

Smile Latrine Project Baseline Survey: Rationale for Improving Sanitation Standards in Homa Bay County, Kenya

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Abstract

The purpose of this study is to present a rationale for improving sanitation standards in Kakang'utu West Community Unit, in Kabondo Kasipul Constituency, Homa Bay County. The recommendations presented follow research findings that assessed the quality of the latrine features as observed by the data collectors. Many of the latrines were not only a health hazard, but were dangerous structures that covered deep pits and put users in great risks. In our findings, we sampled reasons for non-adoption of latrines, and found economic and socio-cultural reasons were key. This study lays out methods of intervention and presents the picture on the ground in a small location representing a sample of the entire constituency and county. The lessons learnt are formulated into a strategy for a successful improved sanitation promotion programme. Current sanitation practices in Kakang'utu West do not favour the need for latrine for the purpose of proper containment of human waste since many defecate in the bushes. The manner in which many latrines are constructed shows they are not priority features of the homesteads. They are not hygienic and pose great risks for diseases. Many are oblivious to the common knowledge that owning a latrine is associated with health benefits, better hygiene standards, and sanitation interventions that reduce diseases. In this study, we have aligned ourselves to understand why latrines are lacking in the area, taking into account factors like socio-cultural practices, and poverty levels. Community involvement and technology will be key assets as appropriate measures.

Key terms: Sanitation, Latrine features, Latrine slab

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Introduction

Smile Latrine Project is a partnership project that brings together, Japan Habitat Association, Sawayume Kenya and the County Government of Homa Bay to improve the sanitation profiles in Homa Bay County and promote sustainable sanitation interventions, technologies and practices. The vision of the project is to sustainably improve the sanitation profiles of the rural communities of Kenya. The aim is to eradicate open defecation, promote universal access to improved sanitation facilities, and reduce the burden of diseases related to poor sanitation, increase sanitation technology choices among rural communities while improving the household incomes for investments in sanitation. Baseline survey is the second project component after stakeholders' mobilisation and awareness creation. While mobilisation aimed at bringing together stakeholders on board to support the project, the baseline survey aimed at assessing community sanitation status as it currently before intervention. This is the point of reference for which any changes in community sanitation shall be compared.

METHODOLOGY

The research team carried out community entry process where, the team met with the Chiefs, village elders, Community Health Volunteers, religious leaders, youth representatives and women group leaders to inform them about the planned project intervention and the baseline

survey plans. The research team then printed out consent letters in the local language to be distributed to every household to request them to take part in the planned baseline survey. The consent letters were distributed by the CHVs and the Village elders. Data collection was done by a team of trained data collectors who were guided by the CHV's to visit the households. Data was collected using a mobile based application *iSurvey* that relayed data real time to an on-line portal. An open-ended questionnaire was used to collect data on the area demographics, available sanitation facilities, hand washing practices, economic activities and money savings practices. Data was cleaned, collated and analysed using SPSS V25 and findings stated below. The research team visited nearly all the 1,364 households in the village to collect data. A total of 1162 households responded to the questionnaires in the baseline survey and this document presents a systematic and complete report of the findings from the households.

PRESENTATION AND ANALYSIS

Demographics

The baseline survey targeted 1,364 households in Kakang'utu West Community Unit. However, a total of 1,162 household managed to respond to the survey giving a response rate of 85%. There were more female (69.7 %) compared to male (29.6%) respondents in the survey. Most individuals were reported as married (75.5%) with regard to marital status.

Table 1: Socio-demographic characteristics of the baseline survey

SOCIO-DEMOGRAPHIC CHARACTERISTICS	FREQUENCY (NUMBER)	PERCENTAGE (%)
Sex of Respondents		
Male	344	29.6
Female	810	69.7
Missing/ did not answer	8	0.7
Total (n)	1162	100
Marital status		
Never Married	62	5.3
Married	877	75.5
Separated/ divorced	9	0.8
Widowed or single	198	17.0
Widowed with a partner	6	0.5
Missing/ did not answer	10	0.9
Total (n)	1162	100

Employment

Access to employment is critical for overcoming poverty and reducing inequality. Individuals without productive employment find it extremely difficult to provide for their own basic needs and the needs of their families. Households without reliable sources of income are further made vulnerable as they lack savings to face any financial challenges. According to KNBS 2014 inequalities report, only 10.5% of residents in Kabondo Constituency engaged in employment that ensure regular and predictable incomes, 13.8% are running family businesses while 42.3% manage family agricultural holdings (Ngugi, 2013).

According the baseline survey, 68.9% of residents in Kakang'utu West are self-employed full time or part time while only 7.3% work for pay either part time or full time.

This shows that the area has low economic capacity and is vulnerable to economic shocks.

Table 2: Kakang’utu West employment Status

Kakang’utu West Employment status			
Unemployed (not seeking employment)	65	5.6%	
Unemployed (seeking employment)	24	2.1%	
Pensioner	14	1.2%	
Temporary illness	5	0.4%	
Permanently disabled	4	0.3%	
Housewife (not seeking employment)	80	6.9%	
Housewife (seeking employment)	28	2.4%	
Student	24	2.1%	
Self-employed – full time	519	44.7%	
Self-employed – part time	280	24.1%	
Employed part time	42	3.6%	
Employed full time	43	3.7%	
None of the above	20	1.7%	
Missing/ did not answer	14	1.2%	
Total (n)	1162	100%	

Education

The level of education determines the capacity of individuals to earn higher incomes and hence improved standards of living. Education therefore is a proven means of improving an individual’s welfare. On the other hand, education can be used as a medium for social stratification and segmentations in a society. Unequal access to educational opportunities often translates into disparities in occupation, employment, income and social class. In Kenya, access to educational and employment opportunities are, to some extent, linked to family backgrounds hence some poor segments of the population

suffer from perennial exclusion from generation to generation (Ngugi, 2013).

In Kakang’utu West, more than half of the respondents (58%) in the sampled households had primary level of education or below and 12% had no formal education. Only 3.9% had attended post-secondary professional courses while 24.4% had either some secondary education or had completed secondary education. There is a strong indication of low literacy levels among the sampled households.

Table 3: Level of education

Level of education		
No formal education	141	12.0%
Lower primary	70	6.0%
Mid upper primary	142	12.2%
Upper primary	468	40.3%
lower secondary	123	10.6%
Upper secondary	160	13.8%
Technical college	35	3.0%
University	11	0.9%
Missing/ did not answer	12	1.0%
Total (n)	1162	100%

Kuria (2019) observed that in the context of latrine ownership and education level, the likelihood of owning a latrine increased with increasing level of education. Alemu et al. (2018) and Banerjee, Banik and Dalmia (2016), also noted that the more educated the household head is, the more the likelihood of the household members being more knowledgeable about the benefits of latrine ownership and usage. The educated household members are better placed to deal with barriers for toilet use such as general cleanliness, management of smell, toilet safety and lighting and ventilations of the latrines (Banerjee et al., 2016).

Education levels is further associated with change of behaviours and attitudes in respect to latrine usage and ownership.

This survey concurs with the above findings. 51 per cent of the respondents with no formal education had no latrines

as compared with 71% and 82% of the respondents who had upper secondary and tertiary education respectively. However, the number of individuals with tertiary education yet without latrines also seems high at 18% and with upper secondary education at 29% is worrying.

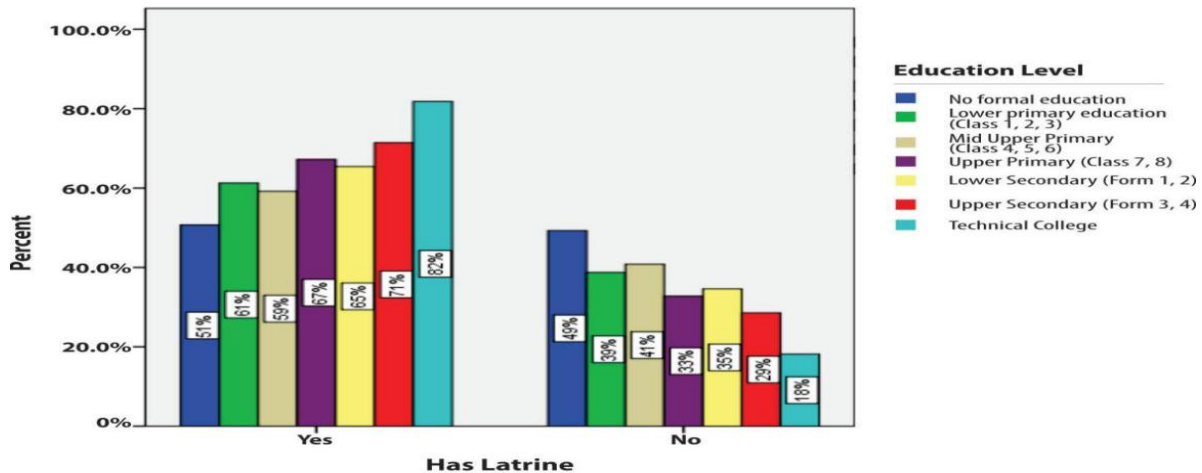


Table 4: Education Level and Latrine Availability

Housing

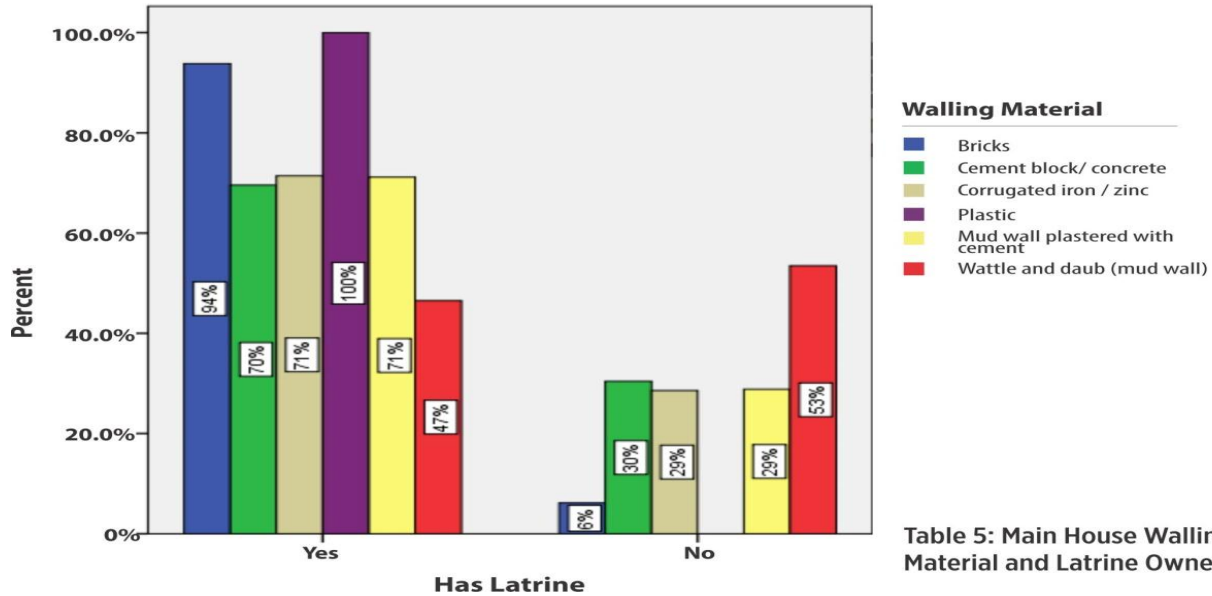
Housing conditions serve as indicator for the extent in which populations live in humane conditions. Materials used in the construction of the roof, the walls and the floor indicate the level by which the occupants can be protected from environmental and elemental hazards. They therefore determine the health, safety and well-being of the occupants. Poor housing conditions predispose the occupants to higher incidences of diseases and do not provide an environment conducive for learning and playing for children. The main construction material for the houses in the sample areas was wattle and daub (Mud walled houses) at 51% followed by mud and cement at about 37%. Only 10.3% had house constructed using brick/concrete.

This is an indication of low income and high poverty in this community. The table below gives a summary of these characteristics.

With regard to the main house walling material and latrine ownership, 94 per cent of households with brick walls had latrines followed by 71 per cent of households with concrete and mud plastered with cement. It therefore seems there is a positive correlation between the walling material for the main house and the availability of latrine in the homestead. On the other hand, there is a negative correlation between having a mud walled house and availability of latrines. Only 47% of households with mud walls had functional latrines. Moreover, it would be



interesting to find out why 30% of households with cemented permanent walls do not have functional latrines.



Energy Lighting

The type of lighting energy or fuel closely mirrors the household socio-economic status. High energy levels and cleaner sources like electricity and solar, are traditionally the reserve of households with higher levels of incomes. Lack of access to clean sources of energy is a major impediment to development through health related complications such as increased respiratory infections and air pollution. In Homa Bay County at large, only 3% of residents use electricity as the main source of lighting while a majority of 73% uses tin lamps (Ngugi, 2013). In Kabondo West Ward where Kakang’utu Community unit falls, at the time the national survey in 2013, only 1.4% of the residents had electricity as the main source of lighting while 79.3%

used tin lamps. Only 1.2% had solar powered lighting systems.

In our most recent baseline survey of 2019, solar powered lights are the majority (69.1%) followed by Kerosene lamps (19%) while 10.8% of the population uses electricity power for lighting. There seems to have been a tremendous increase in households accessing solar power for lighting. It would be important to find out how the solar lighting managed to spread so fast and check if the same strategies employed to scale up the solar sales could be used to scale up improved sanitation products through sanitation marketing.

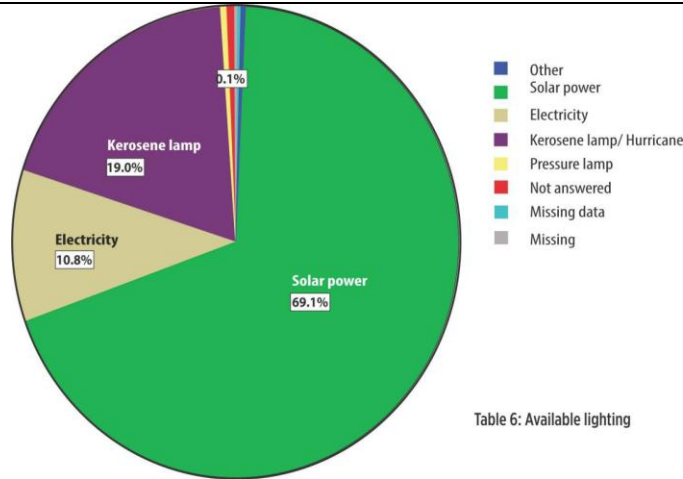


Table 6: Available lighting

With regards to lighting energy and latrine use, 85% of households that use electricity as the main source of lighting had latrines as compared with 63% that used solar power and 36% of households that used Kerosene lamp.

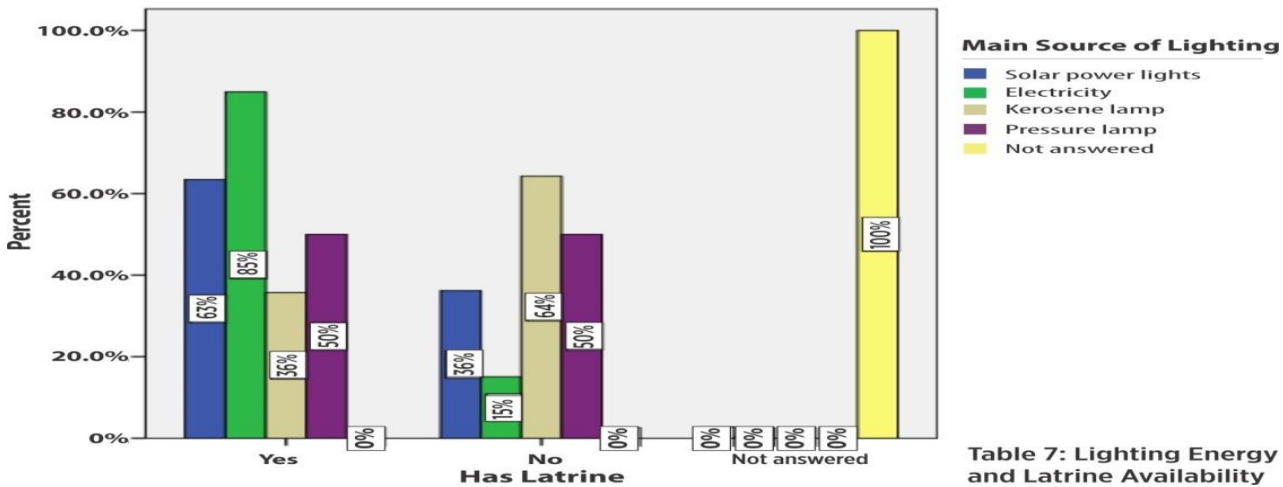


Table 7: Lighting Energy and Latrine Availability

Hunger

Access to good food and nutrition is essential for the survival and well-being of humans. Despite the central role played by food in human life, many populations are trapped in a cycle of hunger due to poverty, disasters and conflicts among others. Hunger and poverty are linked in a vicious circle that is self-perpetuating. In pregnant women, poor nutrition leads undernourished children who grow up in the same circumstances to be stunted both mentally and physically. Growing up, school going children from poor neighborhoods experience chronic health problems that keep them out of school in adulthood. The same children may not get decent employment due to low academic qualifications hence remain poor (Mercy Corps, 2018). Households living in poverty typically spend between 60 to 80% of their family income on food. They mainly prioritise

feeding over other pressing needs like education, proper housing, and sanitation. Should an emergency strike, they inevitably skip meals in order to cope.

In our baseline survey, the extent of extreme poverty and hunger was captured by a question as to whether any child or other member of the household has ever slept hungry due to lack of food in the past one year. It was reported that, 27 per cent of children, under the age of 7, and 35 per cent of adults (including the respondent) have slept hungry because there was not enough food. This indicates the vulnerability and food security situation in the area. It could also be partly explained by the fact that many areas of Kakang’utu West are barren and sandy thus offer fewer options for agricultural ventures in food production.

Table 8: Percentage of children below age 7 who slept hungry during the past year

		Frequency	Per cent	Valid Per cent	Cumulative %
Valid	Yes	314	27.0	27.0	27.0
	No	842	72.4	72.5	99.5
	Not Answered	6	.5	.5	100.0
	Total	1162	99.9	100.0	
Missing	System	1	.1		
Total		1163	100.0		

Interestingly, 93% of the respondents reported having exclusive use over a piece of land on which they can grow crops. A total of 61% reported to have an estimated land size of over 2 acres. This provides ample opportunity to invest in agricultural technologies that can harness the

poor soil conditions to grow fast maturing drought resistant fruits and other food crops to bolster food security hence alleviate poverty.

Among the households that reported to ever having a child below 7 years sleep hungry, 60% of them had functional latrines as compared to 61% of households whose children below 7 years never went to bed without food. As far as adult hunger and latrine ownership is concerned, 63% of adults who reported to have gone to bed without food in the past year had functional latrines as compared to 37% of non-latrine owners' respondents who reported ever going to bed hungry.

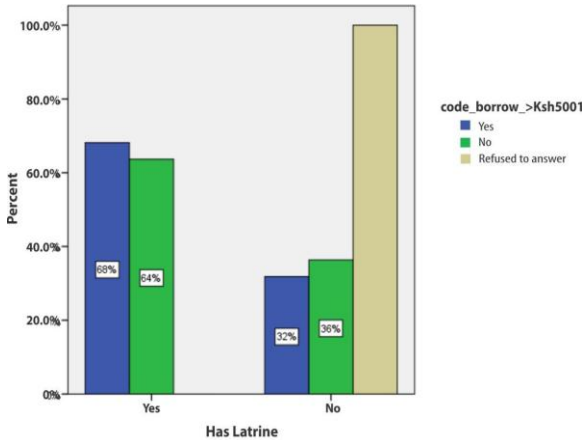


Table 9: Savings group borrowing and latrine ownership

Savings and investments

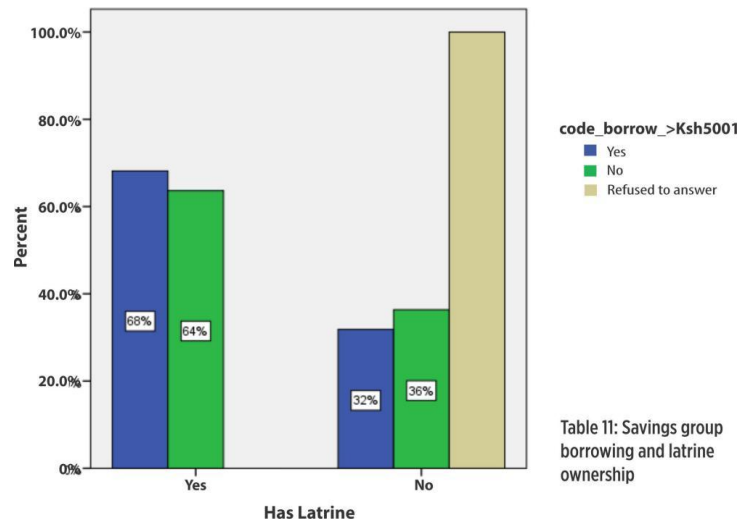
Savings through micro-finance groups is a sustainable method for financing water and sanitation projects. The objective of micro-finance groups is to establish and promote a culture of saving in the community; hence, ensure economic security and investments. Members save and borrow money at low interest rates to invest in their areas of interest. Belonging to a saving group therefore offers a household an opportunity to access funds that they may invest to improve their water and sanitation situation (Mamadgazanova, n.d).

From the baseline survey, approximately 55.5 per cent of individuals were aware of any group or informal savings club that operates in the community. Of those, 48.3 per cent have reported belonging to any group that saved money. The table below indicates the frequency to which people saved, having belonged to a group that saved money. In the past year 34.4 per cent of individuals have borrowed more than Kshs. 5,000 from friends or family. Eleven per cent have cited borrowing money from a community savings and loaning group. 75.5 per cent of individuals who have taken out loans are still repaying them. Only 3 per cent however of those that took loans used them to build a latrine.

Table 10: Frequency of saving

Frequency of saving		
Weekly	234	74.8%
fortnightly	23	8.3%
Monthly	47	15.0%
Every 3 months	1	0.3%
Every 6 months	1	0.3%
Yearly	2	0.6%
Missing/ did not answer	5	1.6%
Total (n)	313	100%

With regards to borrowing patterns, households with latrines are more likely to borrow more than Kshs. 5,000 than households without latrines. Sixty eight per cent of respondents who have ever borrowed more than Kshs. 5,000 had latrines as compared to 32% of non-latrine owners who had ever borrowed such an amount.



Religious Affiliation

The Church, Mosque, Shrine, Temple and other religious buildings often occupy a special place in the heart of many communities thus act as a force for positive transformations and change in the society. They help in upholding cultural values, beliefs, and social traditions. According to Tiimub et al. (2009), the church may help play the following roles to ensure improved and sustainable sanitation.

The Messenger

The biggest strength of religious organisations is their ability to mobilise and welcome the poor and the marginalised of the society and encourage them with the message of hope. In many remote and rural areas, the church may be the only neutral social institution in the community. This provides it with a unique opportunity to proclaim messages about improved sanitation and health. Biblically, the church has a clear mandate to disseminate sanitation and hygiene messages as directed in the book of

Deuteronomy 23:13. Church leaders may therefore be empowered to promote biblical cleanliness and holiness.

Demonstrator

Due to its easy ways of relationship building among members, the church may use its respected and trusted leaders to demonstrate the importance of improved sanitation. While attending the services, members get a chance to visit and use a good latrine, experience the dignity of privacy and the comfort of cleanliness. This may create aspirations and desire among the members to have the same in their households. The church leadership may further establish a volunteers cleaning rota to maintain the latrine and develop cleaning habits that are foundational for good hygiene practices.

Implementer

Local congregations are better placed to notice and identify the most vulnerable members of the community that they could support or request other agencies for help. The local church may therefore help vulnerable members

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attain improved sanitation through technical and financial support. The church may also provide a delivery mechanism for sanitation marketing products.

Advocate

By virtue of their nature and place in the society, the religious organisations are well placed to access policy makers to speak to them on behalf of the community members. They stand a better chance to be listened to than civil societies or other organisations. The church can therefore be empowered to lobby for improved sanitation.

Guardian

The church may play the guardian role by helping individuals and communities maintain the gains achieved through improved sanitation (Tiimub et al., 2009). According to the Smile Latrine Project Baseline Survey, there are at least 21 Christian denominations in the area each having a local church in every 3 to 5 villages. Almost all members of the sampled population have a religious affiliation. A total of 1147 (98.7%) belong to a specific religious faith while only 9 (0.8%) were non-believers.

Table 12: Religious Affiliation

Religious Affiliation					
		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Yes	1147	98.7	98.7	98.7
	No	9	.8	.8	99.5
	Missing	6	.5	.5	100.0
	Total	1162	100.0	100.0	

Among the members with religious affiliation, 419 (36.1%) attended or visited church more than once every week while majority 653 (56.2%) attended religious functions

every week. The table below shows frequency of attendance.

Table 13: Religious Attendance

		Frequency	Per cent	Valid Per cent	Cumulative %
Valid	Several times a week	419	36.1	36.1	36.1
	Once a week	653	56.2	56.2	92.3
	2 or 3 times a month	56	4.8	4.8	97.1
	Once a month	9	.8	.8	97.8
	Once a year	2	.2	.2	98.0
	Less often	1	.1	.1	98.1
	None Of The Above	3	.3	.3	98.4
	Not Answered	15	1.3	1.3	99.7
	98	4	.3	.3	100.0
	Total	1162	100.0	100.0	

The high rates of church attendance imply that churches are an influential part of this community and that religious leaders play a vital role in the life of the members. This therefore means that they could play a role in passing messages about improved sanitation.

Respondents who had religious affiliation seemed to have more likelihood of having latrines than their counterparts that reported no religious affiliation. Sixty one per cent of believers had latrines as compared to 33% non-religious respondents.

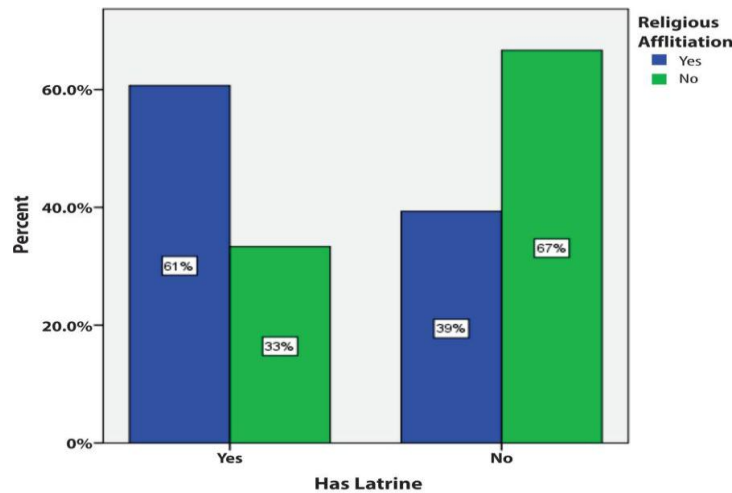


Table 14: Religious affiliation and latrine ownership

Sanitation

Sanitation broadly refers to principles and practices that relate to the collection, removal or disposal of human faeces, household waste and refuse in order to mitigate their negative impacts on people and the environment. Improved sanitation on the other hand refers to a facility that hygienically separates human excreta from human contact. Decent sanitation includes high hygiene awareness, appropriate behaviours and acceptable sanitation services that are crucial for human health and well-being. Inadequate access to improved sanitation leads to water contamination and faecal oral contamination that predisposes to numerous diseases.

In Homa Bay County, even though the latrine coverage is above 75%, only 42% of the residents have access to improved sanitation, the rest use unimproved facilities. Worse still 14% are open defecators (Ngugi, 2013). In Kakang’utu West Community Unit, about 39 per cent of the respondents reported that their household does not have a latrine, while 60 per cent did. Among the households that have latrines, pit latrine with direct drop pit with squatting slab was the most common at 87.2 per cent. It was followed by VIP latrine at 10.9%. The table below shows the types of latrines that households have.

Table 15: Latrine types

Type of Latrine		
Ventilated improved pit (VIP) latrine	76	10.9%
Flush/pour flush to piped sewer system, septic tank, pit latrine	7	1.0%
Pit latrine (direct drop pit with squatting slab made of mud, concrete, or wood)	608	87.2%
Other	3	0.4%
Total (n)	697	100

Latrine Type

The survey shows that 87.2 per cent of those that reported having a latrine, used pit latrines (direct drop pit with squatting slab made of mud, concrete, or wood). About 29% of the households with latrines reported that they

share latrines with households that are not part of the homestead. Proportionately, male headed households have a higher percentage of the presence of a latrine in the household that is shown by the graph below.

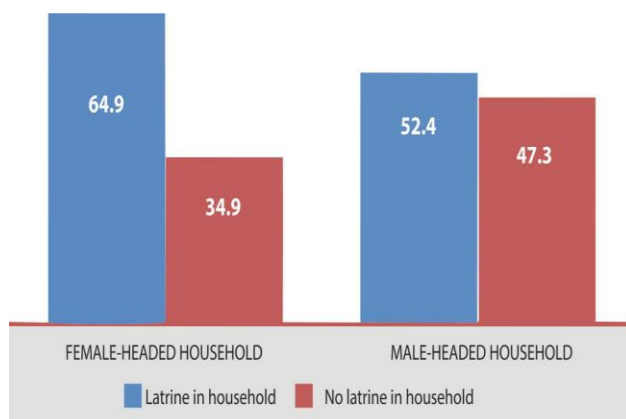


Table 16: Latrine presence by household-head sex

Latrine Slab

Designing a suitable slab for onsite pit latrine is a major challenge for many local masons. The slab needs to be strong, secure and safe. Many latrine users prefer slabs that are easy to clean to avoid the menace of wet floors due to urine splashes. A suitable slab helps prevent contact with faeces that may have been dropped on the floor. The

pit hole needs to be large enough to enable users to deposit directly into the vault without unnecessary missing. It should also not be too large that may prove scary and unsafe for children. The latrine slab pit hole should have a pit cover to prevent indirect faecal contact through flies accessing to feed and breed in the latrines. Other parasites like hookworms breed in moist soils. Latrines slabs made of

mud and timber and moistened by urine provide breeding grounds conducive for hookworms. They can easily penetrate the skin if latrine users do not wear shoes (Reed, 2012). In Kakang'utu West, it was reported that 12.3% of the latrine slabs had cracks or looked unsafe while 14% were plainly untidy and unsightly.

Latrine Features

Latrine features determines its quality and consistency of use. In a previous study conducted by Alemu et al., (2018), respondents ranked privacy and safety as the most important factors that influenced their latrine use. They further noted that respondents who had clean latrines were 1.7 times more likely to use their latrines more consistently than those who had dirty latrines. Also, respondents that had latrines with an all enclosing superstructures that ensures privacy were 2.3 times more likely to use their latrines consistently than their counterparts that had poor superstructures (Alemu et al., 2018).

We assessed the quality of the latrine features by observation of subjective judgement of the data collectors. The researcher checked for the cleanliness, the safety of the slab, availability of flies and insect larvae, presence of smell, availability of pit cover and the superstructure's ability to offer privacy. Latrine was considered clean when there were no visible faeces on the floor; the floor was dry and had no insect larvae crawling about the pit or the slab. Safety was measured by the presence or absence of cracks on the slab and the size of the pit. Privacy was noted through the availability of a superstructure that completely enclosed the slab with protected entry door.

From the findings, approximately, 17 per cent of latrines did not offer privacy, that is, they do not have appropriate

walls, door, cloths, or any other sight protection materials. An astounding 85 per cent of latrines did not have a pit cover or seal to prevent flies.

Fourteen per cent of the sample reported that the latrine does not look clean and hygienic. Fifty-five per cent of the sample that have latrines reported that the latrine have visible houseflies, insect larvae or cockroaches. Seventeen per cent of households reported that latrines in the household have collapsed, of which 13 and 26 per cent occurred in the last 3 and 6 months, respectively. Eighty-six per cent have also reported that their latrines could not be accessible or usable by individuals who are disabled hence they were not 'disability friendly'.

The findings imply that even though 60 per cent of the respondents have latrines, the features of these latrines do not provide adequate safety and privacy, hence reducing their consistency in use. This coupled with the fact that there are many bushes in the area that may ensure the much-desired privacy hence encouraging open defecation even in households with "latrines".

Open Defecation Practices

Respondents from households with latrines were asked if they have ever been forced by circumstances to relieve themselves in the bush or any other place that is not a latrine in the last one year. A total of 210 (30.6%) respondents agreed to ever practicing open defecation while 475 (69.1%) said they have never used alternative places for defecation.

Table 17: Common open defecations in the past year

Ever Practiced OD last 1 year						
		Frequency	Per cent	Valid cent	Per	Cumulative %
Valid	Yes	210	30.6	30.6		30.6
	No	475	69.1	69.1		99.7
	Refused to answer	2	.3	.3		100.0
	Total	687	100.0	100.0		

Hand washing

Hand washing contributes to improved sanitation by interrupting the transmission of pathogens that may have had contact with the hands or fingers during latrine visit or other sources like greeting people with contaminated hands or handling contaminated things. Regular and consistent washing of hands may help reduce diarrhoea, respiratory as well as skin infections. Specifically hand washing with soap can effectively reduce diarrhoeal incidences by up to 42 per cent (Danielsson, n.d). Every latrine should always have hand washing facilities in close proximity since hand washing after visiting the latrine is one of the critical times for washing of hands. A latrine with no proper hand washing facility nearby fails to serve its ultimate objective of disease prevention.

There are various types of hand washing facilities recommended for rural areas and non-sewered sanitation systems. Among them are leaky tin and tippy tap. However,

due to the possibility of recontamination after washing hands from a leaky tin facility, it is recommended that households use tippy tap. Tippy tap is a simple innovative device operated by foot to dispense flowing water in suitable amounts for hand washing.

Among households that had latrines, only 307 (44.7%) reported to have a specific place for washing hands near the latrine within the homestead. A whopping 52.3% had no designated place for washing hands after visiting the latrine. The most popular hand washing facility was water in bowl/ bucket at 34.9%, followed by leaky tin at 34.2%. The highly recommended tippy tap was only available in 21.8% of households.

Table 18: Hand washing facility

Type of facility for hand washing		
Tippy tap	67	21.8
Water in bucket with tap	14	4.6
Water in bowl/bucket with mug	107	34.9
Water in bowl/bucket without mug	3	1.0
Leaky tin	105	34.2
Running water	10	3.3
Other	1	0.3
Total	307	100

Hand Washing Practices

Approximately 11 per cent of the respondents that have latrines reported not washing their hands after using the latrine during their last visit. Of the 89 per cent that did report having washed their hands, 25 per cent used water only and 75 per cent used water and soap or detergent. As to the question whether they had a chance to wash their hands before eating, four per cent of the respondents that own latrine agreed that they did not wash their hands before eating food.

Non-Latrine Owners

Owning a latrine is associated with health benefits, financial returns and lifestyle improvements. Sanitation interventions reduce diarrhoea diseases, stunting in children and increases human capital and productivity. Lifestyle benefits include more convenience, less exposure to unhygienic conditions, increased safety and reduced embarrassment when guest visit (Augsburg, Caeyers, & Oteiza, 2015). Despite these well documented benefits, some households still find themselves without a functional latrine. The main reason often cited for lack of latrine ownership is that latrines are too expensive to construct

and the households are too poor to afford them. Households may perceive latrine construction as “too expensive” because even though they understand the costs and benefits of investments in latrines, they are liquidity constrained hence cannot genuinely afford it. On the other hand, some households may underestimate the benefits and overestimate the costs of latrine ownership hence they do not prioritise it as a worthwhile investment even though they could potentially afford it (Augsburg et al., 2015).

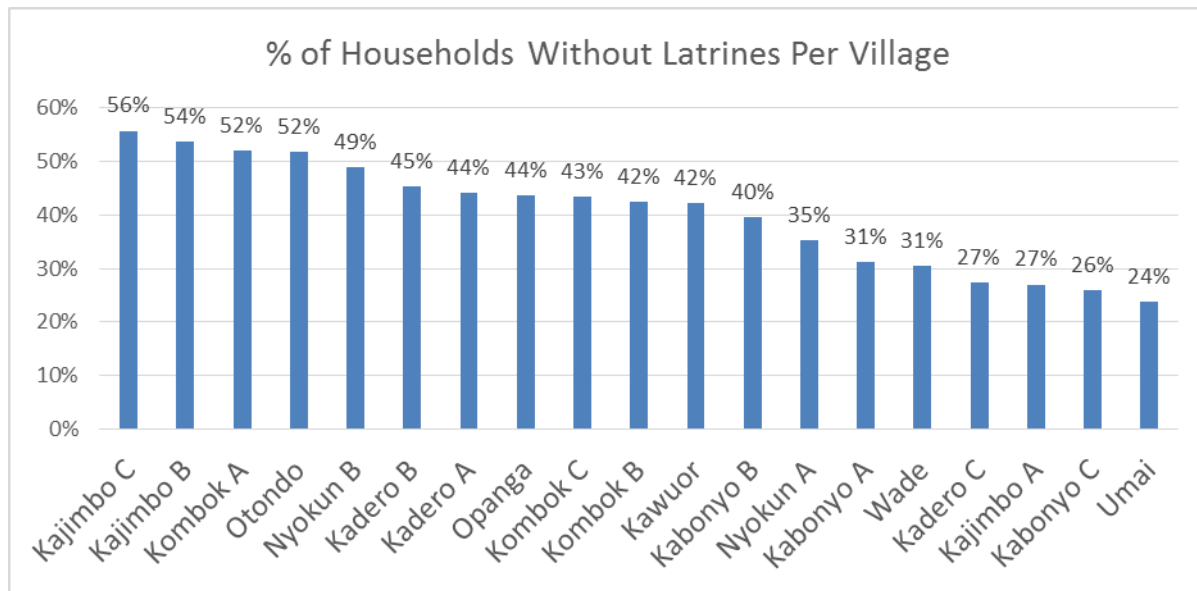
Generally, non-latrine owners have constrained economic resource and believe that it is very difficult to find money to invest in latrines. In a recent study carried out in Malawi to characterise the last households to build latrines after CLTS triggering, the findings showed that many non-latrine owners engage in less social interactions with others, live in smaller groups than latrine owners, and are less influenced by the opinion of the local leaders. Some are socially vulnerable; less educated or have some mental or physical impairment and feel less obliged to construct their own latrines or to rebuild latrines damaged by the elements of weather (Slekiene and Mosler, 2018).

Households without latrines per village

Out of the 19 villages visited, four villages had over 50% of the households not having latrines. These are; Kajimbo C

village at 55.6%, followed by Kajimbo B at 53.6%, Kombok A at 51.9% and Otondo at 51.6%. These are the worst hit villages in the entire Kakang’utu West Community Unit.

Table 19: Has latrine cross tabulation



In our survey, a total of 456 households (39%) did not have latrines in their homesteads. When asked where they usually relieve themselves, 295 (64.5%) said they use

neighbour’s latrine while 106 (23.3%) reported regular use of the bush. Only 39 (8.6%) reported the use of cat system where they dig a shallow pit to bury the faeces.

Table 20: Where do you relieve yourself?

Where do you relieve yourself?		
Neighbours latrine	295	64.7%
Bush	106	23.3%
Cat system	39	8.6%
Other	3	0.7%
Missing/ did not respond	13	2.9%

When asked the main reason why they do not have latrines a total of 180 (39.5%) of the respondents cited lack of money while 88 (19.3%) claimed that poor soil conditions made it very difficult to have a long-lasting latrine. This was further corroborated by the fact that 40% of households

without latrine reported to having ever build a latrine before. Interestingly, 27 respondents (6%) blamed the ever-present bushes for providing a conducive environment for defecation.

Table 21: Reasons for lack of latrine

Reason for lack of latrine		
Lack of money	180	39.5%
Poor soil conditions	88	19.3%
Bush is around to use	27	5.9%
Many people around – responsibility should be everyone’s	18	4.0%
Other	127	17.9%
Missing/ did not answer	16	3.5%
Total (n)	456	100%

The respondents from households without latrines were further asked the likelihood of them constructing their own latrines within the next 6 months. Surprisingly, these families were willing to construct latrines and reported a

high (77%) likelihood of building a latrine in the next 6 months. The table below presents their reported likelihood of building a latrine in the next 6 months.

Table 22: The likelihood of building a latrine

The likelihood of building a latrine in the next 6 months		
0-19 (unlikely)	32	7.2%
20-39 (low likelihood)	47	10.3%
40-59 (unsure)	19	4.2%
60-79 (high likelihood)	208	45.5%
80-100 (Definitely)	150	32.8%
Total (n)	456	100%

Among those reported not to have latrines, a majority (75%) had previously discussed about building a latrine for their family. About 75% had discussed this in less than one month's period prior to the date this survey was conducted.

The fact that 40% of current households without latrines claim that they had once built latrines which collapsed imply that non-behavioural contextual factors such as funeral or guest visiting might have influenced the adoption of the latrines. It is also interesting to note that non-latrines owners have a high intention to build a latrine and have discussed installing one in the last one month. It is therefore very crucial to convert this high intention into latrine adoption and sustain the latrine use through behaviour change communication.

This finding corroborates with other researchers that lack of funds is a big impediment to private latrine ownership. Any sanitation intervention that aims to improve household sanitation needs to address the financial barriers.

Diarrhoea

About 42.3% of the surveyed households reported that at least one or more of the occupants had diarrhoea in the previous month. Even though the survey did not classify the specific causes of the diarrhoea, this indicates a significantly high prevalence of diarrhoeal infections with possible faecal-oral transmission route.

CONCLUSION AND RECOMMENDATIONS

There are many gaps on hygiene and sanitation in Kakang'utu West Community Unit. The proposed projects provide a good opportunity to initiate and implement sanitation marketing to bridge these gaps and improve the health and welfare of this community. The community members should be empowered on savings and investments and be encouraged to join self-help groups or start small and medium size enterprises. Latrine owners should also be encouraged to improve their latrines and non-latrines owners to plan to acquire one within the project period. The community should be encouraged to acquire and use portable/recyclable concrete slabs in constructing their latrines. Hygiene promotion program should be planned and implemented concurrently with the improvement and construction of new latrines to promote frequent hand washing with soap. In order to alleviate financial constraints, micro credit for sanitation investments should be provided and sanitation marketing approaches be established. Sanitation marketing approaches reduce the cost of the investment by improving access to supply or by improving toilet design, and hence, reducing the amount of materials needed.

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