



**GENDER IMPLICATIONS OF THE INACCESSIBILITY TO SAFE WATER IN
KAPTEMBWA, NAKURU COUNTY, KENYA**

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Abstract

Safe water is basic to the wellbeing of all, yet many people throughout the world do not have access to these fundamental need. Globally, 768 million people still use unsafe drinking water sources and in Kenya, 19 million Kenyans lack access to safe drinking water. The inaccessibility to safe water and improved sanitation widens the gender gap especially because it takes a heavy toll on women and children. The study aims at determining the gender variations in the prevailing household situations, the frequency of occurrence of physical, psychological and sexual violence while collecting domestic water and finding out household diarrhoea incidences among children under five in the past two weeks. Kaptembwa is the study area. A sample size of 150 household heads was selected using multi stage sampling. Data was collected using questionnaires and Focus Group Discussion then analyzed using both qualitative and quantitative methods. The findings of the study revealed that there exist gender variations in the accessibility to safe water and improved sanitation in female headed and male headed households. In conclusion, from the findings of this study, there is need to bridge this gender gap on the accessibility of safe water in order to enhance productivity due to reduced illnesses and having the school going children in school.

1. BACKGROUND OF THE STUDY

Lack of access to clean water kills children at a rate equivalent to a jumbo jet crashing every four hours. Statistics further indicate that every 20 seconds, a child dies as a result of unsafe water thus translating to 1.5 million preventable deaths each year (World Water Development Report, 2009). 1.6 million people die every year from diarrheal diseases attributable to lack of access to safe drinking water. 90% of these are children under 5, mostly in developing countries.

Water supply in Kenya is characterized by low levels of access, in particular in urban low income areas and in rural areas, as well as poor service quality in the form of intermittent water supply (Clasen et al., 2009). Only 9 out of 55 water service providers in Kenya provide continuous water supply. Seasonal and regional water scarcity exacerbates the difficulty to improve water supply (JMP, 2013).

Nakuru is the fourth largest town in Kenya and the capital of the Rift Valley province. The current population of Nakuru is estimated at 600,000 of whom 190,000 live in the slums of Rhonda and Kaptembwa (KNBS et al, 2013). Kaptembwa is characterized by scarce, costly, uncertain, and contaminated water. Part of the reason for this is because it is an informal settlement that is built without official authorization and regulation. Due to a combination of political exclusion, the operation of water mafias, water rationing, and poor infrastructure, residents of low income areas pay more for water than wealthier Kenyans in tapped neighborhoods of Nairobi, and more than even what Europeans and New Yorkers pay (Crow & Odaba, 2009; World Bank, 2005). The households end up spending up to 20% of their income on water, which can be equal to the cost of rent (UNDP, 2006).

On good days, the women and children living in informal settlement spend just under an hour locating a water vendor, queuing up, and carrying back the water (Umande Trust, 2007). When there is a shortage, the price of water skyrockets to Ksh 5-10 and even up to Ksh 30 per jerry can up from the usual Ksh 2 per jerry can. On these days, women and children can spend all day looking for water. If they cannot find clean water or if the price of water is too high, they will consume substandard water from a free yard tap or natural spring, most of which are contaminated and unsafe for drinking (Crow & Odaba, 2009).

Gender based violence is not a new term to the men, women and children in low income areas. They suffer humiliation, deprivation of privacy and have to deal with memories of rape incidences every day (Fass, 1993). Women, girls and boys may have to walk long distances to collect water or to find water to do their laundry. Walking to remote locations after dark puts women, girls and boys at risk of harassment, sexual assault and rape (Joint Monitoring Programme, 2013). This can result in unwanted pregnancies, sexually transmitted infections, being accused of being unfaithful by husbands, being disowned by families, or mocked by other community members; and mental health challenges such as increased fear and stress (JMP, 2013). Additional challenges include situations in which women and children have to queue for extended time periods at water points facing fights with other service users, or face punishment for their late return home (Esrey, 1996). In conflict situations, men may be vulnerable to

abduction or death when accessing water points outside the boundaries of a camp (Montgomery & Elimelech, 2007).

2. STATEMENT OF THE PROBLEM

Inaccessibility to safe water in households of Kaptembwa has major gender implications (Butterworth et al., 2013). There is insufficient supply of safe water to the residents of Kaptembwa which forces them to substitute with buying from vendors. Major water points are communal and some are quite a distance from the residential areas. Those involved in collection of domestic water are school going children and this affects to a great extent their attendance and participation in school. A lot of time is also devoted to domestic water collection which would otherwise be used in productive works geared towards nation building (Pruss et al., 2002). Residents of Kaptembwa are also exposed to Gender Based Violence (GBV) when they have to access water points that are quite a distance from their homes. There are also broken sewer lines which allow clean water to be contaminated by human waste. Children below the age of five suffer from frequent diarrhea related diseases.

3. STUDY OBJECTIVES

- i. To analyse the prevailing situation of household accessibility to safe water and improved sanitation
- ii. To determine gender variations in the frequency of occurrence of physical, sexual and psychological violence while collecting domestic water and accessing improved sanitation facilities
- iii. To establish household gender variations in the occurrence of diarrhoea among children under five in the past two weeks before the study

4. LITERATURE REVIEW

The study was guided by the Liberal Feminism theory.

Feminism theory

Feminism is an organized movement that promotes the equality of men and women in all spheres of life including political, economic and social spheres. Liberal feminism was most popular in the 1950's and 1960's when many civil rights movements were taking place (Brown, 1988). The main view of liberal feminists is that all people are created equal by God and deserve equal rights (Brown, 1988). These types of feminists believe that oppression exists because of the way in which men and women are socialized, which supports patriarchy and keeps men in power positions. Liberal feminists believe that women have the same mental capacity as their male counterparts and should be given the same opportunities in political, economic and social spheres

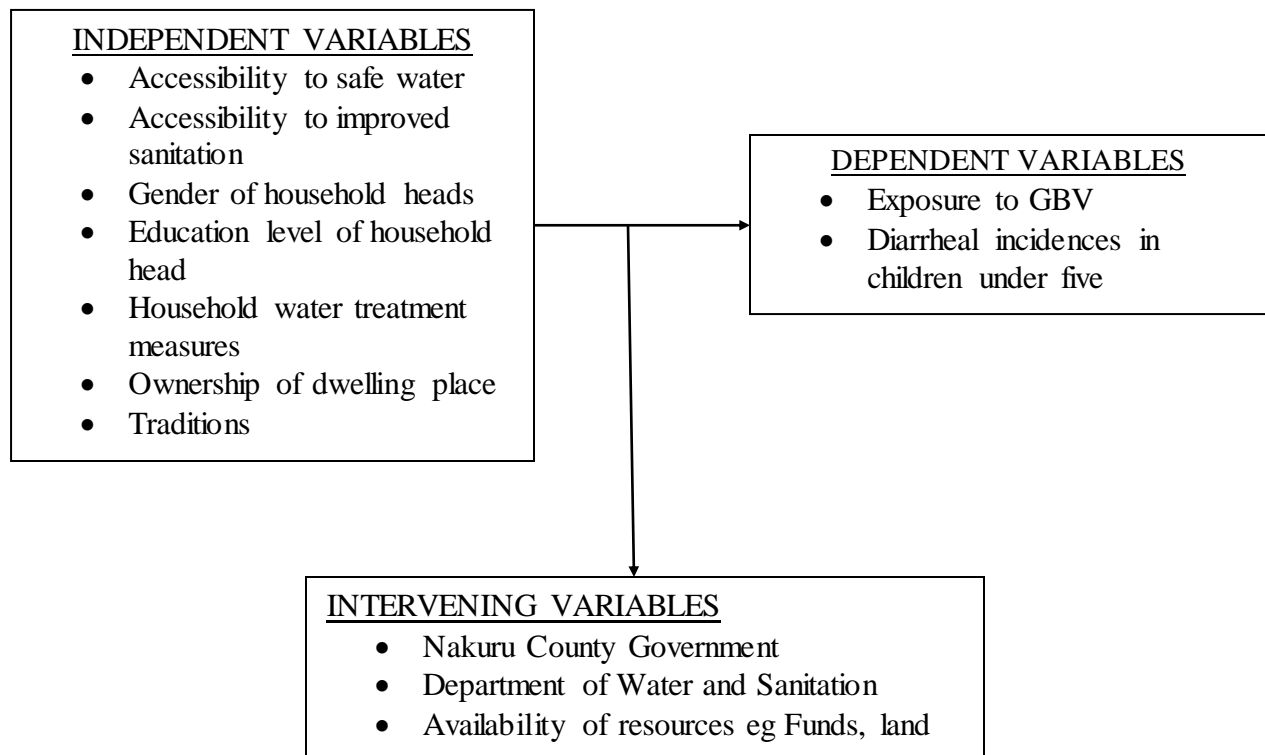
(Brown, 1988). Women should have the right to choose, not have their life chosen for them because of their sex. Essentially, women must be like men.

Liberal feminists create and support acts of legislation that remove the barriers for women. These acts of legislation demand equal opportunities and rights for women, including equal access to education, jobs as well as equal pay. Liberal feminists believe that removing these barriers directly challenges the ideologies of patriarchy, as well as liberates women (Brown, 1988).

Women are known to be nurturers and care givers. It has also been said that a coin in a woman's hand can feed a community (Crow & Odaba). It is therefore important to give women not only a chance to be in leadership positions but also a voice in household decision making processes mainly because they will not only think about themselves, but the community's interests as well as the future generations to come.

Conceptual framework

Increased psychological violence, physical violence, sexual violence and water borne diseases like diarrhoea in a community can result from lack of safe water. Time management is greatly affected by inaccessibility to safe water.



5. METHODOLOGY

The research design for this study was analytical descriptive research design. Multi stage sampling was used for the study due to the homogeneity of the study population. Kaptembwa has a total of 5 villages with an average of 5600 households in each village (Oparanya, 2009). The population was divided into five clusters based on the villages in the area which were identified with the help of village heads. A representative sample of 30 households in each village was selected making a sample size of 150 households. Data for the study was collected using questionnaires and focus group discussions.

6. RESULTS AND FINDINGS

Household access to safe water

The study incorporates WHO/UNICEF definition of safe water. *Drinking water* is water used for domestic purposes, drinking, cooking and personal hygiene. A population is said to have access to drinking water when the source is less than 1 kilometer away from its place of use and that it is possible to reliably obtain at least 20 litres per member of a household per day. Moreover, access to safe drinking water is the proportion of people using improved drinking water sources: household connection; public standpipe; borehole; protected dug well; protected spring; rainwater. For the drinking water to be regarded as safe drinking water, it has to contain microbial, chemical and physical characteristics that meet WHO guidelines or national standards on drinking water quality.

Household source of water

Accessibility to safe water by residents of Kaptembwa informal settlement is a major concern despite having 68.6% of the respondents reporting to have access to water. This is so because tap water is made available by the city council to the residents only once a week, on Tuesdays. It is on that day that they line up almost all day in order to get access to this precious resource. If the jerry cans of water that one managed to fetch are over before the next “water day”, as it is popularly known to the residents, then one has to substitute by having to buy from vendors.

The table below shows the major source of water as tap water followed by buying from vendors.

Table 1: Household major source of water

	Frequency	Percentage
Buying from vendors	67	44.8
Tap water	69	46.1
Rain water	14	9.2
Total	150	100

Despite 46.1% reporting to have access to tap water, 44.8% still have to substitute by buying from vendors because the tap water they fetch every “water day” is not enough to last them the entire week.

In order to bring out the gender variations in terms of how the gender of the household head affects the source of water, a cross tabulation was done between the two variables and the results were presented in the table below.

Table 2: Gender of household head and household source of water

		What is your source of water?			Total
		Buying vendors	from Tap water	Rain water	
Head of household	Male	39	34	5	78
	Female	28	35	9	72
Total		67	69	14	150

From the above table, male headed households seem to be buying water from vendors more often than female headed households. This can be attributed to the economic status of female headed households who cannot afford the cost implications of buying water from vendors.

Persons who collect domestic water

Table 3: Persons who collect domestic water

	Frequency	Percent
Female < 15	23	15.3
Female > 15	87	58.0
Male < 15	7	4.7
Male > 15	33	22.0
Total	150	100.0

From the observations made, it is clear that females above 15 years of age are the once who are majorly involved in the activity of collecting domestic water with 58% of them reporting to be involved in the activity. 22.0% of males above 15 years of age are also involved in collecting domestic water. It is interesting to note that 15.3% of females below the age of 15 years are

involved in collecting domestic water while their male counterparts of less than 15 years of age are less involved with 4.7%.

Table 4: Gender of the household head and persons who collect domestic water

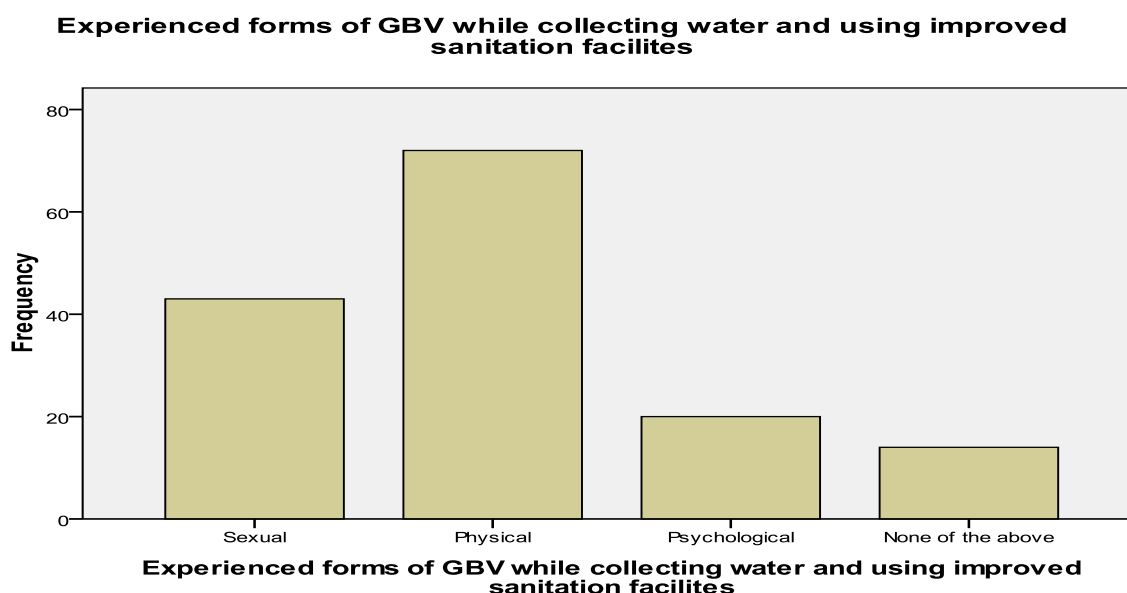
		Persons who collect domestic water				Total
		Female < 15	Female > 15	Male < 15	Male > 15	
Gender of household head	Male	11	39	4	24	78
	Female	12	48	3	9	72
Total		23	87	7	33	150

Majority of those involved in water collection are school going children. It is evident that the girl child gets to miss out on school work as compared to their male counterparts. Given that the “water day” is on a Tuesday, it would mean that a majority of the girls miss out on school on that day so that they can remain behind and help with domestic water collection. This deprives them of not only their education but also they have little to no time at all to engage in extracurricular activities.

Exposure to gender based violence

The study also sort to find out the implications that inaccessibility to safe water and improved sanitation had on the safety of men and women of Kaptembwa. Gender based violence was an important aspect and in order to find out its prevalence in Kaptembwa, the physical, psychological and sexual aspects of GBV were analyzed.

Figure 1: Experienced forms of GBV while collecting safe water and using improved sanitation facilities



Gender based violence is not a new term to the residents of Kaptembwa. There were reported cases of GBV in its three forms. Physical violence was the most rampant recording 48%. Sexual violence was at 29.3% while psychological violence was the least experienced with only 13% of the people reporting to have suffered from that. 9.3% reported not to have experienced or witnessed any forms of gender based violence.

Gender of household head and exposure to gender based violence

Table 5: Gender of household head and experienced forms of GBV

		Experienced forms of GBV while collecting water and using improved sanitation facilities				Total
		Sexual	Physical	Psychological	None of the above	
Gender of household head	Male	17	38	11	12	78
	Female	27	34	9	2	72
Total		44	72	20	14	150

In order to establish which gender is more vulnerable to what type of gender based violence, a cross tabulation of the two variables was made.

From the table above, it is evident that both male headed and female headed household have its members experience gender based violence while accessing safe water and improved sanitation facilities. Though not in equal measures, this affects them in their day to day living. It is evident that female headed households report more cases of sexual violence with 27 households than male headed households who have 17 households reporting to have had one or more of their members being a victim of sexual violence.

On the contrary, males tend to be victims of physical violence more than females. 38 males reported to have been involved in a fight where there was either hitting, arm twisting, punching, pushing and kicking among many other forms with their male counterparts especially at the water queues. 34 females also reported to have engaged in or witnessed forms of physical violence while accessing domestic water.

Moreover, both males and females in Kaptembwa reported to have been victims of psychological violence though not in equal measure. More females than males had either experienced or witnessed forms of psychological violence. Out of the 20 people that reported to have experienced or witnessed forms of psychological violence, 11 were males while only 9 were females.

Individuals' age and gender based violence

Table 6:

		Experienced forms of GBV while collecting water and using improved sanitation facilities				Total
		Sexual	Physical	Psychological	None of the above	
Age	15-25	14	11	4	5	34
	26-35	10	24	10	5	49
	36-45	10	17	3	4	34
	46-55	9	13	1	0	23
	56-65	1	7	2	0	10
Total		44	72	20	14	150

A cross tabulation of the ages of people and the types of gender based violence experienced while accessing safe water and improved sanitation facilities was necessary in order to find out what age is affected most. It was established that gender based violence is experienced across all age brackets. It affects all from the young to the old. However, it is evident that people between the ages of 26-35 are most affected with 49 out of the 149 who reported to have experienced or witnessed GBV being in this age group. The age group that reported to have experienced or witnessed the least amount of GBV was that of age group 56-65 with only 10 people. This can be attributed to the fact that these age groups are rarely involved in domestic water collection.

Diarrhoeal incidences among children under 5 years

According to the WHO, diarrhea occurs worldwide and causes 4% of all deaths. This amounts to around 2.2 million people globally every year, mostly children in developing countries. The use of water in hygiene is an important preventative measure but contaminated water is an important cause of diarrhea. Diarrhea is a symptom of infection that is usually caused by a host of bacterial, viral and parasitic organisms most of which can be spread by contaminated water. Diarrhea is more common when there is shortage of clean water for drinking, cooking and generally basic hygiene (WHO, 2013).

Water contaminated with human faeces for instance from broken sewer lines can cause diarrhoea. It is therefore important that domestic water be treated in order to ensure that the water is safe and free from disease causing microorganisms.

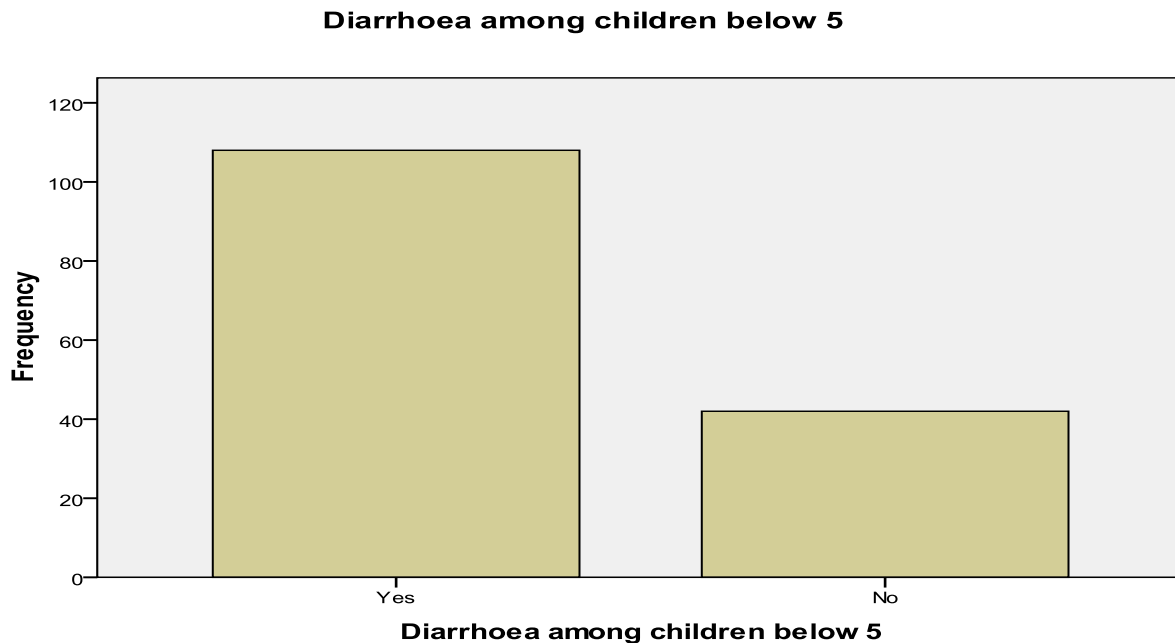


Figure 2: Diarrhea incidences among children under 5

Diarrhoeal incidences seem to be very prevalent among children below the age of 5. 108 household heads reported to have had incidences where their children below the age of 5 experienced diarrhoeal incidences in the past two weeks. 42 household heads on the other hand attested to have not experienced diarrhoea among their under 5 years children in the last two weeks. According to the figure, 72% represents the number of children under five who have experienced diarrhoeal incidences in the last two weeks.

Table 7: Source of domestic water and occurrence of diarrhea among children below 5

		Diarrhea among children below 5		
		Yes	No	Total
Household source of water	Buying from vendors	49	18	67
	Tap water	51	18	69
	Rain water	8	6	14
Total		108	42	150

In order to bring out the relationship between the source of domestic water and its influence on the occurrence of diarrhea among children below 5, a cross tabulation of the two variables was made and above are the results. Out of the 67 households that that buy water from vendors, 49 households experienced diarrhoea among children below the age of 5 while 18 households did not. Of the 69 households that used tap water as a source of their domestic water, 51 households reported to have had experiences of diarrhea among their children aged below the age of 5 while 18 did not.

Rain water was being used by 14 households and out of this, 8 households reported to have experienced diarrhea in their children aged below 5 years and while 6 households did not experience this at all.

Table 8: Water treatment and occurrence of diarrhea among children below 5

		Diarrhea among children below 5		
		Yes	No	Total
Measures taken to treat water	Boiling	27	11	38
	Chlorine	31	11	42
	Filter	22	9	31

	No treatment	28	11	39
Total		108	42	150

In order to establish the influence water treatment mechanisms have on occurrence of diarrhea, a comparison of the two variables was done and the results presented in the cross tabulation table above. Since diarrhea is a symptom of infection that can be caused by any contamination of disease causing microorganisms, it is important to eliminate all possible causes of contamination. Water treatment is just one among the many preventative measures that can be employed to help minimize the incidences of diarrhea in a population. Other ways such as sensitization of proper hand washing techniques and proper food handling can help reduce the number of diarrhea incidences in the households.

Table 9: Gender of household head and diarrhea among children under 5

		Diarrhea among children below 5		
		Yes	No	Total
Gender of household head	Male	59	19	78
	Female	49	23	72
Total		108	42	150

It was important to evaluate the occurrence of diarrhea and have a comparison between male headed and female headed households. The table above shows that 55% of diarrhea occurrences were experienced in male headed households while 45% of diarrhea occurrences were in female headed households. As identified above, female headed households were keen on treating their domestic water as compared to male headed households.

7. CONCLUSION

When safe water and improved sanitation is sub-optimal, mortality, morbidity and death rates in a population are likely to be high; this was the main drive of the study. Women and children of Kaptembwa bear the brunt of having to queue long hours each day in search of the precious but scarce commodity, water. Although men also aid in collecting water sometimes, it came out clearly that men are always excused and given first priority to fetch water leaving the women and children behind in the queues. It is with regard that it was reported that the women and children are the main sufferers of gender based violence (Bosch et al., 2002). Whenever fights arise and abusive words are flashed around it is usually between the women and children. In a nutshell, in order for the population of Kaptembwa to remain healthy and productive, the issue of accessibility to safe water has to be given priority in order of addressing issues. Relevant

authorities such as NAWASSCO as well as other stakeholders who are involved in providing safe water and ensuring building of toilets is regulated have to ensure that these services are provided to the people of Kaptembwa.

8. RECOMMENDATIONS

Nakuru Water and Sanitation Services Company (NAWASSCO) should strive to have a planned and consistent development strategy to build and enhance water supply. With this, the number of days residents of Kaptembwa get tapped water will definitely increase. This will mean that they have enough to last a household through the week. This will alleviate the need to substitute by buying from vendors which only has a heavy financial implication for the people. Moreover, this money can also be channeled to more productive activities.

Sensitization on the importance of treating domestic water is essential. This is so because even safe water is prone to contamination especially if the pipes are broken. This can be done through use of print media, workshops or organizing events where the youths can participate in educative plays, skits and dance as a way of communicating the message.

Partnerships between the County and National government as well as other key development partners should be strengthened in order to help in addressing critical challenges faced in the effort of providing people with clean drinking water.

Inclusion of women and girls through empowerment is essential since it will enable them to participate in decision making processes and express their priorities and perspectives. Women and girls place higher value on the need for a private toilet than men, and thus are often willing to devote household resources to gaining such access. However, women are rarely in control of the household budget, and access to sanitation remains under prioritised in many parts of the world.

The Nakuru County water and sanitation department should tighten its operations on planning, survey and mapping as well as conservation, development and management of water resources in the County. This will go a long way in ensuring the broken sewer lines that contaminate piped water are identified and corrected on time.

Security should be beefed up in the respective villages of Kaptembwa. Street lighting can help reduce the number of GBV incidences experienced in the area while accessing safe water points. Moreover, there is need for collaboration between partners and stakeholders in order to ensure security issues are addressed in Kaptembwa.

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