one toilet so what happens in a home where you have older daughter, small children and your son in law? It is either your son in law uses the toilet and you go to the bush or he goes to the bush and you use the toilet because we avoid to crash with your son in law, especially in the morning when you all want the toilet.* (FGD2, M5)

In addition, another participant had this to say;

> *[…] There is nothing good about going to the bush because you would find that when you go to the bush you find that your son in law is coming yonder and comes to squat next to you, and then you just look down in shame*. (FDG1, W8)

Further still, another male participated commented that:

> *[…] Some time it is because we feel shy with all your grown-up daughters sitting around and they see you busy rushing to the toilet, that also make us not to use the toilet.* (FDG2, M5)

As regards women, the FDG participants explained that;

> *[…] Women prefer defecating in a safe and convenient place where they could hide themselves from the sight of males as they do not like to be seen by others during the act"*. (FDG1, M2). And another participant added that; "*My wife never goes to the bush; she is not used to it. She feels embarrassed and uncomfortable. So I thought I'd better build my own toilet".* (FDG1, M8)

The above views by the FDG participants indicate that much as there is low utilization of latrines among the people in the area, to some extent the fear to be ashamed has made many people to prefer latrines as compared to bushes especially among women.

**Disease transmission**

The findings of the study revealed that non-use of latrines is associated with disease transmission. This was in justification of the benefits of using latrines as reported by the FDG participants. For example, one of the female participants had this to say;

> *[…] If someone does not go far to help himself, the flies that sit on the feces would come and sit on the food, that would transfer the diseases to you".* (FDG1, W1)

Another participant added that;

> *[…] To me the problems we face regarding open defecation is outbreak of disease such as diarrhea, malaria and also pollution of water bodies which we depend on downstream for domestic use*. (FDG1, M4)

The above statements imply that non-use of latrines lead to transmission of diseases either through flies or contamination of drinking water fetched from the streams.

**Lifestyle and economic activities**

The participants also revealed that people's lifestyles and economic activities contribute to non-use of latrines and improper hygiene practices in the area. For example, one male FDG participant stated that;

> *[…] For men who are farmers, defecation sites were unused land somewhere close to their agricultural fields".* (FDG1, M7).

Another participant narrated that:

> *[…] Men are accustomed to going to farms or fishing immediately in the morning, after they are awake. All body cleaning activities like defecation are done outside the home. On the way back from agricultural fields, they bathe and wash their clothes and return to the house for food in the afternoon. On account of these factors, using latrines for defecation in the morning does not suit their daily routines.* (FDG1, M8).

Others claim that due to the nature of their activities they cannot afford to use latrines hence they either go to the bush or defecate in the lake;

> *[…] To add to what has been said, you may be aware that here most people have no pit latrine, so most people go into bush to relieve themselves. You would find that as the person is sited helping himself the pig will come running almost pushing him of so that it can eat the human waste.* (FDG1, M5)

Hand washing is also dictated by the nature of job one does. You cannot leave the garden to go home wash hands and then come back eat something as pointed out by one of the FDG participants:

> *[…] When you are in the field and you get a cob of maize you would not stop ploughing and go to look for water to wash your hands you would just eat the maize*. (FDG2, W7)

The above views raised by the FDG participants provide live testimonies that use of latrines and adoption of good hygiene practices is also influenced by people's lifestyle and economic activities engaged in.

**Poor uptake of health education and community awareness message**

Another interesting issue that influences use of latrines and adoption of good hygiene practices is the poor uptake of health education and community awareness message as pointed out by the respondents during the FDGs. It was revealed that there are no routine sensitization meetings for communities on benefits of having a latrine. For example, one participant stated that; *"*

> *Yes, if a good sensitization campaign was done and all the people were taught the preventive measures to take and everybody uses the toilet*, we could not be facing any problems. (FDG, W7)

In addition, it was revealed during the FDGs that people were health educated and trained on the dangers of open defecation but the uptake of constructing the toilets is low as indicated by one male participant:

> *[…] My contribution would be that, we have had a lot of workshop as you have heard Mr Moderator. We were taught on how dig toilets, dip pit for our rubbish… But you can see we do not seem to implement them. In my own opinion that is not encouraging to those people who come to teach us. We should try to implement what we learn and put them in practice, not when we leave this place and go back we forget everything and is business as usual*. (FGD1, M7)

M1: These lessons we have learnt, are they meant for our own good we all need to build latrines and use them well. (FGD1, M1)

However, the participants suggested that much as the uptake of health education and community awareness message is, people should continue to be provided by health education about latrine use as one of the participants narrated.

> *[…] Now that is a possibility but what need to be done is to educate the people about the goodness of a toilet. Most people are forced because of the rain, but if a persistent education campaign was mounted and taught the people about the goodness of a toilet that would achieve desired results. You know it is very difficult to change the mindset of a person. Some would say we started a long time doing this even our great grandfathers went into the bush, what are you saying. In my own view the only solution is to teach those who have not yet seen the benefits of using a toilet* (FDG1, M5).

**Negative attitude towards using latrines**

During the FDGs, it was also revealed that the use of latrines was also influenced by the peoples' negative attitude towards using latrines as indicated by the following statements:

> *[…] To me culturally it is not good to contain feces in the compound. Containing faeces in the latrine pit inside the compound is perceived to be 'impure' and considered to be 'disrespectful' for the worship shrine at home. That is why I move far away and do it from the bush* (FDG1, M5)

Another one added that:

> *[…] People feel latrine pits are the breeding grounds for mosquitoes. With open defecation, they believe faeces (impurities) are left outside, away from homes and mosquitoes can't breed*. (FDG1, M7)

While further emphasizing the negative attitude towards using latrines, a male FDG participant noted that: "*Some people may have a toilet, but are not used to going to the toilet. It depends with how a person was brought up. If he is used to go to the bush, he will still go to the bush".* (FDG2, M4)

**Rejection to use latrines**

The views expressed by the FDG participants reveal that generally, a certain section of the population in the just reject to use latrines;

> *[…] Most people in this area do not want to use latrines. They use the bushes around their homes. Vacant fields preferably closer to others houses or along the village routes (*FDG1, M6)

This statement is a reflection that people in the area reject to use latrines and instead resort to defecating away from their respective homes either in the bushes or the lake.

**Hand washing practices**

It was surprising and unfortunate when all the FDG participants pointed out that washing hands before eating is not something of a must do; "*It is difficult to wash hands, most time we just eat"*. This short statement is an indication that Hand washing is not taken as a serious issue among the fishing communities in the study area.

However, some of the participants acknowledged the importance of maintaining good hygiene as practices as it can prevent a lot of diseases.

> *[…] It is very good to practice good hygiene, because you avoid some sicknesses in that not every small disease that breaks out you would be the first one to suffer from it. If you practice good personal hygiene you avoid all that*. (FDG1, W1)

Another participant noted that;

> *[…] If one member of the family suffers from diarrhea you find the whole family suffers from the disease if they do not practice good personal hygiene".* (FDG1, W4)

In support of the above, another female participant said that;

> *[…] When you practice good personal hygiene, you find that it would take you a long time before you fall sick. So, a good result of good personal hygiene is very effective preventive measure of any disease.* (FDG1, W8).

The views of the FDG participants above show that much as there is minimal adherence to the recommended hygiene practices among the local people in the study area, the importance of maintaining good hygienic practices is not underrated by the people.

# CHAPTER FIVE
# DISCUSSION, CONCLUSION AND RECOMMENDATIONS

## 5.0 Introduction

This chapter provides the discussions based on the study findings. It also includes the conclusions and recommendations drawn from the study findings.

## 5.1 Discussion of results

### 5.1.1 Socio-demographic characteristics of the study population

The study recorded more male than female-headed households. In the same line, both the availability and of latrine was observed to be higher among male headed households than female headed ones. This is in agreement with findings from UNDP (2006), Kema, (2012), Awoke and Muche (2013) who reported that male headed households had higher latrine coverage and use.

The results revealed that latrine availability and use was high among those with formal employment. This could be attributed to the latrine construction costs where by an employed person is more able to meet such costs than one who is not. This finding is in line with Quihui et al (2006) who pointed out that those children from families with unemployed family heads showed higher risk of intestinal parasitism an indication of open defecation. They pointed out that children who defecated in open areas were more likely to be infected than children who used pit toilets and latrines in both regions.

The level of education also had a statistically significant relationship with latrine use. Latrine use was high among those who had attained tertiary education. The study population exhibited moderate literacy rates; latrine use was higher among households with tertiary or secondary level of education compared to those with only primary and without any formal education. This could

be attributed to the impact that education makes in decision making for ultimate behavior change and adoption of good latrine practices at the household level. Similar findings by Quihui et al, (2006) demonstrated that parental education was associated with intestinal parasite infection in rural school children. It was found that children from families with less educated parents showed higher risk of intestinal parasitism.

The average monthly income also had a statistically significant relationship with latrine use. Latrine use was higher among those with income above 300, 000 Uganda shillings. It was found out that high income respondents had higher latrine use compared to the low-income earners. This could be attributed to the fact that majority of the households in the study area had constructed their latrines using their own funds. With less subsidies provided from NGOs and government such as materials, labor, finances, latrine slabs among others are, the low-income earners are not in position to construct and use pit latrines. This finding implies that higher income levels did necessarily translate into ownership and use of a latrine facility in this community in addition to other factors. This study finding is in line with those of UNDP (2006) which identified poverty as a key contributor to latrine inequalities and the Water Sanitation Programme (2004) that found out that limited financial ability was a major hindrance to up scaling latrine use.

### 5.1.2 Knowledge and attitudes on latrine use

The study revealed that knowledge on latrine use was generally high and that latrine use was also high among the respondents who reported the correct knowledge linking latrines to diarrheal disease prevention. The results show that respondents that reported the correct diarrhea prevention methods had statistically significant relationship with latrine use with higher latrine

use compared to those who did not. In addition, latrine use was higher among the respondents who believed that daily hand washing with water and soap and this had a statistically significant relationship. This finding agrees with that of Gok (2010b) who reported that for households to own latrines and increase their coverage in each community there is need for having positive knowledge and attitudes towards latrines. He argues that this is because improving sanitation is not limited to physical-structural aspects but also includes having the correct knowledge on latrine use, proper use and maintenance of latrine facilities as well as behavior change towards more hygienic practices.

It is worth noting that correct knowledge translates into positive attitudes that lead to proper use and maintenance of latrine facilities as well as behavior change towards more hygienic practices. The study revealed that majority for households with positive attitudes had higher latrine use. This was demonstrated by adoption of good latrine hygiene practices such as having a hand washing facility with water and soap outside the latrine and having latrines that offered adequate privacy. The adoption of appropriate latrine practices at the household level is an indication of positive attitude towards latrine use due to the visual values assigned to use of latrines implying that a better latrine is judged by its privacy and cleanliness. Having a hand washing facility with water and soap outside the latrine and having latrines that offered adequate privacy had positive significant relationship with latrine use. This finding is line with (Gok, 2010b) who expressed that improving sanitation is not limited to physical-structural aspects but also includes proper use and maintenance of latrine facilities as well as behavior change towards more hygienic practices.

## 5.2 Factors influencing latrine use in the study area

### *5.2.1 Obstacles to latrine construction and use*

The study findings show that obstacles to latrine construction and use had a statistically significant association with latrine use. The study revealed that latrine use is hindered by obstacles such as culture, lack of money, lack of land, lack of construction skills, and unsuitable hydro-geological conditions. The findings indicate that majority of the households who were not using latrines reported lack of land as the major obstacle.

Most households especially those at landing sites have limited space for latrine construction as they are living a "Camp-Like" life. They are living in congested homesteads and such most of them are using the shared latrine facilities. Other factors like poverty, lack of construction skills, and culture also play a big role. Due to these obstacles, Latrine construction and use has generally been low in the study population, which has for a long time practiced open defecation. One of the BMU leaders reported during the FDGs that culturally, the study population consists of mainly fishermen and their nature of lifestyles regarding constructing permanent facilities for defecation has never been often considered a feasible priority forcing them to resort to open defecation. The community health workers also reported that the community members could sell their fish to do anything else but not construct a latrine.

The reasons provided for the widespread practice of open defecation in the bush and in the lake, were varied: it was the norm in the community and as such the only option available, no one could see you as the bushes could hide someone, bushes provided plenty of fresh air, and there were plenty of open fields which presented adequate conditions for open defecation among others.

In addition, the study observed that majority of the people in the study area did not have the necessary skills for constructing latrines yet, latrine use was highest among these households that lacked the necessary skills for constructing latrines. The possession of the relevant latrine construction skills is prerequisite if the said latrine facility is to be sustainably utilized, repaired or replaced (operation and maintenance requirements) in a hygienic manner. The lack of latrine construction skills particularly may hinder households from constructing or repairing their latrines as many would opt without and may hinder sustainability of future latrine projects.

Like findings by the Water Sanitation Programme (2004), this study identified the lack of knowledge on how to construct latrines to be a major hindrance to up scaling latrine use. When asked about their ability to construct latrines, most of the FGD participants indicated that they had the strength to construct latrines but often they lacked skills and technical knowledge on how to construct latrines as majority were fishermen that had never used or constructed latrines before. This implies that there is an urgent need for all actors to invest in building capacities of communities to have inherent skills to be able to construct, repair or replace their latrines in future as opposed to giving subsidies which is often not sustainable.

### *5.2.1 Promoters of latrine construction and use*

The availability of promoters of latrine construction and use was also statistically associated with latrine use. Government health officials were reported to be the main promoters of latrine construction and use. Latrine use was higher among respondents who reported that government health officials are the main promoters of latrine construction and use. The results also showed that there is still low involvement of Non-Governmental Organizations (NGOs) in promoting latrine construction and use in the study area (22.05). Nonetheless, with the current realization of

the health concerns related to sanitation, the involvement of NGOs such as Life Water, HoPE LVB improvement is latrine coverage and utilization will be realized. These findings were like those reported during the discussions in the FGDs where Non-Governmental Organizations (NGOs) were mentioned to be on the rise and their impact is becoming more realistic regarding promoting latrine construction and use compared to other promoters in the study area. These findings agree to those reported by Kema, (2012), Awoke and Muche (2013) who reported that external assistance from NGOs is on the increase about promoting latrine use.

The study however notes that much as the provision of external subsidies from NGOs is on the increase, it poses a potential risk to sustainability of latrine projects in communities. This is because the continued provision of external support may ultimately increase latrine use but may end up weakening the community capacities to sustain the action after withdrawal of the support as evidenced in the study by the lack of latrine construction skills among most of the households. This therefore calls for capacity building among the community with the basic latrine skills by the NGOs.

***Source of financing for the construction of current latrine***

Source of financing for the construction of current latrine was also associated with latrine use. The results revealed that most of the latrines in the study area were constructed with households own resources. Other external sources included support from NGOs, government, and BMU in the form of subsidies such as materials, labor, finances, slabs among others. These findings imply that in addition to the households own funds, and increased support to households from NGOs and government will increase latrine coverage and use in the area.

### *Clearly defined gender roles for constructing and cleaning latrines*

The findings of the study revealed that among households who had latrines, majority of the respondents reported that men were responsible for constructing latrine facilities in their community. On the other hand, almost all the respondents reported that women were responsible for cleaning latrines. Similar views were expressed during all KIIs and FDGs. Focus Group Discussions with women and men as well as key informant interviews indicated gender variations in shared latrine cleaning. The analysis shows that females had more inclinations to keep latrines clean than men. Women had more cleaning roles and responsibilities than men, and not necessarily capabilities.

### *Motivation for latrine construction and use*

Motivation for constructing and using latrines was had a statistically significant relationship with latrine use. The findings indicate that majority of the respondents reported that their main motivation for constructing and using latrines was to prevent diarrheal diseases. Other motivations were the health education they had received and influence from their neighbors. Similar views were reported out during both the KIIs and FDGs. Majority of the households' members who were using latrines had constructed them to prevent diarrheal diseases. These findings differed with those of Jenkins, (2007) that indicated that a household's decision to adopt the use of latrines had little to do with the prevention of faecal-oral diseases.

The motivations for latrine construction and use identified in the study provide room to further explore their replicability and up scaling to all areas with low latrine use. Majority of the diseases that members of the study population had suffered from in the past two weeks were sanitation related; latrine use was highest among households that had not suffered any sanitation related disease in the past two weeks. Among those who lacked latrine use, majority of them

reported to have had a member of their household who had suffered from sanitation related diseases. This clearly indicates the significant role that latrines can play in breaking the fecal–oral disease transmission route.

## 5.3 Conclusions

### Latrine coverage and use

In conclusion, although the percentage of households with latrines was relatively higher (67.9%), latrine coverage is still low. In the same line latrine, use is also still low (60.4%). Much as none use of latrines was higher among households without latrines, it was also realized that not all household members with latrines were using them. This gave an impression that having a latrine does not necessarily mean using it as it was revealed in the study. The study also revealed that a good proportion of household members with latrines were not using them at all or used the latrines occasionally. This calls for further mass sensitization of the fishing communities on the importance of having and using latrines.

### Knowledge and practices on latrine use

Notably, despite the low use of latrine coverage in the study area, the people's knowledge and attitudes were relatively high. The community members were knowledgeable on issues such as human feces as the principle source of diarrhea, children's faces can cause diarrhea, effect of open defecation, risk of getting diarrhea if neighbor practices open defecation, and causes of diarrhea. However, this level of knowledge and positive practices has not always translated into positive behavioral change. Nonetheless, for those who translated the knowledge and attitudes into positive behavioral changes were using latrines properly while observing latrine hygiene practices such as having latrine with water and soap for hand washing, having latrine that present adequate conditions of cleanliness and privacy.

**Factors associated with latrine use**

The study further concludes that several factors influence both latrine availability and use. These factors were categorized as general factors, motivation factors and obstacles**.** Among the general factors included the availability of promoters of latrine construction and use, and source of latrine construction financing. The motivation factors for constructing and using latrines included; prevention of diarrheal diseases, health education, and influence from their neighbors). On the other hand, the obstacles to latrine construction and use included culture, lack of construction skills, lack of money, lack of land/space, and unsuitable hydro-geological conditions. Apart from these factors the study concludes that other socio-demographic factors such as gender of households head, level of education, occupation, and households' income are important factors that influence latrine use. All these factors were significantly associated with latrine use. Thus, attention must be placed on addressing these factors when implementation any sanitation and hygiene related programmes.

## 5.4 Recommendations

Based on the study findings, this study recommends the following.

**Health workers and health promoters**

There is need to develop information, education communication (IEC) materials for communities regarding pit construction and use. In this regard, the health assistants and LC1 should sensitize the communities on the adequacy and dangers of not having pit latrines. This could be done through Local Council meetings and health education sessions in the community. The topic of discussion should always include dangers of poor latrine use, sanitation related diseases and, importance of hand washing.

There is also need for continues sanitary and hygiene inspection in homes. Health workers, Health Assistants, Local Council 1 Chairpersons should carry out sanitary and hygiene inspection in homes. The at-risk homes identified should be encouraged to improve on their sanitation and hygiene.

**Policy makers**

The study further recommends that proactive efforts need to be taken by all actors to bridge the apparent gap between knowledge and practice pertinent to up scaling latrine use. Targeted and thematic sanitation campaigns can be conducted to promote the construction and use of latrine facilities focusing on latrine construction skills enhancement.

Further still, to accelerate progress towards attainment of sanitation targets in the area of study, existing latrine construction and use barriers need to be addressed. Specifically, there is need to equip communities with latrine construction skills, address social cultural barriers to latrine use and increase the participation of men in latrine related matters as they can be key champions and agents of change in promoting latrine use.

**Ministry of health**

Related to the above, the Government through the Ministry of Health should provide matching resources to tackle the sanitation disparities in the Sub-counties while utilizing socio-culturally appropriate technological options suitable for the study community. Communities should also be encouraged to initiate the construction of their own latrines as opposed to waiting for external help in the form of subsidies as this may not be sustainable in the long term.

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## Appendix I: Informed consent form

**Study Title:**

Latrine Coverage and Associated Factors in the Fishing Communities of Malongo and Jagusi Sub Counties, Mayuge District

**Principal Investigator(s):**

**Kinawa Modest:** Masters in Public Health student; Masters in public health student

***Introduction:***

Good morning/afternoon. My name is _____. I am an interviewer from Uganda Martyrs University working on a research study on "*Latrine Coverage and Associated Factors in the Fishing Communities of Malongo and Jagusi Sub Counties, Mayuge District".* This study is being conducted by a masters' student as a course requirement to write his dissertation.

***Background to the study:***

The lack of improved latrine use in fishing communities in Malongo and Jagusi in Mayuge district continues to be a widespread health and environmental hazard. Latrine coverage in these areas is generally low with the proportion of the population using improved latrine facilities being estimated at 10.7% (WSP, 2014). According to the 2011 UDHS report, majority (83%) of the population in fishing communities in Malongo and Jagusi practiced open defecation (UBOS, 2010) due to lack of latrines. Malongo Sub County health records indicate that majority of the top ten diseases affecting the population were sanitation related and in 2014, the region is adversely affected by a diarrheal diseases and cholera outbreak that leaves many sick and others dead. The promotion of improved latrine use coupled with the requisite knowledge, attitudes and practices in Malongo Sub County has not received significant attention from researchers, the local government authorities, health programme designers, law enforcers and policy-makers. This calls for an urgent need to address the latrine coverage and its associated factors among the fishing communities in the area.

***Purpose of the research project:***

The purpose of this study is to determine the status of latrine coverage and use among the fishing communities in Malongo and Jagusi sub counties Mayuge district.The information generated from this study, can inform the health promotion stakeholders about the current latrine coverage, the factors that promote or hinder latrine coverage, and knowledge and attitudes of people living in fishing communities. Also the findings of this study may provide both the residents of Malongo and Jagusi sub counties and the entire country with helpful information regarding the possible consequences of poor hygienic practices and inadequate sanitation facilities. Appropriate recommendations could generate or stimulate action for the improvement of the sanitation circumstances of people in the entire region thereby leading to increased coverage of latrines.

***The reason for your participation:***

The reason for choosing you is that you are among the people who have the right information that this study needs.

***Procedures:***

This study will involve asking you questions about latrine coverage and associated factors and you are requested to answer questions from a questionnaire that is here with me.

***Risks/discomforts:***

We do not expect that you are at risk of any bad things happening to you by participating in this interview. You may feel embarrassed or uncomfortable answering some of our questions. You do not have to answer any question you do not want too. I will ask you to respond honestly and to the best of your ability. There is no need to worry if you do not know the answer to any question.

If you have any questions about the research, you may contact: Kinawa Modest on Telephone: 0787 497999/0755102433

***Benefits:***

There are no direct benefits to you in participating in this study, but the information you give may help to come up with proper interventions that may help in improving the hygiene and sanitation of the area.

***Incentives / rewards for participating:***

We shall not offer you any payment/ incentives for your participation in this interview.

***Protecting data confidentiality:***

The information that you will share with us shall be protected to the best of our ability. We will not use your name or any identification other than the identification numbers in any document/ dissertation. Your responses to the questions will not be disclosed to anyone without your permission. A high level of secrecy will be ensured.

***Right to refuse/withdraw, discontinue:***

You are free to decide if you want to participate in this interview or not. If you decide not to participate or to withdraw or to discontinue at any time, this will not be reported to anyone. If there is a question you do not feel comfortable answering, feel free to tell me about the question, and we can skip over it. You may also stop the interview at any time you wish.

***Consent:***

I acknowledge that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer (Please circle appropriately).

Yes No

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

| _____ | _____ | _____ |
|---|---|---|
| Name of person obtaining Consent (Interviewer) | Signature | Date |

## Appendix II: Questionnaire for the households

### SECTION A: DEMOGRAPHIC INFORMATION

**1.** The **household head** is

| | | | |
|---|---|---|---|
| **Male** | **1** | **Female** | **2** |

**2.** Age of **household head in complete year……..**

**3.** What is the occupation of the **household head?**

| | | | |
|---|---|---|---|
| Formal Employment (Salaried) | **1** | Livestock Keeping | **4** |
| Informal Employment (Casual) | **2** | Agriculture | **5** |
| Trading/Business | **3** | **Other (specify)** | |

**4.** What is the **highest level** of education of the **household head?**

| | | | |
|---|---|---|---|
| No Formal Education | **0** | Secondary | **2** |
| Primary | **1** | Tertiary | **3** |

**5.** What is the household's **average income per month** in Uganda Shillings……..

**6.** How many people in total live **permanently** in this household?) **…….……**

### SECTION B: LATRINE COVERAGE AND USE

**7.** Where do you defecate? (Observe and confirm if household has ownership and use of improved latrine facilities)

| **Improved Latrine Facilities** | | **Unimproved Latrine Facilities** | |
|---|---|---|---|
| Ventilated Improved Pit (VIP) latrine | **1** | Pit latrines without a slab or platform that is open pit | **5** |
| Pit latrine with slab | **2** | Hanging latrines or toilets | **6** |
| Composting toilet | **3** | Bucket latrines | **7** |
| Flush or pour-flush toilet/latrine to either:<br>□ Piped sewer system<br>□ Septic tank<br>□ Pit latrine | **4** | Flush or pour flush to elsewhere (that is, not to piped sewer system, septic tank or pit latrine) | **8** |
| Shared Facilities of any type | | **9** | |
| No facilities, bush or field | | **10** | |
| **Other (Specify)** | | | |

**8.** Does your household have skills necessary for constructing latrines?

| | | | |
|---|---|---|---|
| **No** | **0** | **Yes** | **1** |

**9.** Who is responsible for constructing latrines in your household?

| | | | |
|---|---|---|---|
| **No** | **0** | **Yes** | **1** |

**10. If your household does not have a latrine**, what are the main reasons why your household does not have a latrine?

| | | | |
|---|---|---|---|
| Don't want one | **1** | The family does not own the land | **6** |
| It is not a priority | **2** | Terrain is not appropriate | **7** |
| Don't have enough money | **3** | It's not part of our culture | **8** |
| Don't know how to construct | **4** | Lack of knowledge/skills on how to construct/use it | **9** |
| Don't have enough physical space | **5** | Lack of construction materials | **10** |
| Not Applicable | **11** | **Others (Specify)** | **12** |

**The following questions are only for those households with a latrine. If the household has no latrine, skip the following questions and go to section c**

**11.** Overall, how many people use this latrine facility?

| | | | | | |
|---|---|---|---|---|---|
| **One to Three** | **1** | **Four to Six** | **2** | **More than Six** | **3** |

**12.** Do members of your household **Share** this latrine facility with other households?

| | | | |
|---|---|---|---|
| **No** | **0** | **Yes** | **1** |

**13.** With how many households do you share this latrine facility with?

| | | | | | |
|---|---|---|---|---|---|
| **One to Three** | **1** | **Four to Six** | **2** | **More than Six** | **3** |

**14.** Are there people in your household **who do not use the latrine?**

| | | | |
|---|---|---|---|
| **No** | **0** | **Yes** | **1** |

**15.** If yes, who in your household does not use this latrine-***Multiples answers allowed?***

| | | | |
|---|---|---|---|
| Children (Under Five) | **1** | Sick people | **5** |
| Men | **2** | Don't know | **6** |
| Women | **3** | **Others (Specify)** | **7** |
| Pregnant women | | **4** | |

**16.** Is the latrine currently being used?***-check through observation***

| | | | |
|---|---|---|---|
| **No** ***(go to Q 21)*** | **0** | **Yes** | **1** |

**17.** If no, why is the latrine **not being used**?

| | | | |
|---|---|---|---|
| The latrine is collapsed / fear of collapsing | **1** | Latrine is too far | **4** |
| The pit is already filled | **2** | Poor privacy | **5** |
| Poor cleanliness (insects, bad smell, etc) | **3** | **Other (*specify*)** | |

**18.** Does the latrine hygienically separate human excreta from human contact?-(***Check through Observation)***

| | | | |
|---|---|---|---|
| **No** | **0** | **Yes** | **1** |

**19.** Does the interviewer observe presence of a convenient source of water and soap around the latrine **(< 3 meters)?-(*Check through Observation)***

| | | | |
|---|---|---|---|
| None | **0** | Hand washing device (with water and Soap) | **2** |
| Hand washing device (with water only) | **1** | Hand washing device (with water and ash) | **3** |
| **Other (Specify)** | | | |

**20.** Does the latrine present adequate conditions of cleanliness?-(**check through observation)**

| | |
|---|---|
| Not clean (Visible feces or urine on the floor) | **0** |
| Adequately clean (no visible feces or urine) | **1** |
| Poorly clean (some dirt, but no visible feces or urine) | |

**21.** Does the latrine present adequate conditions of privacy?-(**check through observation)**

| | |
|---|---|
| No privacy | **0** |
| Adequate privacy | **1** |
| Poor privacy | **2** |

**22.** How did you finance the construction of your current latrine?

| | | | |
|---|---|---|---|
| **Own Resources** | **1** | **Loan** | **2** |
| **Others - specify** | | **3** | |

**23.** Who is responsible for cleaning latrines in your household?

| | | | |
|---|---|---|---|
| **Men** | **1** | **Women** | **2** |

**24.** What was the **Main Motivation** for constructing and using this latrine?- (**Probe – do not prompt)**

| | | | |
|---|---|---|---|
| No Motivation | **0** | Health education received | **3** |
| Disease prevention | **1** | Don't Know | **4** |
| Influence from my neighbor/social pressure | **2** | **Others (Specify)** | |

**SECTION C: LATRINE USE ASSOCIATED FACTORS (The following questions are for all households with or without a latrine facility)**

**25.** What do you consider to be the **Main Benefits** of using a latrine? -

| | | | |
|---|---|---|---|
| No Benefit | **0** | Disease prevention | **3** |
| Privacy | **1** | Status or prestige | **4** |
| Convenience | **2** | Don't Know | **5** |
| **Others (Specify)** | | | |

**26.** Who are some of the people who promote construction and use of latrines in your community?

| | | | |
|---|---|---|---|
| None | **0** | Local Leaders | **4** |
| Neighbor | **1** | NGOs | **5** |
| Community volunteers | **2** | Don't Know | **6** |
| Government | **3** | **Others (Specify)** | |

**27.** In your opinion, what are the **Major Obstacles** to latrine ownership and utilization in your community?- (***multiple answers allowed)***

| | | | |
|---|---|---|---|
| Culture | **1** | Lack of Skills/Knowledge | **4** |
| Lack of money | **2** | Lack of land/Space | **5** |
| Unsuitable hydro-geological conditions | **3** | Don't Know | **6** |
| **Others (Specify)** | | | |

**28.** Do you think you are at risk of getting diarrhea if your neighbor does not use a latrine that is practices open defecation?

| | | | |
|---|---|---|---|
| **No** | **0** | **Yes** | **1** |

**29.** What is the effect of open defecation?

| | | | |
|---|---|---|---|
| Causes shame/Disgust | **1** | Don't Know | **3** |
| Causes diseases | **2** | | Others (Specify) |

**30.** Do you think **Children's feces** can cause diarrhea?

| | | | | | |
|---|---|---|---|---|---|
| **No** | **0** | **Yes** | **1** | **Don't Know** | **2** |

**32.** Do you think **human feces** are a principle source of diarrhea?

| | | | | | |
|---|---|---|---|---|---|
| **No** | **0** | **Yes** | **1** | **Don't Know** | **2** |

**33.** Do you think **washing your hands everyday** with soap and water could prevent diarrhoea?

| | | | | | |
|---|---|---|---|---|---|
| **No** | **0** | **Yes** | **1** | **Don't Know** | **2** |

**34.** In your opinions, what problems could be attributed to **lack of latrine facilities in your community?**

| | | | |
|---|---|---|---|
| None | **0** | Absenteeism from school | **6** |
| Diseases | **1** | Smell | **7** |
| Stigma | **2** | Flies | **8** |
| Indignity | **3** | Loss of productive time | **9** |
| Shame | **4** | Don't Know | **10** |
| Medical Expenses | **5** | **Other (Specify)** | |

**34.** Which **diseases** have members of your **household** suffered from in the past **2 weeks?**

| | | | |
|---|---|---|---|
| Malaria | **1** | Eye infections | **4** |
| Diarrheal diseases | **2** | Respiratory Tract Infections | **5** |
| Skin related diseases | **3** | TB, HIV and AIDS | **6** |
| **Others (Specify)** | | | |

**35.** Can you please tell me some of the ways that one can get diarrhea? ***(Multiple answers allowed)***

| | | | |
|---|---|---|---|
| Eating food contaminated with feces | **1** | Not washing hands | **5** |
| Drinking fluids e.g. water contaminated with feces | **2** | Not using latrines | **6** |
| Flies contaminated with feces settling on food/water | **3** | Don't Know | **7** |
| Eating with hands contaminated with feces | **4** | **Others (Specify)** | |

**3.** Can you please tell me some of the ways that one can **Prevent diarrhoea**?-(***multiple answers allowed. Probe – do not prompt)***

| | | | |
|---|---|---|---|
| Good Food Hygiene Practices (Proper cooking and covering of food, washing fruits and vegetable etc) | **1** | Use of latrines | **4** |
| Good Water Hygiene Practices (Treating drinking water, proper storage in clean containers etc) | **2** | Don't Know | **5** |
| Proper hand washing with soap and water | **3** | Others (Specify) | |

**Thank you for your time and response**

## Appendix III: Focused Group Discussion and Key Informant Guide

### SECTION A: LATRINE AND USE

1) How would you describe the general defecation habits of this community? ***Probe further:***

□□What are your perceptions about latrine use in this community?

□□hat is the general level of latrine use in this community?

2) Have people in your community always had the same ideas about latrines? How have they changed or how have they remained the same over time?

3) Are there people in your community who **do not have latrines**? What could be the main reasons for this?

4) Are there groups of people in this community who are known **not to use** latrines, what are some of the reasons?

5) For those **people who have latrines** in your community and **do not use them**, what could be the reasons for non use of the latrines?

6) What are the general characteristics of people **who own and use** latrines in this community

7) What are the general characteristics of people **who do not own or use** latrines in this community?

8) Do you think people in this community have the capacity necessary to construct latrine facilities? (skills, ability, materials, funds etc)

9) Who are the main people who promote latrine use and construction in this community and in what way? Whose responsibility do you think it is to improve access to latrines in your community?

10) Who generally constructs and cleans latrines in this community?

**SECTION B: LATRINE USE ASSOCIATED FACTORS**

11) What do you consider to be the **benefits** of using a latrine or **motivation** for constructing latrines?

**12)** In your opinions, what problems could be attributed to **lack of latrine facilities in your community?**

13) Are there any factors that are known to **negatively influence latrine use** in your community?

14) In your opinion, what are the **major obstacles** to latrine ownership and utilization in this community?

15) What are your perceptions about **open defecation?** Main reasons for open defecation? (Likes, Dislikes, is it harmful?)

16) What are your perceptions about handling **children's feces**, can it cause diarrhoea?

17) What are the major diseases that affect this Community?

18) Do you think you at risk of getting diarrhoea if your neighbor does not use a latrine that is practices open defecation? Please explain

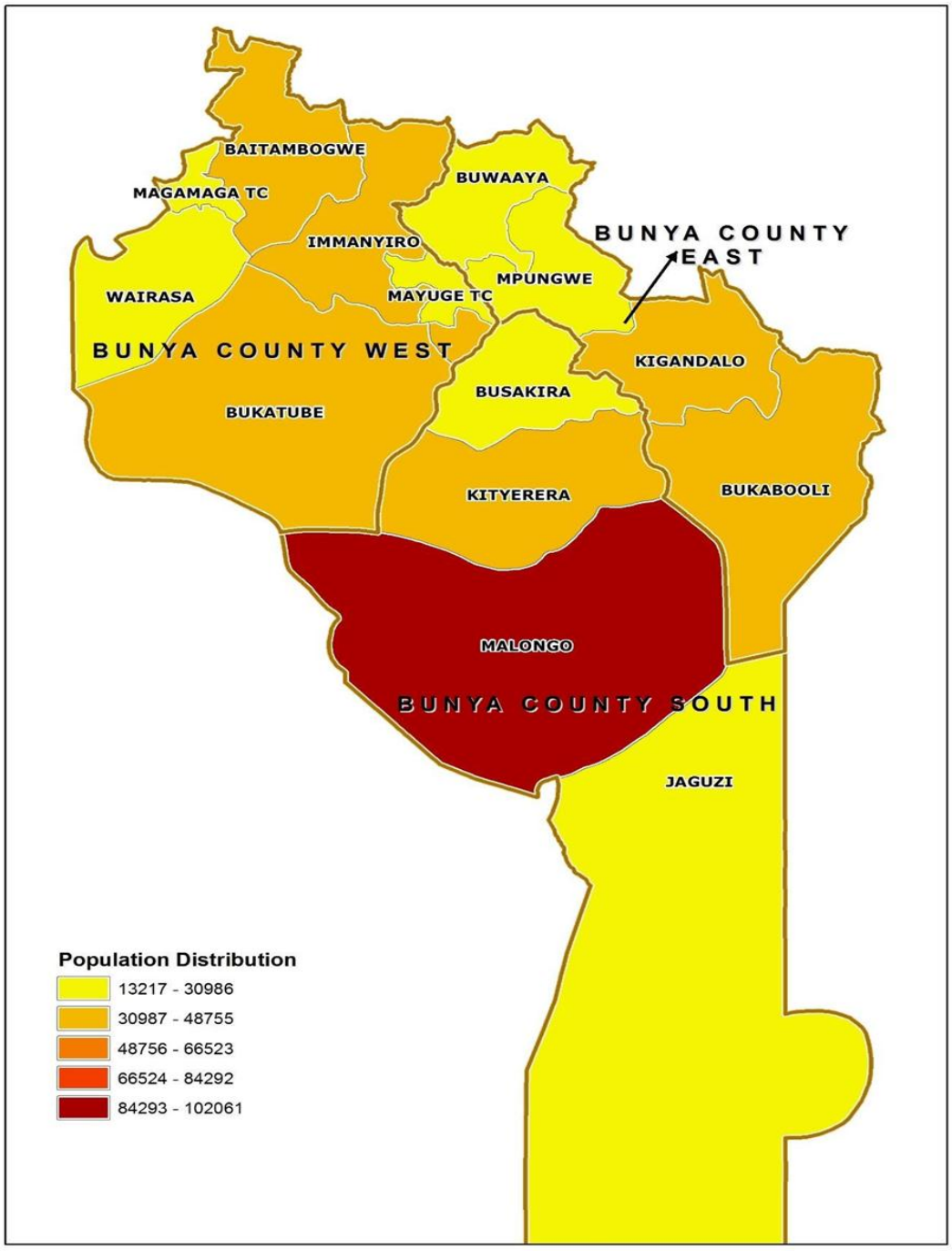
19) What are some of the ways one can get diarrhoea and how can diarrhoea be prevented?

**SECTION C: OTHERS**

20) Are there any other issues that we may not have discussed related to latrines in your area? Please tell me

**Appendix IV: Map of Uganda showing Mayuge District**

**Appendix V: Map of Mayuge District Showing Sub Counties Malong and Jaguzi.**



## Appendix VI: Introductory letter

The Republic of Uganda

**MAYUGE DISTRICT LOCAL GOVERNMENT**
**OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER**
**P.O BOX 1317, MAYUGE**

Our Ref: CR 164/1 September 11,2017

The DEAN
Faculty of Health Sciences
Uganda Martyrs University
Uganda

RE: **KINAWA MODEST**

This is to inform you that the above named student has been offered an opportunity to undertake research in this Local Government.

During this period he will be researching on Households Latrine status in the Fishing Communities in Malongo and Jaguzi Sub counties under the supervision of Mr. Isaac Wonyima (Lecturer MPH) the department of health Sciences.

Your attention is drawn to section J-f of the Uganda Government Standing Orders and Circular Standing Instruction No.3 of 2011, relating to research placement in the Public Service.

14 SEP 2017

Muzige Paul
**FOR; CHIEF ADMINISTRATIVE OFFICER/MAYUGE**

**Copied to:** The District Chairperson/*Mayuge*
The Resident District Commisisoner/*Mayuge*
The Sub county Chief /*Malongo*
The Sub county Chief/*Jagzi*
Mr. Kinawa Modest