

**AN ASSESMENT OF THE IMPACT OF IMPROVED WATER,
SANITATION AND HYGIENE FACILITIES ON GIRLS
EDUCATION IN PRIMARY SCHOOLS IN EMBAKASI DIVISION,
NAIROBI CITY COUNTY, KENYA.**

VERONICA KOMUTHO

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DECLARATION

This project is my original work and has not been presented to any other university or institution for award of degree.

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Date:

Veronica Komutho

N69/80655/2012

This project has been submitted for examination with my approval as the university supervisor.

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Date:

Dr.Stevie M. Nangendo

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LIST OF ABBREVIATIONS AND ACRONYMS

EFA	- Education for All
GAD	- Gender and Development
JMP	- Joint Monitoring Programme
KESSP	- Kenya Education Sector Support Programme
MDGs	- Millennium Development Goals
MOHESET	- Ministry of Higher Education Science and Technology
UN	- United Nations
UNICEF	- United Nations Children Education Fund
WASH	- Water, Sanitation and Hygiene
WSP	- Water Sanitation Programme

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ABSTRACT

This paper discusses the impact water, sanitation and hygiene has on the education of girls in primary schools and it explores support mechanisms available both in school and in homes. It builds on objective that explores strategies that will empower the education of girls through improved water, sanitation and hygiene facilities and practices in primary schools. Gender and development approach which seeks to ensure that all decisions concerning development are reached through the local, equitable participation of females and males in the development process was theoretical point of reference. Its approaches and principles underpin typical water and sanitation development objectives related to efficiency, effectiveness and equity.

Further application of interviews both of pupils and their teachers were employed in order to explore strategies to improve sanitation in schools. This paper therefore offers a conclusion on sanitation and its effects on school participation for girls and makes a strong case for interventions in various spaces that is; school, government and home to ensure retention of girls in primary schools because overallly there is high retention of boys than girls in primary schools.

CHAPTER ONE

BACKGROUND TO THE STUDY

1.0 Introduction

The introduction of universal primary education in Kenya resulted in a rapid increase in the number of children in primary schools from 5.9 million pupils in 2002 to 7.2 million pupils in 2003 and currently at more than 8 million (MOHESET, 2007). This has resulted in straining sanitation facilities in schools. The provision of safe and adequate water, sanitation and hygiene services, therefore, forms the basis of a sustainable solution to the threat of hygiene related diseases among school children. Globally, 150 million children currently enrolled in schools may drop out before completing primary school and at least 100 million of these are girls (UNICEF, 2008). Kenya secondary and primary schools have at least 1 million menstruating girls and at least 3/5, or 872,000, of whom miss 4-5 days of school monthly due to lack of sanitary pads and underwear combined with inadequate sanitary facilities in their schools (MOHEST, 2008). This is as a result of lack of enough gender- segregated sanitation facilities in schools.

Gender refers to the socially constructed roles, behaviours, and activities and attributes that a particular society considers appropriate for males and females. The distinct behaviour may give rise to gender inequalities, that is, differences between males and females that systematically favour one group. In turn such inequalities can lead to inequalities between males and females in both health status and access to healthcare (Susana 2009). There are several gender related issues that affect learning for both girls and boys. Millennium Development Goal 2, Achievement of Universal Primary Education by the year 2015 and Millennium Development Goal 3 emphasize the

elimination of gender disparity in primary and secondary school education at all levels by 2015 (UNICEF, 2008).

Water, sanitation and hygiene are critical towards creating an improved learning environment. The government of Kenya's commitment towards Education for All (EFA) has resulted in the overstretching of already inadequate water and sanitation facilities due to the dramatically increased enrolment and lack of adequate resources (Chege, et al 2006). Improving water, sanitation and hygiene in our learning institutions, therefore, generates considerable benefits in terms of improved child health, attendance, retention, performance and transition of all learners including girls, boys and children with special needs. The aim of improving school water, sanitation and hygiene (WASH) is to reduce water borne and sanitation related diseases such as cholera and other diarrhoeal diseases, worm infestation and skin infections (Susana 2009). The Ministry of Higher Education Science and Technology within the Kenya Education Sector Support Programme (KESSP), is currently taking measures to better equip school managers, learners and teachers in water, sanitation and hygiene promotion, knowledge and practices (Singh, 2006).

Poor sanitation negatively affects health as well as dignity. Women and girls, already often marginalized, are further disempowered and even put at risk because of a lack of sanitation facilities. Women and girls need access to private and secure areas to defecate and manage menstruation (Oxaal, 1997). In most developing countries, women have the main responsibility for health, childcare, hygiene education, water and sanitation provision (Kapadi, 2002). They are also most likely to know common habits and problems within a community, what kind of services are required and where they should

be provided to be most effective. Women should, therefore, be included in the planning, designing and implementation of WASH interventions (Moser, 1993). Involving them in community water and sanitation-related decisions can be an empowering experience. This can improve their statuses, creating opportunities for income-generation as well as providing them with other public and influential roles, thus, potentially making gender equality a reality.

The government of Kenya is committed to achieving education for all (EFA) and improved health status (UNICEF, 2008) . The new constitution of Kenya stipulates that every child has the right to basic nutrition, health care and basic education (Kenya 2010). Improved health for children implies safer and healthier lives for a better world. The National school health strategy implementation aims at improving the health of all children in schools. (Chege et al 2006).

School environment is one of the key settings for promoting children's environmental health and safety of the children as reflected in the National Health Sector Strategic Plan (2008) as well as the Kenya Education Sector Support Programme (MOHESET, 2006). The national school health strategic implementation plan aims to identify and mainstream key health interventions for improved school health and education (Lidonde, 2004). The strategy comprises eight thematic areas and these are: Values and life skills, gender issues, child rights, child protection and responsibilities, special needs, disability and rehabilitation, water, sanitation and hygiene, nutrition, disease prevention and control, school infrastructure and environmental safety. The strategy outlines critical issues on health and education linkages that are important towards the improvement of child health while in schools.

The school environment must create an enabling atmosphere for social, cultural and emotional well-being that promotes a healthy child-friendly school. The strategy further aims to ensure that positive changes in the school environment are supported reinforced and sustained through a school health policy, skills- based health education and school health services. It envisages that an effective and efficient healthy school environment shall ensure access, retention, quality and equity in education (Institute of Economic Affairs, 2008).

1.2 Statement of the problem

Sanitation coverage in Kenya is low with the Ministry of Public Health and Sanitation estimates indicating that over 45% of the rural population as not having access to basic sanitation (Ivens, 2008). The situation in urban areas, especially in the peri-urban areas, is also challenged even though data are inadequate (UNICEF, 2008). According to the Joint Monitoring Programme (JMP), Kenya is not on track in achieving the sanitation Millennium Development Goals (United Nations 2007). Between 1990 and 2008 the use of improved sanitation facilities in rural Kenya increased marginally from twenty seven to thirty two percent. However, just fourteen percent of primary caregivers consistently wash hands at any critical times but only five percent consistently use soap at all the risky junctures (Institute of Economic Affairs 2008). According to the 2009 census, seventy nine percent of rural communities access their drinking water from unimproved sources of water such as springs, streams, pans/ponds, shallow wells and lakes (Kenya National Bureau of Statistics, 2010). Poor hygiene behaviours, low sanitation coverage and higher reliance on unprotected sources of water, thus, often lead to the outbreak of water and sanitation diseases. In 2009 alone, for instance over 3,000 Kenyans suffered from cholera and over 40 people died of the same. Further the census reported that seventy four percent

of households in rural areas and sixty two percent in urban areas reported the pit latrine as the main mode of human waste disposal. This information creates a new set of challenges since it was not a physical verification of sanitation facilities but rather what respondents reported using. The reality, according to the Ministry of Public Health and Sanitation, is that urban coverage is forty seven percent and rural thirty two percent of people covered with safe sanitation (UNICEF, 2008). From adolescence through womanhood, girls and women around the world have faced taboos, shame, and poor health due to menstruation. In many places, girls have missed school, women have gone into isolation and girls and women do not have adequate resources to manage menstruation. Women and girls face lack of clean water in or near sanitation facilities for washing themselves and their clothes, proper mechanisms for disposal of menstrual materials and waste, and many times a lack of sanitation facilities altogether. The use of cloths for menstrual absorbents has been common in the developing world. These cloths are washed and kept until the next month. Because of shame and taboos surrounding menstruation, sometimes the cloths are hidden in unhygienic areas, increasing the risks of women to infections. Further, reproductive tract infections are associated with poor menstrual hygiene (WHO, 2008). This study attempted to answer the following questions:

- i. The extent to which the school administration has impacted the education of girls' through improved water, sanitation and hygiene facilities.
- ii. The extent to which improved water, sanitation and hygiene facilities in primary schools impacts on the education of girls.

1.3 Study objectives

1.3.1 Overall objective

To explore strategies that will empower the education of girls through improved water, sanitation and hygiene facilities and practices in primary schools.

1.3.2 Specific objectives

- i. To identify the strategies school administration has employed to impact the education of girls through improved water, sanitation and hygiene facilities in primary schools.
- ii. To describe the extent which improved water, sanitation and hygiene facilities has impacted the education of girls in primary schools.

1.4 Assumptions of the study

- i. The school administration has played an effective role in impacting the education of girls through improved water, sanitation and hygiene facilities in primary schools.
- ii. Improved water, sanitation and hygiene facilities have impacted on the education of girls in primary schools.

1.5 Justification of the study

The findings of the study contribute to knowledge on the relevance of improved water, sanitation and hygiene facilities on education of girls in primary schools. Similarly, the study documents how girls have experienced several challenges related to their menstrual hygiene management. The information generated enables the girls to hygienically manage and fight off the stigma associated with menstruation. Finally, the findings inform the lessons, experiences and funding that can be harnessed to impact the education of girls through improved sanitation facilities.

1.6 Scope and limitations of the study

The study was conducted in Embakasi Division, Nairobi City County and was specifically limited to contributing factors that limit the management of water, sanitation and hygiene facilities in schools especially those related to girls. It assessed the extent to which the government has strengthened sanitation facilities in schools and challenges it has faced in its endeavours to do so in order to document the relevance of government involvement for working sanitation approaches. The research purposely targeted girls in primary schools because sanitation mismanagement dominated such settings. Also due to limited time and funds, the study was not able to cover the whole of Embakasi Division. Therefore, findings are interpreted within the scope of study.

1.7 Definition of terms

Challenges: The political, social and economic deterrents that may hinder school administration from promoting sanitation in schools.

Gender Discrimination: The systematic and unfavorable treatment of individuals on the basis of their gender, which denies them rights, opportunities and/ or resources

Sanitation: Refers to the provision of facilities and services for the safe disposal of human urine and faeces.

Hygiene: A set of practices performed for the preservation of health.

Empower: Increase the economic, political, social, educational, gender or spiritual strength of individuals or communities

Gender mainstreaming: It is a strategy for making the concerns and experiences of women as well as of men an integral part of the design, implementation, monitoring and evaluation of policies and program in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.0 Introduction

This section discusses the literature related to the health of girls in schools in reference to the water, hygiene and sanitation facilities available. It particularly focuses on the contributing factors that influence the health of school-going adolescent girls in Embakasi division, Nairobi City County. The section finally ends with a theoretical framework that guided the study.

2.2 School health initiatives in Kenya

The Ministry of Education Science and Technology in collaboration with the Ministry of Public Health and Sanitation and other partners, developed a national school health policy and national school health guidelines in 2009. The school health policy enabled the government to utilize available resources in an effective and efficient manner towards child health. It provided a coordination mechanism that enhances the roles of the various ministries, institutions and stakeholders. The national school health guidelines were aimed at operationalizing the national school health policy by providing specific guidelines which ensured that school age children, teachers, support staff and community members accessed quality and equitable services for improved health. Presently, an implementation plan is being developed (Ahmed, 2005).

MOHESET further stated that donor support to WASH in schools was designed to be allocated on a cost sharing basis with the government via the Kenya Education Sector

Support Programme (KESSP), which provided a holistic package of support covering, amongst other things ; infrastructure including WASH facilities, books and teacher training. UNICEF, along with DFID, World Bank and CIDA, agreed to provide pooled funding to the program (UN, 2007). In September 2009, a serious misuse of program funds was reported and DFID subsequently announced that it would stop funding the sector via government systems until the risks of fraud had been substantially reduced. UNICEF, whose WASH programs had not started, along with the other partners, also withdrew from KESSP. It is not clear though what percentage of the program is still sustained through government financing (UNICEF, 2008).

2.3 Gender issues in water, sanitation and hygiene

Existing knowledge of gender issues in sanitation tends to be related to the onsite disposal of excreta. However, there is need to understand the implications of gender in the broader definition of sanitation. It was also critical to understand that different groups of women and different groups of men favoured different behaviours and practices that exacerbated the exclusion of some in favour of others. Sanitation reinforced other inequitable social practices that most often undermined the position of women, for example, preferential access to education for boys over girls. Men and women approached environmental sanitation and excreta disposal from very different perspectives. They also displayed different levels of willingness to discuss the issues. Take for instance; women together were more willing to discuss the reasons for latrine building than a group of men and women or only men (Bryun, 1995). The cultural behaviour of women as mothers, sisters, daughters-in-law, wives and daughters relative to men as sons, husbands and fathers has impacted on access to sanitation facilities. For example, in some societies pregnant women were prohibited from using a latrine (WHO, 2008). In others, daughters were not

use the same latrine as their fathers and fathers-in-law (WHO, 2008). The social seclusion of women in many societies also prevented them from having access to public and communal facilities. A gender approach to hygiene offers men and women a role in the promotion of work and division of responsibilities for family hygiene practices. It encourages shared decision-making about resources and the needs of men and women are addressed relative to their own areas of skill, authority and responsibility (Van Wijk-Sijbesma, 1998). The basic message is that if hygiene promotion is to have any impact at all on the health and well-being of a community, men and not just women and children, need to change their existing hygiene, sanitation behaviour and practices. In many respects this has been currently the biggest challenge for the water supply and sanitation sector (Van Wijk-Sijbesma, 1998).

In 1977, a major United Nations gathering, 'The World Water Conference' in Mar de Plata, Argentina, declared that the 1980s was to become the international drinking water and sanitation decade. A realization of the decade slogan 'Water and Sanitation for All' demanded a radical overhaul of the water and sanitation development which was implemented. This included a vision for reaching the needs of the poor and marginalized and in this context gender equality and women participation began to be acknowledged as key themes. Following the decade and the preparation of the Earth Summit Agenda 21 document, specifically chapter 18 (UNICEF 2008), a set of agreed principles commonly known as the Dublin Principles then provided the basis for policy discussion in the water and sanitation sector. A key feature was recognition of water as an economic commodity, a factor which demanded that attention should be focused on the value water has to its users including women and how such value translated into demand for services. The need for a holistic, participatory and integrated approach in the management of

scarce water resources and the environment was also key and the importance of the role of women was clearly stated in Principle 3 below

The pivotal role of women as providers and users of water and guardians of the living environment has seldom been reflected in institutional arrangements for the development and management of water resources. Acceptance and implementation of the principle requires positive policies to address women specific needs and to equip and empower women to participate at all levels in water resources programmes, including decision-making and implementation in ways defined by them (Dublin International conference, 1992).

2.4 Sanitation related challenges for girls

Common challenges experienced by girls during menstruation include: pain, teasing, shame related to revealing menstrual status, leaks, stains and menstruation-related odour, lack of understanding of menstruation, lack of preparedness for menstrual onset and inability to effectively manage menstrual flow at school (Wallace and Colles 2005). Furthermore challenges have had negative impacts on education, such as missing or leaving school to manage menses, reduced participation in class, distraction and missed educational opportunities. Such impacts have compromised the abilities of girls to advance in school and society as a whole. Existing studies also show that girls reported itching and concern for infection, self-exclusion from their peers and misinformation about their reproductive cycle puts them at risk for unplanned pregnancy (UNICEF, 2008).

2.5 Theoretical framework

This study builds on two theories: Liberal feminism and gender and development.

2.5.1 Gender and development approach

Gender and Development (GAD) can be traced back to its origins in 1975. The poverty of women was attributed to their subordination in their relationships with men and the impacts of colonial and neo-colonial oppression (Moser, 1993). One of the key assumptions underplaying GAD is that females and males because they have different gender roles and power also have different gender interests. Therefore, adopting a Gender and development perspective for intervention in matters sanitation is to work toward equity and respect for the human rights of all people. Inequalities are addressed through an understanding of the roles of male and females in relation to situation specific development goals, for example, water supply. The Gender and development approach asserts that females improve their position relative to male in ways that will benefit the whole community (Fong and Bhushan 1996). Gender and development seeks to ensure that all decisions concerning development are reached through the local, equitable participation of females and males in the development process. Gender and development further asserts that gender is a cross sectoral and social concern. Its approaches and principles underpin typical water and sanitation development objectives related to efficiency, effectiveness and equity (Macdonald, 1999).

Liberal feminism theory

This theory argues that the inequality of women stems from a denial of equal rights and from women's learned reluctance of women to exercise those rights. The goal of liberal feminism is equality and the construction of a social world where all persons can exercise individual freedoms. Society would reap benefits if women were recognized as rational and worthy of liberties and economic opportunities. It further argues that marriage and

motherhood are overvalued and women need their own identities, equality and political power. Liberal feminists wish to free women from oppressive gender roles as society is structured in ways that favour men (http://en.wikipedia.org/wiki/Mary_Wollstonecraft).

2.5.2 Relevance of the gender and development approach to the study

Gender relations almost universally favour men and disadvantage women (MacDonald 1999). Sen and Grown (1988) noted that gender-based subordination is greatly ingrained in the consciousness of both male and female and is usually viewed as a natural result of the biological differences between them. It is reinforced through religious beliefs, cultural practices and education systems (both traditional and modern) that assign females lesser status and power. This has resulted in what has been termed as a feminization of poverty whereby females are disproportionately represented among the poor and the powerless of the world (Moser, 1993). From birth, female children in certain contexts face risks such as female infanticide, female genital mutilation, forced prostitution and early marriages (WVI, 2005). In areas where son preference predominates from the moment of birth, a girl is treated not just differently from a boy but less favourably. This shows up in country statistics with marked gender differentials in nutrition, food allocation, health status and health expenditure, education, mortality rates and life expectancy (Kabeer and Subramanian 1999).

Liberal feminism focuses mainly on issues of equal opportunity in access to resources for women. It is relevant this study in addressing issues of lack of information on sanitation and menstrual management. Menstruation is one of the effects of sexual maturation and as it is a female construct, little energy and resources have been put into understanding it and supporting girls and women as opposed to what might have been the case if it was a male construct.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This section describes the research site, study design, population sample, sampling techniques, data collection methods and data analysis. The section finally presents ethical considerations that guided the study.

3.2 Study site

The research was carried out within Embakasi Division in three private primary schools (Map 1). The targeted sample was 20 females and 10 males. The study area is located in the eastern suburbs of Nairobi in Embakasi division Soweto area. Embakasi area is estimated to be 208 square kilometres with a population of about 434,157 people which includes 267,200 females and 166,957 males. The study area is mainly inhabited by people of low economic standing with the schools surveyed lacking most basic sanitation facilities. The main issue that surrounds the education of girls in this area is absenteeism from school during their menstrual cycle (WHO, 2008).

quotes used to enrich the information and amplify the voice of informants and the focus group discussion participants.

3.4 Study population

The sample population was a total of 850 pupils in 3 schools. The sample size was 30 girls who participated in the survey, 10 girls who were part of the two focus group discussions, 3 boys and 10 teachers who were drawn from three schools in the area acted as key informants. The three schools were selected purposively with the focus being Soweto area that forms a region with same residents of rather relatively similar socio-economic characteristics.

3.5 Sample and sampling techniques

The study used random sampling to select 10 girls and 3 boys from the schools in each of the three schools. Purposive sampling technique was used to target private primary schools for the study. Class registers were used to come up with a sampling frame and girls and boys respondents were then selected using random sampling. This gave total of 30 girls and 2 boys who were then subjected to the questionnaire.

For focus group discussion, 6 girls and 4 boys were selected from each school, bringing the number to 10. All the three schools each had science and home science teachers and they were drawn for the study as key informants bringing the total to 5.

3.6 Data collection methods

Various methods were used to collect data for the study.

3.6.1 Survey questionnaire

Data were collected using a structured and unstructured questionnaire that was administered to 20 girls. This method helped to gather the biodata of respondents, their knowledge on sanitation practices and the opinions of teachers on the link between sanitation and the educational participation of girls in schools. The survey questionnaire was used to collect data from 30 pupils, with section one containing a profile of the informants and section two being semi structured with both closed and open-ended questions (Appendix 3).

3.6.2 Interview guide for key informants

An interview guide for key informants was used to collect relevant primary data from science teachers and head teachers in the three schools. Incidentally all home science teachers were female. The same questions applied to the girls were applied to boys and to which offered insights as to which gender is mostly aware about sanitation issues and also whether they had any indication as to whether sanitation affected education of girls (Appendix 2).

3.6.3 Focus group discussions

Two focus group discussions were held with a group of six girls in three schools. The six girls were selected from class six to eight with each class having two representatives. Focus group discussions sought to achieve triangulation as questions built on those in the questionnaire. In order to ensure equal participation, the researcher took time to introduce the subject and encouraged individual opinions during the discussions such that everyone gradually understood that their views were being sought on every topic (Appendix 4).

3.6.4 Secondary sources

3.7 Data analysis

Quantitative data collected through the survey were analyzed using SPSS for trends and patterns of socio-cultural and economic factors that hindered the provision of proper sanitation facilities for girls in schools. The findings were then presented in graphs and frequencies. Conversely, qualitative data were analyzed by narrative and thematic analysis and used to enrich the quantitative data and also draw conclusions as guided by the objectives and assumptions of the study. In areas where individuals made presentations that captured certain themes, verbatim quotes have been used to amplify the voices of the informants and the focus group discussion participants.

3.8 Ethical considerations

The anonymity and confidentiality of the respondents were preserved by the use of pseudonyms instead of an identifier that can compromise the identity of any of the sources of information. The inherent problem of informed consent to the study was solved by seeking consent from headteachers who are entrusted with the welfare of the pupils in the school system. Additionally, each tool was preceded with a brief concise paragraph informing the respondents on the purpose of the study and seeking their informed consent (Appendix 1). To protect the privacy of the respondents, no tool required that respondents indicate their names. The informants were also made aware of the research being carried out and its purpose. The informants had the right to consent or withdraw at any stage of the research. The findings will be shared with the schools analyzed at the end of the exercise.

CHAPTER FOUR

IMPACT OF IMPROVED WATER, SANITATION AND HYGIENE ON THE EDUCATION OF GIRLS

4.0 Introduction

In this chapter, the findings on various areas of the study are presented by focusing on the demographic characteristics of the respondents and the objectives set out at the beginning of the research.

4.1 Demographic characteristics

The study took place in three primary schools namely, Magbet Education Centre, Logef Education Centre and Cool Shade Education Centre. The school populations are as follows:

Data in Table 1 indicate high enrolment of both boys and girls in Standard Four but generally shows a marked decrease in enrolment as one goes higher. This is true for all schools studied. In total, there are 95 girls in Standard Four in all the schools combined as opposed to 83 girls in Standard Eight in all the schools combined. This is one of the first indications that though the numbers of boys also decrease, the numbers of girls reduce more drastically, pointing to possible greater challenges in the education of girls .

Table 1: School enrollment

Name of School	Standard 4		Standard 5		Standard 6		Standard 7		Standard 8		Total
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	
Magbet Education centre	20	30	16	20	12	20	10	16	10	16	170
Logef Education Centre	35	33	33	30	28	30	25	29	20	27	290
Cool Shade Education Centre	40	50	35	50	32	45	28	45	25	40	390
Total	95	113	84	100	72	95	63	90	45	83	850

4.1.1 Ages of respondents

The total number of the respondents who were pupils for the questionnaire ranged from 10-15 years. Four of the respondents did not divulge any information, hence, their questionnaires were not part of the analysis. There were two different focus group discussion and 6 girls took part, bringing the total to 20 participants aged between 10 years and above 16 years. There were also 6 key informants. The ages of the pupils are as presented in the table below.

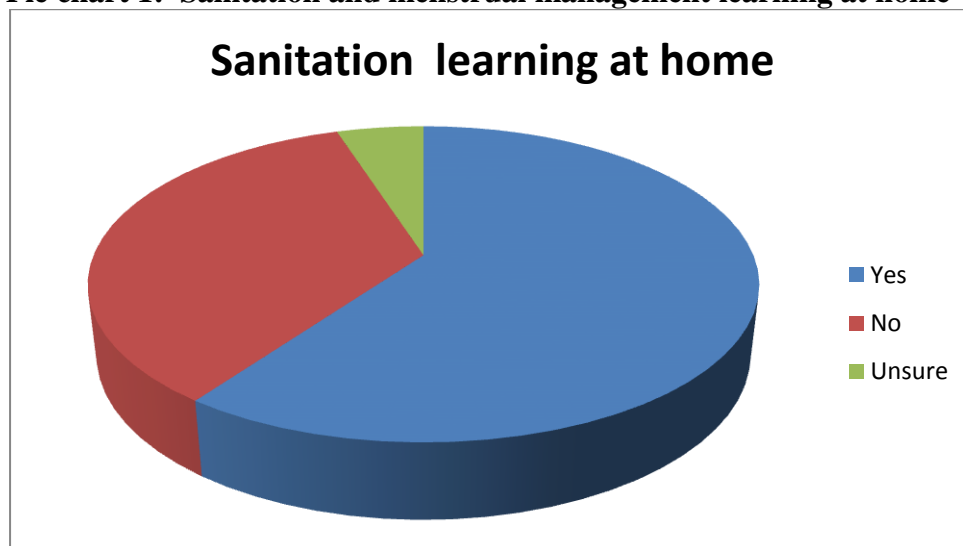
Table 2: Ages of respondents

AGE(YEARS)	NUMBER
10-12	6
13-15	10
16-17	14
18-above	10
Total	40

4.2 The knowledge of girls on menstruation management

The study sought to find the information girls had on menstruation management overallly and general sanitation practices in particular. With respect to sanitation, 20 of the respondents, representing ninety six percent, indicated having learnt something on the subject while four percent did not have any prior knowledge (Pie chart 1).

Pie chart 1: Sanitation and menstrual management learning at home



Although a majority of respondents said they had learnt something on sanitation and menstruation management, the information they gave on their knowledge was varied as captured in the table below.

Table 3: Learning on sanitation

Answer	Frequency	%
It is about clean toilets	20	17
Having constant supply of clean running water and soap in toilets	8	6.6
Separate toilets for boys and girls	15	12.5
Having sanitary bins in latrines	44	37
Keeping the drainage of schools clean	4	3.3
Washing hands after visiting the toilet	20	17
Emptying filled up latrines using exhaustor services	8	6.6
Total	119	100

Table 3 above shows that the responses coalesce around three major themes; lack of knowledge, hygiene and physical facilities. The first lack of sufficient knowledge represents six percent of pupils who indicated that though they had learnt about sanitation from their Science class, they did not fully understand it. A possibility arises that the sources of information on sanitation for this group may not have elaborately passed on the information or were hindered to do the same due to limited time allocated for the Science lessons. The pupils on their part did not give feedback to indicate that they had not understood well enough. In one of the focus group discussion, participants shied away from giving information on how they disposed off used sanitary pads. This lack of

response lends credence to those pupils that filled in the questionnaire and admitted to lack of understanding on menstrual management.

The second theme equated sanitation to hygiene both in the clothes worn and amenities used. Sanitation was said to be a practice to be followed religiously by girls as indicated by 90 percent of the respondents who were boys. This was argued that they are the ones who need to be cleaner because of their physical anatomy.

The third theme that looked at the state of the physical sanitation facilities in schools unanimously showed that the existent facilities were in deplorable state. Lack of constant running water, liquid hand soap, no separate and spacious toilets for boys and girls as well as uncleanliness seemed to be the norm in all the schools analyzed. The statistics looked at information given by pupils as to what sanitation generally is and it points out to doubt and in many cases it is misinformation. Since it was clear that most of the pupils knew something about menstruation, a different angle was used to gauge the extent of their knowledge specifically in relation to managing menstruation to ensure their well being (Table 4).

Table 4: Menstrual cycle

Answer	Frequency	Percentage
I do not know	3	2.5
It is the period of menstruation	63	50.8
Blood comes out of the vagina	15	12
It is the breaking of an egg	2	1.6
It is growing from childhood into adulthood	3	2.5
It is when you start to receive periods	10	8.1
It is emotional changes	2	1.6
It is to mature	10	8.1
It is stomache during periods	1	0.8
It happens every month	15	12
Total	63	100

Teachers on their part unanimously agreed that girls did not have sufficient information on menstruation hygiene. Though they imparted the information to them, there was no room to expound the same into practical life skills. Therefore, girls possessed text book knowledge on menstrual management but lacked the skills to translate their knowledge into practice. Teachers felt that parents especially mothers were instrumental in giving this life skills but felt that parents were not cooperative in such matters. In the words of one teacher:

There is a girl who misses school during her menstrual period and gives reason that her parents cannot afford sanitary pads. Her mother then told her to use pieces of cloth as she did anyway.

Such cases may point to a bigger problem probably economic or cultural that goes beyond the mandate of this report. However, it is important to note that in offering knowledge on sanitation and menstrual management to girls, teachers feel that their efforts are not complemented at home. A response of a teacher to the question whether they talk to their pupils about menstrual management supports the claim of pupils. The teacher said:

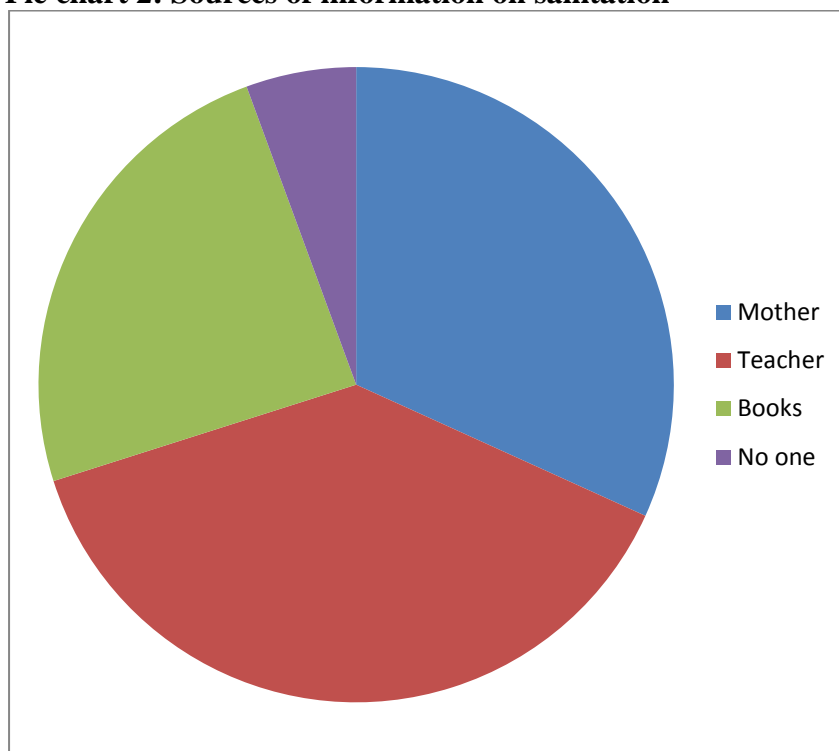
Hayo si maneno rahisi kuongea na mwanafunzi. Ni kama vile kumpa motisha aenda aonane na mwanaume kimwili kwa vile anajijua zaidi. (It is not an easy topic to be elaborate about with a child. It can be equated to telling her to go meet with men sexually now that she fully understands herself)

4.3 Sources of information for pupils on sanitation

The responses of pupils indicated that most information on sanitation comes from teachers followed by mothers. Science and Home Science teachers are particularly instrumental in this regard. However, others such as peers are the other sources of advice regarding changes in the body and any other attendant matters regarding menstrual management and health. In contrast, the teachers who are the other sources of information are not confidantes. In focus group discussions, it emerged that though teachers were said to be the key sources of information, girls do not approach them with issues and questions on sanitation. The conclusion then is that the initial content that teachers disseminate is the only information girls are likely to receive from them. Clarifications and questions are asked elsewhere. Science and Home Science teachers particularly play a vital role in disseminating information.

Mothers are also consulted by virtue of being the closest female relatives with authority and economic means. Most times this consultation is an uneasy one. In communicating her fears about menstruation, one respondent clearly captured the unease thus: “the latrines we use are very smelly and I have to remove the sweater and blouse before getting in” (Girl, 14 years old). Friends and sisters were also sources of information. Friends also act as source of confidantes regarding issues of menstruation (Pie chart 2).

Pie chart 2: Sources of information on sanitation



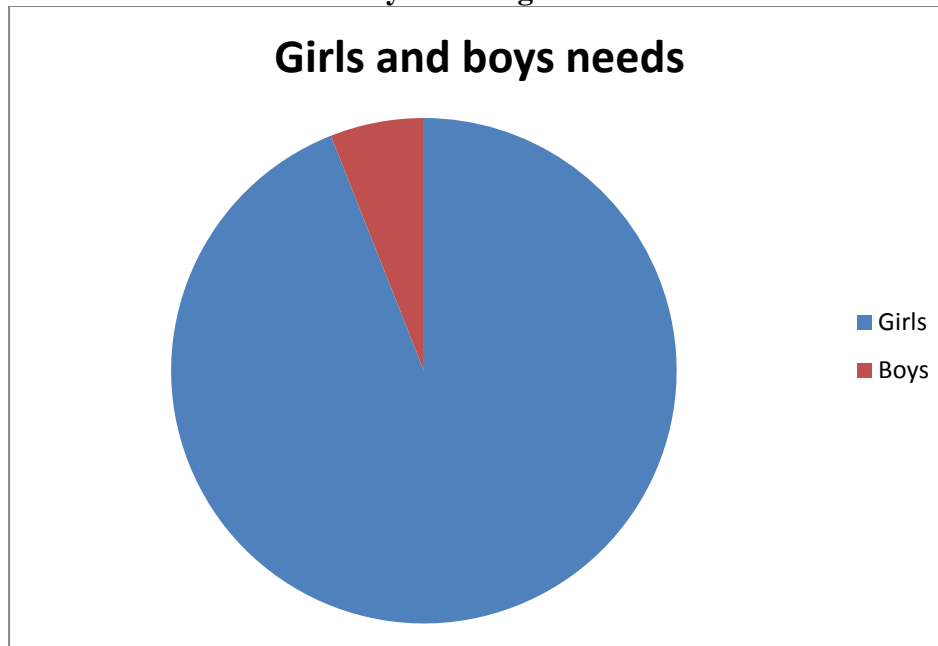
Pupils in the focus group discussion also indicated that they got their information from the church and when visiting the hospital. One respondent indicated that she did not have information on sanitation from anyone and did not also consult or confide in anyone. Though this is one person in the sample, she may be representative of a number of girls in the larger population which is evidence of a precarious situation since it seems that matters menstrual management are self-taught. Many girls are groping in the dark,

without the necessary literature or adequate information sources on menstrual management which encompasses sanitation.

4.4 Girls versus boys needs

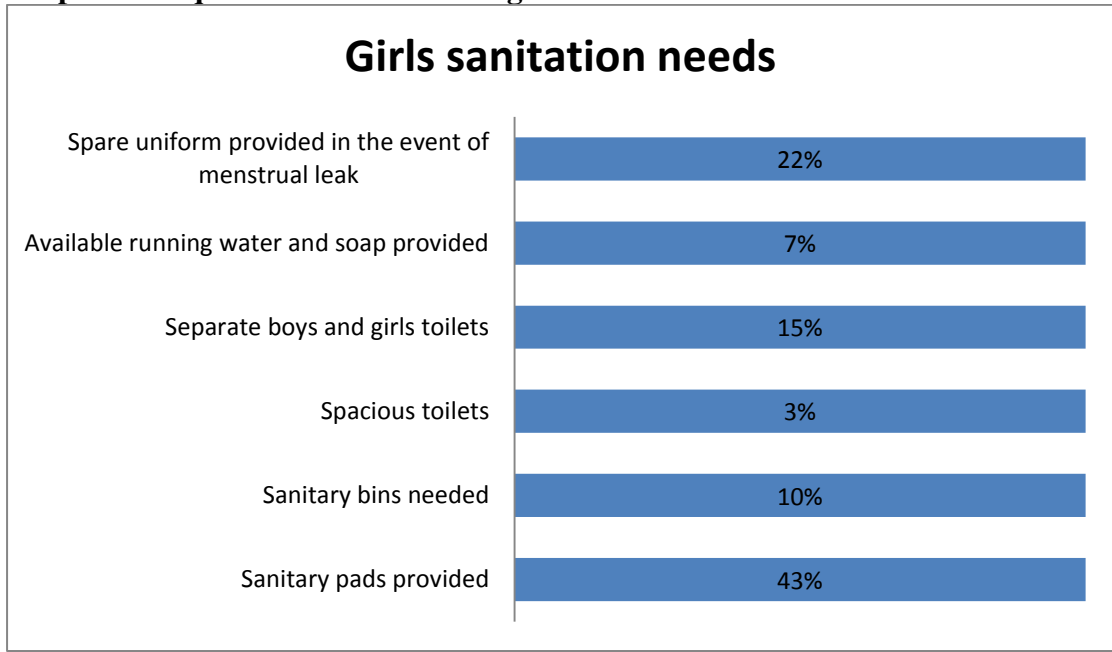
In seeking to understand sanitation support mechanisms that may either be present or absent for needs, it was important to understand what girls perceive as their special needs which may need to be supported as they mature. A question was posed: Do girls have different needs from boys? Ninety four percent of the respondents replied in the affirmative while only six percent 6 percent did not think that the needs of girls and boys were any different (Pie chart 3).

Pie chart 3: The needs of boys versus girls



Various sanitation needs that are lacking were indicated with the highest ranking need being that of lacking sanitary bins and the toilets not being spacious enough. The graph below shows the various needs as ranked by the boys and girls.

Graph 1: Unique sanitation needs of girls



CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides the summary of the findings, suggests recommendations on what needs to be done to assist the girls on the shortcomings resulting from poor sanitation and menstruation mismanagement.

5.1 Summary of the findings

The foregoing discussion of the findings indicates that girls possess inadequate information regarding sanitation with their responses varying greatly, an indication of grasping at the proverbial straw in order to find meaning. The problem is further worsened by the fact that the sources of information are not readily available either at home or school. Support mechanisms whether at school or at home are insufficient, for instance, toilets allocated for girls only being very few. In regard to menstruation, adequate sanitary pads are not provided in schools yet they are also not readily affordable at the home because the little available monies are meant for basic needs such as food and shelter. As such girls resort to unhygienic measures to manage their menstrual flow thus, hindering their participation in school.

Further on this brings us to the point of the different needs of boys versus that of girls. The reproductive needs of girls are said to be more demanding than those of the boys, thereby, they are generally viewed as vulnerable as they mature making it easy for parents and teachers alike to dismiss their schooling. On one hand, the school administration is not financially fit to focus on sanitation facilities and on the other hand, lack of basic sanitation in the informal settings has further compounded the sanitation problem.

5.2 Recommendations

The following are suggested measures to help increase the school participation of girls experiencing sexual maturation:

There are several programs that are run by private organizations in the informal settings that target the sanitation for pupils. It is high time the sanitation programs became government led to ensure sustainability and continuity in the event donor funding is stopped.

The schools do not exist in a vacuum and therefore, sanitation-related efforts and knowledge should be extended to the communities around the schools and parents. Campaigns in and out of the schools should encourage the construction of gender-segregated toilet facilities to ensure sanitation efforts instilled in schools bear results.

To reduce hazards resultant of improper disposal of human waste especially when emptying filled up latrines using exhauster services, alternative methods such as urine diverting dehydrating toilets should be embraced because they produce biogas, fertilizer and irrigation water, thereby, making adhering to healthy sanitation practices beneficial to all.

The government should consider offering sanitary towels to girls as part of the free primary education program. This will ensure that even those who are unable to afford sanitary pads will get to go to school.

Mechanisms should be put in all schools to ensure that there is an adequate number of spacious toilets for girls.

Information on menstrual management is hindered by religious and cultural barriers. Religion views sex education as a promotion of immorality while cultural norms render

certain topics as taboo. As such issues that should be dealt with openly soon become a cause of shame and anxiety. Religious organizations should give the necessary space needed to promote sex education while cultural norms that prevent progress should be interrogated and shunned.

A consistent increase in the amount of resource allocation channelled towards the improvement of existing sanitation facilities in schools and their maintenance to ensure that milestones already achieved are not lost. It is not enough to have a toilet alone but also provide soap and running water.

5.3 Conclusion

For free primary education to benefit girls and for the country to achieve its Millennium Development Goal target regarding girl-child education, the above recommendations should be instituted. Demystification of sexuality must be done so as to enable the parents, boys, girls and the society at large to openly and freely discuss issues of sanitation and especially those related to menstrual management to help empower girls.

This study shows clearly that the girl child is still endangered and all stakeholders in the education sector, homes and the larger community must now act to protect this future generation or else see a further drop in the number of girls who clear primary schools from the informal dwellings. Evidently, the needs of the girl child far outweigh those of the boy child and parents must be empowered wholly in matters social and physical to ensure they educate and empower their daughters. It is only through such efforts will we be able to have a society that cherishes equality.

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Appendix 1: Consent form

My name is Veronica Komutho, a Master of Arts student in Gender and Development studies at the University of Nairobi. I am conducting a study on empowering girls' education through improvement of water and sanitation hygiene facilities in non formal primary schools in Embakasi division. You have been purposively been chosen to participate in the study. I want to assure you that all your answers will be kept strictly confidential. To this end I will not keep a record of your particulars and please feel free to seek any clarification before you answer the questionnaire. Your participation is completely voluntary

Please sign here for your approval.

Sign Date.

Thank you for your cooperation

Appendix 2: Key Informant Interview Guide

Name of school:

Date:

Date of Birth:

- i. To what extent in your opinion are the implications of unhygienic environment to the overall performance of pupils and especially that of girls?

- ii. What more should be done to empower girls based on the above observations?

- iii. What are some of the sanitation highlights that you feel the government has initiated in Kenyan public schools?

- iv. What are some of the suggestions that would strengthen the progress already made by school administration and government in enhancing Water and sanitation hygiene facilities in schools?

Appendix 3. Survey questionnaire

In your opinion, what are some of the major water, sanitation and hygiene practices that contribute to the empowerment of girls' education in primary schools?

Infrastructural factors

	Yes	No	Don't know
Lack of soap and water for washing hands			
Knowledge on effective water, sanitation and hygiene practices among students			
Knowledge on effective water, sanitation and hygiene practices among administration, teachers and support staff			
Toilets/latrines under lock and key to enhance privacy			
School curriculum inclusive of water, sanitation and hygiene knowledge			

Appendix 4: Focus group discussion guide

Name of school:.....

Number in group:.....

Age of group members:.....

A. knowledge

About sanitation

Sources of information

Proper way on washing hands

Knowledge on WHO pupils to toilet ratio requirements (meant for teachers)

B. sources of information

Where information is sought

Where information ideally ought to be found

C: Support mechanisms

Providence of spare uniform incase of menstrual leaks

Bodily care during menstruation

Sanitation and disposal of menstrual waste

Condition of school toilets

D: Sanitation and school performance

Absenteeism during menstruation

Menstruation and school performance

Appendix 5: Work plan

Phase/Activity	Time (months)	Dates
Development of proposal	3	January-March 2014
Data collection	2	April- May 2014
Data organization, analysis and interpretation	2	May- June 2014
Typing/editing/report writing and presentation of first draft	2	June-July 2014
Editing and submission of final report	2	August- September 2014

Appendix 6: Research project budget

AREAS OF EXPENDITURE	AMOUNT (KSHS)
Travelling/transport/internet	15,000
Stationery	5,000
Printing/photocopying	10,000
Airtime	5,000
Total	35,000