UNIVERSITY FOR DEVELOPMENT STUDIES

SCHOOL SANITATION, HYGIENE AND THE COPING STRATEGIES AMONG GIRLS IN THE JUNIOR HIGH SCHOOLS IN THE WA MUNICIPALITY, GHANA

ZORMAL FAUSTINA

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PRESENTED BY:

ZORMAL FAUSTINA (B.A INTEGRATED DEVELOPMENT STUDIES)

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A THESIS SUBMITTED TO THE DEPARTMENT OF PLANNING AND MANAGEMENT, FACULTY OF PLANNING AND LAND MANAGEMENT, UNIVERSITY FOR DEVELOPMENT STUDIES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARDS OF A MASTER OF PHILOSOPHY DEGREE (MPHIL) IN DEVELOPMENT MANAGEMENT.

SEPTEMBER, 2016

DECLARATION

STUDENT'S DECLARATION

I hereby declare that this dissertation is the result of my own original work and that no part of it has been presented for another degree in this University or elsewhere to the best of my knowledge. Due recognition has been given to other write ups in this work. I also accept responsibility of errors in this work.

Name of Student: ZORMAL FAUSTINA

Signature of Student…… Date:……

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of the thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the University for Development Studies.

Name of supervisor: DR. EMMANUEL KANCHEBE DERBILE

Signature of supervisor:..... Date:.....

Abstract

The study focussed on sanitation, hygiene and retention of girls in Junior High Schools (JHS) in the Wa Municipality. This study sought to find out the causes of the state of school sanitation and hygiene, the coping strategies and the social consequences on girl child education in the Wa Municipality in Ghana. Both probability and non-probability sampling methods were used to select a sample size of 290 respondents from the various stakeholders of the study. Data collection tools such as interviews, questionnaires, focus group discussions were used to collect data for the study. Field visits and observation as techniques were also used in data collection. The study revealed the following. First, the study revealed the poor state of school sanitation and hygiene facilities and its causes in the JHS in the Municipality. Secondly, girls devised multiple coping strategies for dealing with the poor state of sanitation and hygiene facilities in schools. These included staying away from school completely, absconding from school, resorting to open defecation and lastly making use of the limited facilities in school. Finally, the poor state of school sanitation and hygiene led to absenteeism and poor performance in school among girls. Hence, poor sanitation and hygiene adversely affected girl child education, In line with the findings, an integrated approach to improving sanitation and hygiene facilities that caters for the differential needs of girls and boys (toilets, urinals, hand washing facilities, changing rooms etc.) is recommended to the government, the Municipal Assembly, Non – governmental Organisations and communities. Also it is recommended that hygiene lessons be integrated into school curricular for the effective teaching and learning of best sanitation and hygiene in schools.

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Dedication

I dedicate this work to the Almighty God who has seen me through this period, to the entire Zormal family, my husband and sons; Mwinedengo, Song-Suma, Bongaawmine and Mwinenbang.

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AIDS	Acquired immune Deficiency syndrome
ADRA	Adventists Development Relief Agency
ARIS	Acute Respiratory Infections
AusAID	Australia Agency for International Development
BDT	Basic Design and Technology
CLTS	Community Led Total Sanitation
CEDAW	Convention on the Elimination of All forms of Discrimination Against Women
CSO	Civil Society Organization
CWSA	Community Water and Sanitation Agency
DALYS	Disability Adjusted Life-Years
DFID	Department For International Development
ENT	Ear, Nose and Throat
FGD	Focus Group Discussion
GoU	Government of Uganda
GES	Ghana Education Service
GSS	Ghana Statistical Service
GWCL	Ghana Water Company Limited
GWSH	Global Water Sanitation and Hygiene
HIPC	Heavily Indebted Poor Country
HIV	Human Immune Virus
IRC	International Rescue Committee
JMP	Joint Monitoring Programme
JHS	Junior High School

MWSA	Michigan Water Ski Association
MDG's	Millennium Development Goals
MMDAs	Metropolitans, Municipal and District Assemblies
MEO	Municipal Education Office
NGO	Non – governmental Organization
OECD	Organization for Economic Co-operation
ODF	Open Defecation Free
PTA	Parent Teacher Association
PLWHA	People Living With HIV/AIDS
PRONET	Professional Network Association
PHC	Population Housing Census
RCRSP	Restructured Centrally Sponsored Rural Sanitation Programme
SSHE	School Sanitation and Hygiene Education
SHC's	School Health Clubs
STH	Soil Transmitted Helminthes
SSA	Sub- Sahara Africa
SWH	Swedish Water House
UDHR	Universal Declaration of Human Rights
USA	United States of America
UNICEF	United Nations International Children's Educational Fund
US	United States
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Education Scientific and Cultural Organization
UK	United Kingdom

VIP	Ventilated Improved Pit Latrine
VERC	Village Education Resource Centre
WASH	Water Sanitation and Hygiene
WHO	World Health Organization
WSSCC	Water Supply and Sanitation Collaborative Council
WFP	World Food Programme
WMA	Wa Municipal Assembly
PE	Physical Education

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

School Sanitation and Hygiene Education (SSHE) is an emerging area of interest, not only from a political perspective but also from a social one. A focus on school sanitation affirms the fact that children have a right to basic facilities such as school toilets, safe drinking water, clean surroundings and information on hygiene. If these conditions are created, children come to school, enjoy learning, learn better and take concepts and practices on sanitation and hygiene back to their families, especially siblings. In other words, children become the agents of change in the home, in the community and as future parents, and investment in education is more productive (MWSA, 2001).

Unfortunately, the promises of school health and hygiene programmes have not always been fulfilled. In many countries, schools are not safe for children. The schools often suffer from:

• Non-existent or insufficient water supply, sanitation and hand washing facilities;

• Broken, dirty and unsafe water supply, sanitation and hand washing facilities;

• Toilets or latrines that are not adapted to the needs of children, in particular girls;

• Children with poor hygiene habits and hand washing practices;

• Non-existent or irrelevant health and hygiene education for children and

• Unhealthy and dirty classrooms and school compounds.

Furthermore, proper sanitation and hygiene are expected to improve the livelihood and wellbeing of human beings. Improved water supply and sanitation ultimately contribute towards nation building and prosperity by enhancing the health status of the common mass and thus, their economic productivity. In spite of the importance of good sanitation and hygiene in improving the health status of the people, sanitation

services delivery in the country has not been given the needed attention it deserves in most developing Countries (USAID, 2008). As a result of this unpleasant situation, a greater proportion of the people suffer from sanitation related diseases caused by poor sanitation and unhygienic practices.

One of the important factors that cause serious health impacts is lack of access to clean water and poor sanitation (Murray and Lopez, 1997). Different pathogens can affect the body in many different ways likewise the ones for causing water borne diseases such as cholera, diarrhoea, shigellosis (Enger et al., 2013). Unsafe hygiene practices along with contaminated water and food is one of the main causes of child mortality (Katukiza et al., 2012). People, community even countries can have major economic and social impact triggered by lack of access to drinking water and basic Water and Sanitation Hygiene (WASH) facilities. An example from 2007 found from Indonesia can be quoted where the country lost approximately 6.3 US Billion because of poor sanitation practices (Hutton et al., 2008).

Poor water and sanitation conditions have also created high incidences of related diseases among the children attending rural schools in Western Kenya. This is detrimental to learning and health status as a whole. Poor sanitation in schools impairs children growth and development. It also limits school attendance and retention of students and negatively affects student's ability to concentrate and learn. About 40 percent of the World's 400 million school-age children are infested with intestinal worms. About 1 in 10 school age girls do not attend school during menstruation or drop out at puberty because of lack of clean and private sanitation facilities. Of all the children between the ages of five and fourteen in the world, 87 percent live in developing countries. For these children, the risk of death is now fourteen times higher than for children of the same age groups in the industrialised countries. That

risk can be reduced enormously when children stay in a healthy environment and get used to practicing good hygiene both in and out of school (WHO, 1995).

It has also been estimated that 1.7 million children face death each year due to unsafe water, poor sanitary and hygiene conditions. Diarrhoea is the primary cause of death in 9 out 10 children whereas one third out of 1.7 million deaths occur in South East Asia having high child mortality rates (Suk et al., 2003). Water, sanitation and hygiene are key factors to improved health. Globally, 1.1 billion people are without access to improved water supply and 2.4 billion are without access to improved Sanitation (World Health Organization / United Nations Children's Fund / Water Supply and Sanitation Collaborative Council, 2000). About 2 billion of these people live in rural areas. There is a positive correlation between education, quality of life, and good health, social and economic activity. Studies have shown that 50% of child morbidity in Uganda is due to poor hygiene and sanitation, children being more susceptible (UNICEF, 2002). According to the Burden of Disease Study in 1995 GoU/UNICEF(1995), 8.4% of the life years lost due to premature death were due to diarrhoea related to poor sanitation. A UNICEF study found that over 1,200 school children died because of poor sanitation conditions at school during the 1997 cholera outbreak (UNICEF, 2002). Consequently, 560 primary schools around the country were closed because they lacked acceptable latrine facilities.

Therefore, the provision of proper Water and Sanitation Hygiene (WASH) facilities ensures improvement of wellbeing specifically in regards to protection of the body from various diarrheal vectors among adolescent children. However, the case of Ghana is not different; its sanitation crisis is deeper. More than half of the primary schools in Ghana lack adequate water facilities and nearly two thirds lack sanitation. This affects their learning and lives (UNICEF, 2010).

The invitation of the private sector to participate in sanitation service delivery in the various schools in the Municipal is as a result of the fact that Municipal Assembly has not been able to provide the sanitation facilities adequately due to resource constraint. Furthermore, the lack of clear cut management arrangements has led to limited collaboration between Municipal Assembly and private sector and as well as parents to effectively discharge their duties. Even though Municipal Assembly have formed educational sub-committees and are entrusted with the responsibility of helping to manage and supervise the activities of schools of late, yet schools are faced with inadequate sanitation and hygiene facilities. Consequently, the Municipal Assembly's supervisory role is questionable since the private sector and parents cannot be held responsible for unsatisfactory sanitation service delivery in schools.

1.2 Problem statement

Sanitation and hygiene has become an important issue to the global world and the school context in particular. Inadequate/ unimproved sanitation facilities, lack of safe drinking water, lack of hygiene education especially for girls, contribute to low attendance and poor performance of girls in the JHS because girls often feel uncomfortable in class if they cannot find a convenient place to change their sanitary pads and clean up as a result of this, they stay away from school during menstruation. This situation has compelled girls to devices their own strategies to cope with the inadequate facilities in schools. UNICEF (2008) had priority for WASH interventions in sixty (60) countries. Out of these countries, only 46percent of schools had access to water facilities and 37percent sanitation facilities.

Globally, an overall, 2.5 billion people lack access to improved sanitation, more than one billion in Asia and another half a billion in sub-Saharan Africa. Open defecation continues to be practiced by almost half the population in Southern Asia and more

than a quarter of those living in sub-Saharan Africa (UN, 2008). Furthermore, in Sub-Sahara Africa, girls who reach puberty drop out of school or miss school once they begin to menstruate due to the lack of separate latrine facilities and sanitary supplies (Global Water and Sanitation and Hygiene, 2015).

In Ghana, among the development functions of the Metropolitan, Municipal and District Assemblies (MMDAs) as stipulated by the Legislative Instruments which established them and the Local Government Act, 1993 (Act 462) are the provision of sanitation facilities and services and waste management. These basic services have not been well performed by the MMDAs. This unpleasant situation is evidenced by low coverage of sanitation facilities in Ghana.

In the Upper West Region only 40% of people have access to good and safe toilet facilities (Upper West Municipal Assembly Report, 2010).In the study area as well, observation confirms the access to sanitation facilities in the school. On the whole, public policies on sanitation are as relevant to the state of a nation's development as economic management, defence or trade, yet sanitation is accorded second or third order priority. Even more than water, sanitation suffers from a combination of institutional fragmentation, weak national planning and low political status (Watkins, 2006). A good number of sanitation infrastructures that exists are often in poor condition. The service delivery systems are frequently underfunded, poorly managed and in a poor state of maintenance. The institutions and management systems are generally underdeveloped and their overall capacity to deliver a reasonable sanitation service is very low.

Subsequently, a significant proportion of the total population in the study area has no access to most of the sanitation and hygiene facilities and; drainage systems are inadequate or non-existent. In most schools again, the bushes around the school

compound serve as latrines and are the only excreta disposal system available, due to this reason most girls have adopted the free range system method to either defecate or change their sanitary pads. People defecate indiscriminately, even in open places. Others resort to easing themselves into black polythene bags and dumping it anywhere; often in gutters. This unpleasant situation has serious health impact, as more than half of all reported diseases are related to poor environmental sanitation. The health implications of these unsanitary conditions lead to diseases such as diarrhoea, cholera, dysentery, ENT infections and malaria.

The diseases associated with unsanitary living conditions result in the loss of resources needed in developing the country. The government is forced to increase its spending to keep these diseases under control when they could have easily been prevented. Also, the sight and smell of poorly managed wastes constitute a major embarrassment to citizens and visitors to Ghana and finally, children and women are the ones who are mostly affected by this unpleasant situation. The sanitation needs of the girl child in our educational sector particularly Junior High Schools are not taken into consideration when designing sanitary facilities.

Over the years, Governmental and Non-Governmental organisations have made attempts to improve upon sanitary facilities in some schools in the Wa Municipality. An example is the Heavily Indebted Poor Country (HIPC) toilets and urinals that were built years ago. World Health Organisation (WHO) provided one school with health, nutrition education and HIV / AIDS preventive measures as it relates to improved learning for school – aged children (WHO, 2002). In spite of these interventions, most of the girls still stay away from school due to inadequate sanitation facilities whiles others have also devised ways of coping with the current sanitation situation in

schools. Hence, the ability and motivation to increase the attendance and performance of girls is lacking.

Despite the several yearly durbars organised for girls (girls camps)to educate them on their health needs, the provision of sanitary pads and the rapid meetings that are organised for the health/girl child coordinators in schools coupled with the SHEP coordinator's visits to ensure schools do the right thing, much attention has still not been given to the state of sanitation and hygiene in schools of the Wa Municipality and the Developing World. With these observations, this study is being carried out to ascertain the reasons for which sanitation and hygiene still remains a challenge in schools in the Wa Municipality.

1.2.1 Research Questions

Main question

What are the causes of the state of school sanitation and hygiene and its consequences on girl child education in the Wa Municipality?

Sub- questions

1. What is the state of school sanitation and hygiene facilities and services?

2. How are girls coping or adapting to the challenges relating to school sanitation and hygiene?

3. How does the state of school sanitation and hygiene affect school attendance and performance among girls?

1.2.2 Research Objectives

Main objective

The main objective of the study is to examine the causes of the state of school sanitation and hygiene and the consequences on girl child education in the Wa Municipality.

Sub- objectives are to:

1. Examine the state of school sanitation and hygiene facilities and services.

2. Find out how girls are coping or adapting to challenges associated with poor school sanitation and hygiene.

3. Find out how the state of school sanitation and hygiene affects school attendance and performance among girls.

1.3 Scope of the Study

The study which was focussed mainly on the Junior High Schools in the Municipality covered twenty randomly selected schools in twelve circuits spread across the entire Municipality. The issue of inadequate sanitation and hygiene facilities is evidenced in all schools. However, the focus of the study is to find out the causes of the state of school sanitation and hygiene and its consequences for girl child education in the Wa Municipality. The study equally was focussed on stakeholders in education, the Ghana Education Service and PRONET in the Wa Municipality.

1.4 Significance of the study

The issue of sanitation is one of the most pressing concerns in the country. Ghana has been a country that is challenged with sanitation problems which is causing a very serious environmental health crisis. Poor sanitation poses serious threat to the health of people. It is clear that sanitation coverage lags far behind water coverage, thus compelling a more focused attention on sanitation. It is in response to this compelling situation that this study is being undertaken.

The study will provide inputs into school sanitation policy formulation in the country in general and the study Municipality in particular. Enhancing sanitation in schools will boost the moral, confidence and hygiene behaviours of girls' as there are high correlations between poor sanitation and human cost due to illness. Also, the study

will add to the existing body of knowledge or database both in academic and professional fields in sanitation sector.

It would further serve as a weak up call to head teachers to spend the proportion of their capitation grants allocated to sanitation on the maintenance and purchase of the sanitation and hygiene facilities.

1.4 Organization of the thesis

This thesis is organised in five chapters. Chapter one, the introduction, contains the general background to the study, problem statement, research questions, research objectives, scope of the study, relevance of the study, and the organization of the thesis.

Chapter two discusses concepts and issues in sanitation and hygiene in schools. These headings include: school sanitation and hygiene, sanitation and health and finally school sanitation and education.

Chapter three is centred on the profile of the study area, research methodology, which comprises the, research design, study population, sampling procedure, selection of the study area, types of data, instruments and data analysis.

Chapter four focuses on the discussions and analysis of the data collected, whilst chapter five, contains summary of the findings, conclusions and recommendations.

CHAPTER TWO: SCHOOL SANITATION, HYGIENE ANDEDUCATION

2.1 Introduction

This chapter gives a general overview of school sanitation and hygiene. The chapter covers definition of concepts on the subject matter and also reviews literature on sanitation and hygiene in schools. These headings under which literature has been reviewed are; school sanitation and hygiene, school sanitation and education, and finally sanitation and health.

2.2 Definition of Concepts

Different authors define sanitation and hygiene differently; Sanitation may be defined as “the science of safeguarding health”. National Sanitation Foundation of the United States of America (USA) puts: “Sanitation is a way of life. It is the quality of living that is expressed in the clean home, the clean farm, the clean business, the clean neighbourhood and the clean community. Being a way of life, it must come from within the people; it is nourished by knowledge and grows as an obligation and ideal in human relations” (UNICEF, 1999).In a further definition of the concepts, UNICEF puts Environmental Sanitation as “the principle and practice of effecting healthful and hygienic conditions in the environment to promote public health and ensure sustainable development”. It deals with a range of interventions designed to improve the management of excreta, sullage, and drainage solid waste. This definition captures the essence of public health as preventive and promotes health care. Sanitation has about 15 components that collectively determine the public health status, socio-economic and technological advancement of any nation. Sanitation development is not limited to latrine building, but involves awareness of and capacity for managing all wastes in rural, peri-urban and urban areas. In this respect the term sanitation has come to be referred to as process whereby people demand, effect, and sustain a

hygienic environment for themselves by erecting barriers to prevent the transmission of disease agents.

The Community Water and Sanitation Agency (CWSA) define sanitation as hygiene promotion and the disposal of faecal matter and solid waste. The provision and use of latrines is an important component of the strategy for breaking the cycle of transmission of excreta related diseases. Hygiene promotion ensures the use and application of appropriate hygiene practices. Sanitation interventions seek to promote improvements in environmental sanitation and living conditions so as to improve health and productivity (CWSA, 2004). People must be provided with toilet facilities that eliminates their (and others) contact with human excreta and wastewater by making available toilets that are convenient, clean, easily accessible and affordable by all. Meeting these basic needs and thus reducing the burden of disease related to their insufficiency should be the driving force of raising the health status of vulnerable groups (UN-Habitat, 2003). The common elements of sanitation are to develop and maintain clean, safe, and pleasant physical environment in human settlements to promote the social, economic and physical well-being of people. In sum, it is a way of involving in good and hygienic practices that will that will promote a healthy life.

School sanitation and hygiene on the other hand refers to the combination of hardware and software components that are necessary to produce a healthy school environment and to develop or support safe hygiene behaviours. The hardware components include drinking water, hand washing and sanitary facilities in and around the school compound. The software components are the activities that promote conditions at school and practices of school staff and children that help to prevent water and sanitation-related diseases and parasites such as worms (UNICEF and IRC, 1998).

Restructured Central Rural Sanitation Programme (RCRSP) has also highlighted school sanitation and hygiene promotion in this way: "Children are more receptive to new ideas and therefore the school is the best suitable institution in changing the conditioned habits of people from open defecation to the use of lavatory, through motivation & education. The experience gained by children through use of toilets in school and sanitation education imparted by teachers would definitely be carried home and passed on to parents, in most cases that do not have formal education. This has long been neglected. The Tenth Finance Commission had also drawn attention to this issue and has provided funds for toilet facilities in primary and upper primary schools. This initiative needs to be supported and pushed further (RCRSP, 1998).From all indications it is clear that children are very good at spreading information. So when they are exposed to information on sanitation and hygiene practices, the chances of other people benefiting from them are very high.

2.3 School sanitation and hygiene

Good sanitation and hygienic practices in schools can help educational systems achieve their own goals .This can be done by improving upon sanitation facilities, as well as health education, to enrich the opportunities for personal growth among children especially the girl by bringing life education into the classroom. This will lead to a healthy school environment.

In the case of UNICEF (2003) the provision of sanitary facilities like improved toilet facilities and hygiene, improves health status of pupils/students and also encourages girls to attend school. Accordingly, the School Sanitation and Hygiene Education (SSHE) campaign, a joint project of UNICEF and the IRC International Water and Sanitation Centre, the Water Supply and Sanitation Collaborative Council (UNICEF/IRC/WSSCC, 2000) and others, aims to provide water and sanitary

facilities in schools to improve health of all pupils and encourage girls to attend school. Research and surveys suggest that separate facilities need to be provided for girls and boys, if girls are not to be discouraged from attending school. The project began in February 2000 in Burkina Faso, Colombia, Nepal, Nicaragua, Viet Nam and Zambia. With an emphasis on local participation, SSHE provides low-cost teaching aids, inexpensive, community developed technology and life-skills hygiene education to primary schools. In Bangladesh, a school sanitation project with separate facilities for boys and girls boosted girls‟ school attendance on average by 11 % per year from 1992 to 1999. From the literature above, privacy is always the concern of most girls in schools so when separate facilities are provided coupled with improved facilities, their health needs will be catered for which implies; girls will be regular at school and learn in a comfortable environment.

Sanitation and Hygiene related targets under the Millennium Development Goals states that; there are both direct and indirect sanitation and hygiene related targets set under the Millennium Development Goals (MDGs). Target 10 is the only direct target that relates to sanitation and hygiene under the MDGs. The indirect sanitation and hygiene related targets are 3, 7 and 8.The MDGs Targets are discussed below.

Target 10 states that halve by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation would meet these needs. Goal 7: is not a direct target but it deals with environmental sustainability which is targeted at managing the ecosystem better if only adequate treatment and disposal of excreta and waste water is provided.

When sanitation is improved the flow of human excreta into waterways will be reduced and this will help to protect human and environmental health Swedish Water House (SWH, 2007).

On the whole in meeting Millennium development, the world is on track for the target for water due mainly to progress in China and India, but only two regions, namely East Asia and Latin America are on track for sanitation.

On a similar note, current trends in Sub-Saharan Africa will reach the water target in 2040 and the sanitation target in 2076 and South Asia is 4 years off track for sanitation. Measured on a country by country basis, the water target will be missed by 234 million people, with 55 countries off track. The sanitation target will be missed by 430 million people, with 74 countries off track.

For Sub-Saharan Africa to get on track, connection rates for water will have to rise from 10 million a year in the past decade to 23 million a year in the next decade. South Asia's rate of sanitation provision will have to rise from 25 million people a year to 43 million a year (Watson, 2006). It is most important to note that if most of the countries are on track, then these targets and goals will be met. But unfortunately, some targets set are almost to the due dates and still have not been achieved fully. For instance goal 7 and 10 which states that "halve by 2015 the sanitation needs of the proportion of people without sustainable access to safe drinking water and basic sanitation would be met". The appropriate measure will be to re- examine these targets and then come out with the right solution.

Target 8: By 2015, the incidence of malaria and other major diseases will begin to reverse. The provision of safe drinking water and improved basic sanitation help prevent water-related diseases, including diarrheal diseases, Schistosomiasis, filariasis, trachoma and helminthes. About 1.6 million deaths per year are attributed to unsafe water, poor sanitation and lack of hygiene.

Improved sanitation reduces diarrhoea by 37.5 percent; hand washing can reduce the number of diarrheal cases by up to 35 percent. By all indication, the provision of

improved sanitary facilities is important in all aspects of life to help reduce ailments related to sanitation.

Goal 3: Aims at achieving universal primary education and its main target is to ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling. To ensure that children everywhere complete a full course of primary schooling there is the need to reduce illness related to water and sanitation and this will encourage school children to attend school especially girls. Providing separate sanitation facilities like toilets and urinals for girls in schools increases their school attendance. This means that providing separate facilities for girls are paramount to every institution as it promotes attendance which finally leads to better performance at the end of the day.

Bangladesh also is the home of a new approach to increasing sanitation coverage, which is popularly called Community-Led Total Sanitation (CLTS), first introduced in 2000 in a small village in the Rajshabi District by Dr. Kamal in cooperation with Water Aid Bangladesh and the Village Education Resource Centre (VERC). Most traditional sanitation programmes rely on the provision of subsidies, sanitation promotion, and hygiene education. The shortcomings of the established programmes led to the development of the new CLTS approach in Bangladesh, shifting the focus on personal responsibility and low-cost solutions. CLTS aims to totally stop open defecation within a community rather than facilitating improved sanitation only to selected households. Awareness of

local sanitation issues is raised through a walk to open defecation areas and water points (walk of shame) and a calculation of the amount of excreta caused by open defecation (Kamal,2003).

Combined with hygiene education, the approach aims to make the entire community realize the severe health impacts of open defecation. Since individual carelessness may affect the entire community, pressure on each person becomes stronger to follow sanitation principles such as using sanitary toilets, washing hands, and practicing good hygiene. To introduce sanitation even in the poorest households, low-cost toilets are promoted, constructed with local materials. The purchase of the facility is not subsidized, so that every household must finance its own toilets. CLTS does not identify standards or designs for latrines, but encourages local creativeness. This leads to greater ownership, affordability and therefore sustainability (Kamal, 2003). The indication is that, CLTS can have a positive impact on their lives if everyone in the community adheres to the new approach to increasing sanitation promotion in the communities.

According to Biran et al. (2008), Schmidt et al. (2011) improved access to water facilitates hygiene. Good hygiene can prevent recontamination after collecting water from the source. Water access greatly facilitates use of sanitation. For example, use of pour-flush latrines clearly depends on the availability of water. Only if water is readily available will people use such latrines in the long-term. At the same time, inadequate sanitation may threaten the quality of nearby water sources. Inadequate sanitation increases fly numbers (Emerson et al., 2004) which can make maintaining good hygiene very difficult. Biran et al., (2008) Schmidt et al.,(2011) further throws more light on the issue that, there is the need to have improved water facilities to help improve sanitation situations.

In the past years, UNICEF (2006) indicated that hand washing lead to significant reduction in the transmission of diarrhoeal and acute respiratory diseases. A study in Karachi, Pakistan found that under-five children in households that received soap and

handwashing promotion had 50% lower incidence of pneumonia than children in control areas (Luby et al.,(2005). The soap industry has already succeeded in bringing laundry and bathing soap into 90% of households world-wide. But the problem seems to be non-use of soap by the populations for handwashing purposes.

In Ghana, diarrhoea is responsible for 18 % of under-five childhood deaths and lives of overm14, 000 children could be saved by simple preventive steps, washing hands with soap. Among environmental interventions, handwashing and point-of-use water treatment were shown to reduce diarrhoea. More efforts are needed to encourage households to take up these behaviour changes. At community level improvements in rural water infrastructure and adequate maintenance substantially reduces diarrheal disease or that this infrastructure can be effectively maintained (Zwane and Kramer, 2007). Poor sanitation and hygiene weaken Africans through disease, disruption of the environment, exacerbate poverty through medical cost and lower productivity, and rob the poor and vulnerable of dignity. Two of the changes needed to achieve 'Health for All' are a Healthy Environment and Healthy Lifestyle.

Despite enormous achievements over the past two decades, an estimated one billion of the earth's citizens still lack safe drinking water while almost three billion do not have adequate Sanitation. More than two million children die each year from sanitation-related diseases (Vision 21, 2000). Virtually every man, woman and child on the planet knows the importance of hygiene and enjoys safe and adequate water and sanitation. People work closely with local government and non-governmental organisations to manage water and sanitation systems so as to meet basic needs while protecting the environment. Everywhere in the world, people live in clean and healthy environments. Communities and governments benefit from the resulting improved health and the related economic development (Vision 21, 2000).

Lack of good drinking water and hygiene education both at home and school can result in water related ailments such as cholera, diarrhoea, typhoid fever and worm infection resulting in children especially the girl staying away from school. Diarrhoea one of the major contributors to global burden of diseases, costs between 272 and 443 million lost school days each year alone. Less obvious is the burden Soil Transmitted Helminthes (STH) has on Education: 47% of children in the developing world between the ages of 5-9 are infected with STH – Hookworm, Roundworm and Whipworm. Over 150 million school children are severely ill due to worms. Children with worms can miss up to twice as many school days. WHO (2004) argues that STH are one of the world's most important causes of physical and intellectual growth retardation, (Lancet,2006) contributes by indicating that lack of facilities and poor hygiene affects both boys and girls, but has a stronger negative impact on girls. Girls need to have access to safe, clean, and private sanitation facilities in schools, especially adolescent girl. Children, in particular girls, miss out time at school because they have to fetch water. When family members fall sick, girls are more likely to be kept at home to help. Most girls have first menstruation (menarche) at age 11-15. 56% of girls- both in and out of school – did not have any information about menstruation before onset of menarche (UNICEF, 2007).

If adolescent girls attend schools which lack adequate toilets and water supplies for girls to comfortably change sanitary pads and wash themselves in privacy, they may be unable to remain comfortably in class during their menstruation. About 15% of girls aged between 15 and18 years, report to be absent due to cramping pains experienced during or before their monthly period (Rajasthan, 2006). A girl can miss up to 10-20% of her school days 3-4 days/month; 9- 12days/term; 27 – 36 days per school year (Cooke, 2005). Poor menstruation hygiene leads to fungal infections in

young girls. Repeated infections can lead to serious reproductive tract infections. This makes them vulnerable to infertility (Singh et al., 2001).

On the consequences of inadequate water, Prüss-Üstün et al.,(2008) also indicated that globally, around 1.4 million child deaths are estimated to be due to inadequate access to hygiene, sanitation and water. Above all, the health burden associated with inadequate WASH services falls disproportionately upon very young children. The estimated impact of improving water supply, excreta disposal, and hygiene practices for all would reduce global child mortality by a third. Overall, WASH interventions have the potential to reduce the global disease burden in Disability Adjusted Life Years (DALYS) by 9.1% and global mortality by 6.3% (Prüss-Üstün et al., 2008). The vast majority of the burden of disease theoretically preventable by WASH is due to diarrhoeal diseases. In total, 64.2 million DALYs are attributed to unsafe water and poor sanitation and hygiene practices. The argument on inadequate sanitation and hygiene facilities indicates that most of child deaths are associated with this phenomenon as well as poor hygiene practices. It is therefore important to increase access to water to facilitate hygiene and as well promote hygienic practices. It is also estimated that 47% of children in the developing world between the ages of five and nine are infected with any of the three main types of intestinal worms as a result of inadequate sanitation. These are associated with impaired learning, increased absences from school, and decreased future economic productivity (Bethony et al., 2006; Clasen et al., 2010).

It is important to note that, girls are a vulnerable group at risk of suffering, particularly if water, sanitation and hygiene conditions are poor. At a young age, girls are biologically less susceptible to infectious diseases, including diarrhoea, than boys. However, in many low income settings poor households often seek less health care for

girls than for boys. This has especially been found to be a problem in South Asian and Southeast Asian countries with a strong boy preference that can also be seen in the high rate of gender-specific abortions in these countries. For example, in India and Bangladesh, two countries in which diarrhoea is a leading cause of death, child mortality in poor settings is often higher for girls than for boys. Differences in health care seeking behaviour have been shown to be responsible for much of this mortality gap between boys and girls (Clason et al., 2010, Mitra et al. 2000)

Girls and boys are likely to be affected in different ways by inadequate water, sanitation and hygiene conditions in schools, and this will contribute to unequal learning opportunities. Sometimes, girls and female teachers are more affected than boys because the lack of sanitary facilities means that they cannot attend school during menstruation (WHO, 2004).The crucial time of the month for girls and women is usually during menstruation. This is a time where they need sanitary facilities to comfortably wash and change their sanitary pads. This way, learning will be interesting both at school.

However, in areas with food scarcity, it may also be that boys are allocated more food than girls and may therefore be less susceptible to water, hygiene and sanitation related infections than girls, especially with regard to severe disease episodes (Koenig & D'Souza 1986).Girls of school age, especially after puberty, are often faced with inadequate sanitation facilities at school, which poses problems during menstruation that frequently lead to school absence (Sidibe, 2007). It has been shown that improving school sanitation may help girls to stay in school (Sidibe, 2007). Girls are also more often than boys charged with carrying water in areas with inadequate water access. They would therefore benefit in particular from improvements in water supply. Access to safe water and sanitation facilities and better hygiene practice can

reduce morbidity from ascariasis by 29% and hookworm by 4%. Improvements in drinking-water quality through household water treatment can lead to a reduction in diarrhoea episodes by between 35% and39%, while hygiene interventions can lead to a reduction of diarrhoeal cases by up to 45% (WHO/ UNICEF WSSCC, 2000). The only way to sustainably reduce this massive burden of disease is through the use of safe drinking water, sanitation and improved hygiene practices, in particular hand washing with soap. There is also emerging evidence linking better hand-washing practices with reduced incidence of acute respiratory infections (United Nations Economic and Social Council, 2006).

From the above statement, it is well noted that inadequate sanitation facilities at school poses problems to girls like staying away from school and poor performance especially during menstruation. It is also clear that girls do suffer most in terms of poor hygiene conditions which most likely impairs learning and promotes low attendance to school.

School sanitation according to Adams et al., (2009) is a good example of potential non-health benefits of sanitation in low-income settings. School sanitation is unlikely to be associated with major adverse effects but, in addition to contributing to the control of diarrhoea, helminths, and trachoma, it encourages school attendance, especially of girls. The effect of girls‟ menstrual management in low-income countries is frequently cited in discussions on how to improve development outcomes for girls and women (IRC, 2007, 2009a, 2009b). A recent DFID-funded systematic review (Birdthistle et al., 2011) found that there is currently no evidence in the peer-reviewed literature for, or against the hypothesis that well-maintained separate toilets for girls may increase school enrolment and attendance for girls – even after they reach menarche. More research is needed in this area. There are a lack of studies

investigating the impact of sanitation on the attendance and performance of girls in school and there is therefore a need for more research. Further, children being habituated to adequate sanitation in schools may later in life increase demand for sanitation in the community as a whole. School sanitation creates educational opportunities to promote safe environments at home and in the community. Healthy children in healthy environments learn more effectively. In light of this, the statement indicates that, there is actually no literature to show that the provision of separate sanitation facilities is a guarantee for girls to attend school regularly or promote the performance of girls. Girls may have their privacy protected once they will be provided with separate facilities.

O'Rrilly et al., (2008) mentioned that in many low income settings, water and sanitation facilities at schools are frequently in bad condition or non-existent, with often poor practice of hygienic behaviour among students. These conditions can be attributed to many factors. Technologies and approaches applied in the schools may be culturally inappropriate, too expensive, and top-down. There may be inadequate and irregular funding for maintenance. Behaviour change messaging remains ineffective: school staff and parents may not understand the urgent need for sustaining improved hygiene behaviours and sanitation facilities. In short there is little universal knowledge of what works. Burrows et al., (2004) also contributed by pointing out that lack of adequate water and sanitation both at home and school prevents girls from attending school when menstruating. Girls have a sense of being unclean when there is little clean water to use and this can lead them to stay away from school. Also there are rarely private facilities at school where girls can go to the toilet or wash the rags they use during their periods. They can also pick up infections if the water they use to wash rags is dirty, leading to more time off school

Aunger et al., (2010), Scott et al., (2008), stresses on health education that it is based on the premise that knowledge of the health benefit is sufficient to change people's behaviour. We now know that such cognitive factors are far less effective drivers of change than emotional drives, such as the desire for prestige or concern for one's children. The concept of hygiene education has been superseded by the broader notion of hygiene promotion, which includes this broader perspective. Hygiene promotion refers to hand washing with soap and other practices that promote cleanliness.

According to WHO (1993), having access to a safe water source or a latrine does not automatically mean that hygiene and health will improve. The crucial issue is human behaviour, that is, what people do. Investigations have shown that even in the absence of latrines, diarrhoeal disease can be reduced through improved hygiene behaviour. There is every indication from the statement that, human behaviour plays a role in health promotion, but that alone will not be sufficient to promote good hygiene amongst children. The provision of sanitary facilities are equally important to help them exhibit good hygiene behaviour both at school and at home. When these things are put in place, children will attend school daily and enjoy their learning.

A systematic review of the health effects of handwashing with soap by (Curtis & Cairncross, 2003) found that washing hands with soap reduced the risk of diarrhoeal disease by 42-47%. The practice reduced morbidity from the most life-threatening diarrhoeal diseases (typhoid and cholera) by a similar proportion – 48%. There is also some evidence that hand washing with soap potential can reduce morbidity from other illnesses, such as Acute Respiratory Infections (ARIs) and ascariasis (Rabie& Curtis ,2006; Fung & Cairncross, 2009) says that, although the strength of the effect is less certain than for diarrhoea. Improved personal hygiene, with an adequate quantity of water, could conceivably contribute to reductions in water-washed disease such as

ringworm, louse-borne illnesses and potentially scabies, although the size of the protective effect remains to be determined. In specific local settings there may be other aspects of behaviour that deserve attention, for example measures to prevent schistosomiasis or guinea worm disease (Esrey et al., 1991).The argument raised above depends so much on the individual behaviour because it is clear that hand washing with soap as well as the provision of sanitation facilities reduces the risk of diarrhoeal diseases. Providing these facilities is one thing and using them is another. The facilities could be provided but girls might not use them if they have not been taught good hygiene practices.

In Uganda, the official design requirements for school sanitation are that there should be 4 stances (squat holes) for the first 100 pupils (a ratio of 1:25) and thereafter the ratio could increase to 1:40. In addition, 2 stances need to cater for male and female teachers and girls as well since girls usually attach greater importance to sanitary facilities than boys.

Zomerplaag & Mooijman (2005) notes that, water points should be sufficiently close and at a suitable height for users to encourage them to use water as often as required. Staff toilets and schoolchildren's toilets should be located next to hand washing points that have adequate drainage. Children should also be encouraged to wash their faces to help to prevent eye diseases. A water point close to the classrooms will be useful because when this is put in place, personal hygiene will be encouraged in schools and their health status improved upon. The number of toilets and urinals required for each school depends on the numbers of children and staff (WFP/UNESCO/WHO, 1999), but also on when the schoolchildren and staff have access to the toilets. If access to toilets is restricted to break times, then peak demand could be high, particularly if all the classes have breaks at the same time (Zomerplaag & Mooijman, 2005).This means

that most children will always return from break very late leading to less performance for the day. Also the concept of a healthy environment that encourages learning will be defeated because some other children would prefer going into a nearby bush to defecate which at the long round will pollute the air around the school environment.

Also basic hygiene measures taken by staff and schoolchildren — hand washing in particular — should not be compromised by lack of water or lack of access to hand washing basins or suitable alternatives (WFP/UNESCO/WHO, 1999). If soap is not available, then schoolchildren should be encouraged to wash their hands with water and a small amount of wood ash (although this should be avoided if it is likely to block the drainage system).

On the other hand toilets according to WHO (1997), is not complete without a hand washing point with soap, water and adequate drainage. All toilet designs should include convenient hand washing facilities so that hand washing after using the toilet will become a routine activity for schoolchildren and teachers. Effective hand washing facilities can be built at little cost, with locally available materials. This will defeat the issue of inadequate resources to provide sanitation facilities. The school premises and, to a large extent possible, the immediate surroundings of the school, should be kept free of faecal material to prevent flies and other mechanical vectors from carrying pathogens.

In a contrary argument raised, WHO (1993) argues that having access to a safe water source or a latrine accordingly does not automatically mean that hygiene and health will improve? The crucial issue is human behaviour, that is, what people do. Investigations have shown that even in the absence of latrines, diarrhoeal disease can be reduced through improved hygiene behaviour. It is practically clear that exhibiting good hygiene behaviours is as important as having access to improved sanitation

facilities in school so children need to be taught the healthy methods and ways that will help them exhibit good hygiene behaviours. By removing contact with excreta, sanitation technologies eliminate one of the main transmission routes of diarrhoeal pathogens; it is possible to reduce the morbidity and mortality associated with diarrhoeal disease. Reviews of studies conducted on the impact of proper excreta disposal on health found that sanitation improvements reduce diarrhoea morbidity by 22-36% (Esrey et al., 1985 & 1991, Waddington et al., 2009).

With sanitation as with water supply, there is a wide range of possible levels of service, from "cat sanitation" (in which the user carries a hoe to the defecation site and buries their faeces on the spot) to flush toilets with sewerage. The Joint Monitoring Programme (JMP) categorizes the following as "improved" means of sanitation: flush toilets, piped sewer systems, septic tanks, flush/pour flush pit latrine, ventilated improved pit latrine (VIP), pit latrine with slab, and composting toilets. According to the JMP, other forms of sanitation, such as pit latrines without slabs, may not adequately protect individuals or the environment from contamination. However, unlike water supply, there is no firm evidence of differential health benefits between different levels of service or different sanitation technologies (Norman et al., 2010). It may also be that sanitation is more effective in dense urban settings than in rural areas.

Urinals for girls and women, as well as for boys and men, have been used with success in some countries They are quicker and cheaper to build than toilets, (De Gabriele, Keast & Msukwa, 2004).If the school has no formal toilet facilities, it is probably best to improve the existing system (e.g. defecation fields) and continue using that system until a sufficient number of toilets are available to provide accessible and hygienic facilities for everyone. If just one or two pit latrines are

provided for a whole school, the area around them is likely to rapidly become contaminated, and the pits to fill in a short time. Defecation areas can be improved by using shallow trench latrines rather than open defecation, providing correct drainage to avoid contaminating the nearby environment, and setting up a rotation system (Harvey, Baghri & Reed, 2002).

However, water, sanitation and hygiene relate to the basic human need for drinking, bathing and defecating, and the absence of appropriate WASH conditions can lead to a range of health-related consequences. Poor access conditions can magnify the impact of physical disabilities. Lack of water for bathing and cleaning can affect trachoma, wound management associated with lymphatic filariasis, and perhaps most importantly menstrual hygiene management for women and adolescent girls. Poor access to sanitation can also result in the risk of sexual assault for women (Amnesty International, 2011) and poor access to water can result in safety risks and large calorific expenditures for women and children. From the assertion above, it is an indication that sanitation plays an important role in the lives of individuals especially women and girls in the society.

In conclusion, the provision of safe water and sanitation facilities in schools is a first step towards a healthy physical learning environment, benefiting both learning and health. The mere provision of facilities, however, does not necessarily make them sustainable or produce the desired impact. It is the use of toilets and the related appropriate hygiene behaviour of people that provides health benefits. In schools, hygiene education aims to promote those practices that will help to prevent water and sanitation-related diseases, as well as encouraging healthy behaviour in the future generation of adults.

2.4 School sanitation and education

This section of literature has also covered the role school sanitation and hygiene play in girls' education or the impact of sanitation on girls' education. Education enables individuals to develop their knowledge and skills throughout their lives and thus builds human capital. Relatively high levels of education are often related to higher earnings and productivity, better career progression, health, life satisfaction as well as to better investments in education and health of future generations (OECD, 2010). Education from the argument plays a great role in every aspect of human life. Be it health, child bearing, job or the career of every individual in society. Educating girls is important to every society because educated girls contribute greatly to national development when they turn to adults and have their own jobs.

Educating girls has direct benefits for them and also for the children they will bear in the future. Children of uneducated mothers are more than twice as likely to die or to be malnourished than children of mothers with a secondary or higher education. In some countries, giving girls one additional year of schooling can save as many as 60,000 lives. Educated women have fewer and healthier children, who are more likely to be economically resourceful and productive adults (Save the Children, 2005). While helping girls to successfully complete primary school and move on to secondary education requires more than just water and sanitation at schools, these two are critical inputs into better schools. The arguments points out those girls need more than just water and good sanitation to encourage them attend school regularly. Educating them to a higher level is most important because it will turn them to productive and resourceful individuals in future.

The education of girls is increasingly recognised as an investment with many valuable returns, including the health and economic prosperity of women, their families and

nations (Herz, 2004). Despite this, girls are still less likely than boys to be in school in 28 countries, 18 of which are in sub-Saharan Africa (UNESCO, 2009). Thus there is much interest in identifying the most effective ways of increasing girls' enrolment and completion. UNICEF and the International Water and Sanitation Centre have noted that education for girls can be supported and fostered by something as basic as a girls-only toilet (UNICEF, 2005) further argues that the lack of access to separate and decent toilets at school is impeding girls' access to their education. Teaching girls about health and hygiene in primary school years is crucial, as many of them become mothers at young ages. Girls report that the absence of privacy, generally afforded by having doors that lock and being located at a safe distance from the school, causes them embarrassment and fear of using the toilet (Freeman et al., 2009). Furthermore, since girls are required to help mothers to fetch water, they often arrive at school late after having completed their chores. Some studies in rural India report that girls' attendance at schools rises dependent on electricity to pump water into storage tanks. Not all schools, especially in sub-Saharan Africa and South Asia, are connected to electricity and therefore water storage is a difficult and expensive option for them. (Freeman et al.,2009).There is every indication from the quotation that the provision of separate toilets is seen to play an important role in girls' school attendance because girls themselves reported that when separate toilets are provided, they are comfortable and do not fear any time they visit the toilet. In this case there is no doubt that it will increase attendance if only it is the major hindrance to their absenteeism and lateness.

Contrary to widespread belief in the health sector, the undoubted benefits to health are not normally foremost in the minds of those provided with new water supplies. A study of the economics of rural water supply by the World Bank concluded that, the most important benefit of rural water supply improvements from the perspective of

the people affected is generally the fact that water is brought closer to where they live. Churchill et al., (1987) added that there is no indication that rural populations expect health gains. The literature above suggests that giving improved and essential education to girls helps them contribute effectively in economic activities. But girls would contribute better if water is close to their homes to reduce the time they spend in collecting water and improve their health status since most of the girls' walk lots of kilometres to collect water.

Over the past four decades there has been a large and successful effort to extend primary education to all children, including girls. In the developing countries as a whole, the average school years for girls (boys) has increased from 1.4 (2.6) years in 1960 to 4.3 (5.9) years in 2000 (Barro and Lee., 2001). In the countries that the United Nation Development Program classifies as having low human development, female literacy rate ranges between 10-85% with a typical gender gap (the difference between the percentage of literate men and the percentage of literate women) of around 20. The higher the national income and development, the smaller the gender gap. Between 1970 and 1998, this gap has been reduced by more than five percent, with the greatest reduction occurring in low-income countries.

Gender equity in higher education is far less common in developing countries (Barro and Lee, 2001).Female education these days have been given special attention and without experimentation so as such most female successfully complete their university education whiles in their youthful age.

Women's education appears in a puzzling manner in these studies (Barro, 1996, 1997, 1999; Barro and Lee,. 1994; and Barro and Sala-i-Martin, 1995): The level of female education at the beginning of the decade seems to have either negative or insignificant effect on subsequent growth, while the male educational attainment has a positive

effect to growth rates (Lorgelly and Owen, 1999).Barro, (1997) female schooling is important for growth through reducing fertility, which is already an explanatory variable in the regressions. The effects of women's schooling and status may already be included in other indicators of economic development like political freedoms, which are frequently included in the growth regressions. When the reverse channel from economic development to democracy (as measured by electoral rights and civil liberties indexes) is studied, a somewhat surprising result emerges. As opposed to direct growth regressions, the gap between male and female primary schooling now has a negative and significant effect on both indexes (Barro, 1999). This significance does not disappear if other measures of educational and income inequality are included. It is noticeable that it is specifically early schooling that matters for democratization, whereas in the growth regressions secondary schooling is the significant variable. Barro explains his findings by suggesting that the effects of the status and schooling of women on growth is hidden behind the other variables like fertility and indices measuring democracy. Furthermore, at global level the inclusion of women in development could be done by advancing equal access to gender-responsive health and education services; increasing women's voice in decision making, leadership and peace building; empowering women economically and improving their livelihood security and finally ending violence against women and girls at home by ensuring that International conventions countries sign such as Convention on the Elimination of All forms of Discrimination against Women (CEDAW) and the Universal Declaration of Human Rights (UDHR) are domesticated and fully implemented, because as (Momsen ,2010) rightly points out, the development process affects men and women in different ways. Therefore, at the

global level, the United Nations (UN) as the overseeing body must ensure that countries end all such inequalities in its member states to enhance development.

Further relating to how sanitation and hygiene impacts on girls education, there is no evidence to show that menstruation is the only factor leading to drop out of girls, self-reporting by girls suggests that inadequate toilet facilities in schools are a contributory factor for truancy, failing classes, absenteeism, and drop out, particularly in the transition from primary to secondary schools (Abioye-Kuteyi2000; Jones & Finlay, 2000; Fakeye & Egade 1994; Deo2007). One randomized controlled trial was done in Nepal to link school absenteeism with menstruation (Oster & Thornton, 2009). Girls in the intervention group were given a menstrual cup and were followed up to see if the distribution of this menstrual management tool increased school attendance. This argument above indicates that there could be other important factors that could be attributed to the non-performance of girls or even lead to girls dropping out from school, but the commonest of the problems is inadequate provision of sanitation facilities especially a toilet. Also some girls could have their own special reasons for absenting themselves or even being truant so there is the need to study them carefully in order to help them in their educational career.

This study found that it did not have a significant impact on the number of days that girls attended school, however it did reduce the amount of time spent doing laundry (presumably of menstrual rags). The small sample size and obscure method of menstrual management are just two of the flaws identified in this study; however, it is the only one of its kind and does provide a case for larger studies to be done on this issue. Menstruation clearly has the potential to disrupt education, but more studies must be done to confirm this inference and assess possible strategies to minimize absenteeism due to menstruation. A World Bank study in four countries showed that

girl's school attendance increased significantly for every hour reduction in water collection. In Nepal, attendance improved by over 30% (Koolwal & van de Walle, 2010).

According to WHO (1995) Poor sanitation in schools impairs children growth and development? It also limits school attendance and retention of students and negatively affects student's ability to concentrate and learn. About 40 percent of the World's 400 million school-age children are infested with intestinal worms. About 1 in 10 school age girls do not attend school during menstruation or drop out at puberty because of lack of clean and private sanitation facilities. Of all the children between the ages of five and fourteen in the world, 87 percent live in developing countries. For these children, the risk of death is now fourteen times higher than for children of the same age groups in the industrialised countries. That risk can be reduced enormously when children stay in a healthy environment and get used to practicing good hygiene both in and out of school. The literature suggests that girls' ability to learn depend greatly on availability of facilities that they can always use privately especially when they are menstruating.

If everyone in the world had access to a regulated piped water supply and sewage connection in their houses, 1863 million days of school attendance would be gained due to less diarrhoeal illness (WHO, 2004).Some of the most severe consequences of chronic worm infections are those related to education, and intellectual achievement. Children enduring intense infections with whipworm miss twice as many school days as their infection-free peers (WHO, 2005). While children with heavy-intensity hookworm infections have shown to suffer from growth retardation, as well as intellectual and cognitive impairments. As a result, the hookworm has been associated with impaired learning, increased absences from school, and decreased future

economic productivity (Miguel & Kremer, 2004).Evidence of impact of separate toilets on girls' educational outcomes. For example, research has shown that school WASH conditions are related to health issues such as vector-borne diseases including diarrhoea and soil transmitted helminths (Migele, 2007).The incidents of harassment and sexual violence in school toilets has been reported(Abrahams, 2006; Leach,2003),says menstrual management is key to girls school attendance. Sommer (2009) reports on girls' perceptions of security and privacy. For example, in qualitative research exploring girls' reasons for absenteeism, schoolgirls in Malawi and South Africa have admitted they stay at home during menstruation, sometimes pretending to be sick, due to the conditions of toilets and water at school, feeling unwell, privacy and fears in contexts of HIV/AIDS (Sommer,2009, McPhedran, 2010). Thus, improving menstrual management may be a mechanism by which girls' toilets can improve girls' schooling. And other health issues may be identified as important links in this way.

This is mainly related to their greater need for privacy. Studies have found a relationship between school sanitation and girls' attendance. Very often separate facilities are requested. On the contrary these facilities could be provided and yet some girls could still absent themselves from school pretending to be sick as Sommer argues out.

Water Aid- Nepal (2009) argues that when girls have access to safe and clean toilets and water at school, they are somewhat less likely to miss school during their menstrual cycle each month. However, the presence of sanitary products, safe and clean toilets, and sufficient water go hand in hand. Each contributes to the creation of a clean, safe, and girl-friendly school. After the family, schools are most important places of learning for children. Schools have a central place in the community. School

can influence families and communities with the help of outreach activities through their student. It is therefore important that school must have effective and adequate sanitation facilities. The latrine needs to be hygienic and sufficient for the students and teachers. The latrines should be constructed considering the gender aspect such as the private needs of the girl students and female teachers. In this way girls will attach some kind of seriousness to their education.

A recent survey in Nigeria also showed that 64% of the schools have no water supply source within their compounds, and students have to trek 2-3 Km for water twice a day. At schools with their own water sources, only 32 % of the sources for drinking water are considered to be safe. About 72% of the schools have pit latrines, and only 3% use water closets. The national toilet-to-pupil ratio is 1:292, with such alarming differences across states as 1:77 in Lagos versus 1:2,375 in Yobe. In a cross section of eight secondary schools in Ibadan, south west Nigeria 72.3% of the schools have some kind of pit latrine, 1.5% VIP latrine and some 25.9% of them have no toilet (Ana et al., 2008).Children may fall asleep in class when they trek long distances to collect water for the home before they attend school. They may get tired and decide to stay at home since they at times spend long hours to collect water. If constantly they trek spending long hours to collect water, some girls may drop out of school.

The National Policy on School Sanitation Federal Ministry of Environment, (2005) stipulates separate sanitary conveniences for boys and girls and male and female staff. There should also be separate washrooms. As much as possible, in the urban areas the water carriage system is encouraged supplemented with VIP toilets. In the rural areas VIPs are recommended. Still in the light of separate toilets, (Carol Bellamy of UNICEF stated at the World Summit on Sustainable Development ,2002) that every primary school in the world should be equipped with separate sanitary facilities for

boys and girls and have a source of clean and safe drinking water. Bringing water, sanitation and hygiene to the world's poorest is the first step towards human dignity and a giant leap towards breaking the cycle of poverty. Going to school, learning new things, being in a clean school environment and being healthy – this is every child's right, girls and boys equally. Ensuring education for all is a key measure in eliminating poverty. Educated girls are the future mothers and leaders who will move their families and communities to greater heights. The advocacy for separate facilities for girls is in the right direction to increase girls' school attendance. On the contrary girls could be provided with these facilities and yet they could still have their own reasons for absenting themselves.

Jones & Ree, (2005) argue that at least one toilet cubicle should be accessible for staff and children with disabilities, preferably one for females and one for males. This includes level or ramped access, a wide door and sufficient space inside for a wheelchair user or helper to manoeuvre, and the provision of support structures such as a handrail and a toilet seat and that when this is put in place, children with disabilities will attend school regularly.

Also Children's ability to learn may be affected by inadequate water, sanitation and hygiene conditions in several ways. These include helminth infections (which affect hundreds of millions of school-age children), long-term exposure to chemical contaminants in water (e.g. lead and arsenic), diarrhoeal diseases and malaria infections, all of which force many schoolchildren to be absent from school. Poor environmental conditions in the classroom can also make both teaching and learning very difficult. From Jones and Ree's point of view, all that has been mentioned do really prevents children from going to school. But on the other hand, if everything is even at the disposal of some children yet they may still be absent from school. So it is

not just a matter of providing facilities but a matter of seeking their varied opinions on things that will encourage them to attend school regularly.

In sum, girls' education suffers (early drop out and shorter duration) from the joint impact of poor access to water and menarche, presumably due to the facilities at school, health and psychic costs generated by the joint impact.

2.5 School sanitation and health

This section also covered literature on school sanitation and how it affects health of girls and their learning. The transmission routes of different excreta and water-related diseases are closely linked and are best imagined as a web of pathways influencing each other. For example, a person sick with diarrhoea can infect another person by direct contact, or by contaminating food, the environment or water. Flies can act as vectors of pathogens effectively connecting the different pathways. If schools take up the challenge of impacting knowledge on personal hygiene, children will exhibit good hygiene practices will not fall sick let alone infecting another person.

The unequal global distribution of water, sanitation and hygiene-related morbidity, and especially mortality, are largely a consequence of regional differences in economic development, which impacts on the risk of water and sanitation-related diseases (especially diarrhoea) by affecting nutrition, living conditions and, last but not least, water and sanitation infrastructure. A key characteristic of the current (at times rapid) economic development in many current or former low-income countries is the often unequal distribution of economic benefits within a society and within different areas within the same country. The almost inevitable consequence is that areas left behind make little progress in combating diarrhoea.

The unequal distribution of diarrhoea deaths within countries has been widely reported (Huicho et al., 2006). A typical and well-documented example is India, a

country with vast state-level differences in economic development and disease burden, including diarrhoea deaths (Lahariya & Paul, 2010; The Million Death Study Collaborators, 2010). There are less data on water and sanitation-related diseases other than diarrhoea. Since these share many risk factors with diarrhoea it can be assumed that vast regional and sub-national differences in disease burden exist.

This may in particular be the case for parasitic infections such as Schistosomiasis and soil-transmitted helminth infections. The prevalence and disease burden due to these two very common conditions depends on many environmental factors including sanitation infrastructure and poverty, but also soil conditions and regional climate. Recently, disease mapping using remote sensing has been used to predict geographic differences in worm infection prevalence (Brooker et al., 2006; Simoonga et al., 2009), an approach which unfortunately will remain elusive for many other water and sanitation related-infections, especially diarrhoea as its measurement almost exclusively relies on population-based data. From the assertion, water and sanitation related diseases may largely be attributed to unequal distribution of economic benefits. When this happens, areas that are populated are seriously are challenged with disease burden than areas that are less populated. That is girls may fall sick and this may have a direct effect on the education of girls, if the disease especially is transferable.

Water-related diseases include those due to micro-organisms and chemicals in water people drink; diseases like schistosomiasis which have part of their lifecycle in water; diseases like malaria with water-related vectors; and others such as legionellosis carried by aerosols containing certain micro-organisms. It also contributes to the spread of dangerous food related illnesses like salmonella and E. coli (For other demographic and economic studies about the link between access to safe water and

general health outcomes, (Barrera, 1990; Jalan and Ravallion, 2003). Hence both girls' and boys' schooling may be affected by the general health related consequences of poor water, since it is found that children's health is an important determinant of their schooling (Colclough et al., 2000). The literature suggests that having access to safe water prevents diseases that are related to water. Clean water further strengthens the health of children and offers them the right to go to school regularly like any other child. According to Coutsoudis et al., (2010) a well-designed prospective cohort studied that poor water and sanitation significantly contributed to poorer health among the HIV positive women. Similarly, a study in Nigeria found a 46% reduction in diarrhoea among people living with HIV following a point of use water treatment intervention, even though over 80% already had improved water supplies (Barzilay et al., 2011), although the study lacked an adequate control group. WASH can protect the very young and those infected with HIV from opportunistic infections such as diarrhoea and skin diseases. One randomised trial, providing people living with HIV/AIDS with guidance on household water treatment and safe storage, reduced the number of days they had diarrhoea by 33% (Lule et al., 2005). Although empirical studies have suggested that the effect of household water treatment on diarrhoea may be smaller than observed, its effect could be important in people living with HIV/AIDS (PLWHA) because of their high susceptibility to infections that would not cause illness in healthy individuals. As read from the literature above, it is clear that poor sanitation results into disease burdens. The best way to stay healthy is to treat the water before it is consumed. Lots of studies have found out that the effect of household water treatment and safe storage reduces diarrhoea.

Hookworm infection in pregnancy is a serious cause of morbidity for women as well as a cause of foetal development problems. Sanitation can help prevent this burden.

Good access to WASH facilities also means far more convenience in terms of time and effort to collect water or to reach and use sanitation in pregnancy. Of perhaps even greater importance is adequate access to water and hygiene as a means to ensure safe delivery. Infection and sepsis are leading causes for maternal and neonatal mortality. Although the evidence base is currently not sufficient, it can be expected that a clean and hygienic environment facilitated by adequate sanitation and water access should contribute to lowering infection rates in mothers and new born children. The recognition of good hygiene in midwifery is longstanding (MIRA Makwanpurtrial team, 2004; Curtis et al., 2011). In a study from Nepal, maternal and birth attendants' hand washing behaviour was strongly associated with neonatal survival Rhee et al., 2008).

Each year 120 million children are born in the developing world. Of these children, at least half will live in households that do not have access to improved sanitation facilities and a fifth in households that do not use an improved source of water(UNICEF and WHO, 2008). Even among those who do access an improved source, the water that is consumed may be highly contaminated because of unsafe transportation and storage. Poor quality and insufficient quantity of water for basic hygiene, combined with lack of access to improved sanitation, together lead to the vast majority of diarrheal diseases. Diarrhoea, which rarely leads to deaths in developed countries, is a leading cause of death among children under age five, leading to 1.5 million deaths each year (UNICEF, 2006). Although there are no estimates of exactly how many children (or school-going children) over the age of five die from diarrhoea-related causes, one can safely say that chronic diarrhoea related to water-related diseases is fairly common among children of all ages. Germs are transferred among sick children more easily when they have little or no water or

soap to wash hands (UNICEF and WHO, 2009).Aggravated cases of diarrhoea result in children missing school. In addition, even when they are in school, 400million children are often unable to learn effectively as they suffer both physical and mental impairments caused by intestinal helminth (parasites) infections. Lopez-Quintero, C., Y. Neumark, and P. Freeman (2009). From the analysis made above, it points out to the fact that when children do not have improved sanitation, they turn to fall sick as a result of the water they consume. Aside this, children will miss school when they are sick and this makes learning ineffective.

Another growing concern within the context of health is that diseases such as typhoid and cholera, which are transmitted through contaminated water and food, can spread like wildfire through communities, sickening both children and adults. While oral rehydration therapy has led to declines in the number of deaths due to cholera, it remains a dreaded illness which can easily overwhelm poor communities with little access to medical care. In many cases, cholera and typhoid occur seasonally on a regular basis. A recent study shows that children bear the greatest burden of cholera and that protecting them against it not only reduces the disease burden in their own age group, but also the transmission of the disease to their family members and others in the community. Schools can effectively protect children and their families by teaching proper hygiene and hand washing with soap, and through use of point-of-use treatment, such as chlorine, throughout the year (Deen, Jacqueline L., Lorenzv ,Seidlin, Dipika Sur et al., 2008). If schools respond to their duties by teaching children proper personal hygiene aspects in their hygiene lessons, children will not be affected by any intestinal helminth (parasites) infections so they will attend school regularly and learn better as well.

Dirty drinking water and unclean hands are also the source of intestinal parasites in more than a third of the world's children. Most of these children are poor, get infected soon after they stop breast-feeding, and can be infected and affect their entire life. Around 60 million school age children experience such terrible infections, which can be related to a six-month development delay in cognition and learning. Absenteeism is also greater among infected students. Safe water provision, when undertaken with deworming, has a much more pronounced impact on children's health, rates of diarrhoea, and learning potential (Zwane, Alix Peterson and Michael Kremer, 2007). Educating children on how to treat unclean water is one area that should taught in school alongside hand washing. They should also be encouraged to exhibit these hygiene behaviours at home so that their family could emulate them to prevent infections which could affect their learning potentials.

Joel Mokyr (2002) asserts that the crucial nature of the often invisible work of women for any economy has been pointed out. He goes as far as to equate increasing knowledge of the importance of cleanliness and sanitation in the nineteenth century with the effects of the Industrial Revolution. Previously, disease was associated with poverty. The new diffusion of knowledge about the germs and the importance of cleanliness through all the levels of the society led to new emphasis on homework. The heretofore "invisible" work performed by women (nutrition, childcare and hygiene) suddenly became a top priority. As a result mortality rates were radically reduced by the end of the nineteenth century. With this new recognition of the importance of women's work, it is not surprising that their labour force participation outside the home remained low during that period.

The major risk factors for diarrhoea and other water, hygiene and sanitation related-diseases are related to the consequences of poverty, such as under nutrition,

micronutrient deficiency, lack of adequate sanitation, scarcity of sufficient quantities of safe water, poor hygiene, low level of education and poor health care access. From this perspective it is no exaggeration to say that there is no greater risk factor for water, sanitation and hygiene related diseases than poverty, even if poverty as such is not easy to define for the purposes of estimating the disease burden. Poverty can increase the risk of infection in several dimensions: under nutrition due to lack of purchasing power increases the susceptibility to diarrhoea and many other infections (Caulfield et al., 2004; Rice et al., 2000).Poor people also have less money for health care and are often living further away from health care facilities than richer people. Poverty, especially in urban settings, is often associated with crowding which increases the likelihood of disease transmission. As a consequence, poverty in all its various forms remains the biggest challenge for the control of water, sanitation and hygiene-related diseases. Unsurprisingly, improving water, sanitation and hygiene can also help alleviate poverty. For example, adequate water access can save time and money, while reduced costs for illness and premature death can allow households to allocate their funds to more productive activities. All forms of problems from the literature above that causes the ill health of the individual in society stems from poor sanitation and hygiene in every human setting. Furthermore, poverty is seen to be a leading cause of the sanitation related ailments.

Diseases such as diarrhoea, tropical enteropathy and nematode infections have negative effects on nutritional status in children. WASH interventions could be associated with improved measures of nutritional status in children: 40-60% of SSS malnutrition is attributable to poor water, sanitation and hygiene (Prüss-Üstün & Corvalán, 2006; Prüss-Üstün et al., 2008). Fotso et al. (2007) demonstrated that rapid urbanisation has resulted in poor access to safe water and as a result progress has been

slow towards reducing urban child mortality. From the argument it is well understood that areas with very high population numbers suffer most in terms of easy access to water. For that matter any kind of water they may come across, be it safe or unsafe but the fact water is needed for their chores they may collect it to serve a purpose and once this water may be consumed, it may result in diseases such as diarrhoea which finally may affect the number of days children may attend school.

Musa (2006), explains that women's health and reproductive rights are central to the realisation of their potential. Problems of pregnancy and childbirth cause the deaths of at least 250,000 women each year, which is the highest in the world. Maternal mortality rates per 1,000 births in 2000 were 450 in North Africa and 130 in Sub-Sahara Africa (Kemp, 2006). The practice of female genital mutilation is more common in Africa, thereby contributing to complications in childbirth and pregnancies. Although the practice is outlawed, it is still being practiced in 28 countries in the world (AusAID, 2012). Kemp (2006) contributes that an end to the practice as well as the provision of necessary support services for survivors. HIV/AIDS has many effects on women and their families. Statistics are alarming and clearly expose gender fault lines; approximately 23 million adults aged 5 – 49 are living with HIV/AIDS, of which 57 percent (13.1 million) are women in Sub Sahara Africa (Delport, 2006). The region is burdened with the highest HIV prevalence rates and displays the most disproportionate impact of the pandemic on women and girls. The pandemic has not only become the leading cause of deaths in Sub Sahara Africa (SSA) but it has reversed the development of its countries. It is clear to agree with the assertion above that the development of some SSA countries has taken a different dimension. It is often said that a healthy mind lives in a healthy body, so if as many as 13.1million women are HIV/AIDS patients their health status will not permit them to

effectively carry out their job. In short, if about 50 percent of the female population are out of job, definitely women's contribution to development may be slowed down.

A survey carried out in India among school children, revealed that about half ailments found are related to unsanitary conditions and lack of personal hygiene (UNICEF and IRC, 1998). The literature shows that school going children that are found to be ill in India and automatically will miss school, is as a result of their inability to exhibit the little personal hygiene behaviours that are taught in school and then coupled with the lack of sanitation facilities in their schools.

Ahmed and Yesmin (2008) also found out that "Women and girls in poor countries cannot afford sanitary pads and tampons. Instead the vast majority of women and girls in Bangladesh use rags. These are usually torn from old saris and known as 'nekra'. There is no private place to change and clean the rags and often no safe water and soap to wash them properly. This practice is responsible for a significant proportion of illness and infection" From the assertion some girls from poor homes till date still use these rags during menstruation .It actually poses a lot of problems to girls any time they are menstruating most especially when there are no changing rooms and adequate water in the school for them to wash and change their rags. When girls are faced with this option, they have no choice than to absent themselves from school. Also if girls cannot clean and disinfect these rags well, then they will be faced with lots of infections.

Diseases related to inadequate water, sanitation and hygiene are a huge burden in developing countries. It is estimated that 88% of diarrhoeal disease is caused by unsafe water supply, and inadequate sanitation and hygiene (WHO, 2004). Many schools serve communities that have a high prevalence of diseases related to

inadequate water supply, sanitation and hygiene (particularly lack of hand washing), and where child malnutrition and other underlying health problems are common.

However, poor access to water may interact with menarche to further reduce girls' schooling. Hygienic practices are always improper if the access to clean and safe water becomes difficult. Furthermore, girls meet extra health problems if there are no hygienic practises or facilities for them to do the essential cleaning during their period. During menstruation, dysmenorrhoea is the most important symptom. Kirk and Sommer (2006); Singh et al., (1999) they argue that poor protection and inadequate washing facilities may increase susceptibility to menstruation related infection. Research also found that girls' health is at risk if proper personal hygiene is not in place after menarche. Ahmad and Yesmin, (2008); Dagwood (1995); Severino and Moline, (1995), stresses that a problem which arises particularly when poor access to water means girls are unable to clean themselves this can affect their attendance and health (Bista, 2004, Nahar, 2006; Kirk and Sommer, 2006; and Singh et al, 1999), holds a strong view that reduced health and cleanliness worries will clearly impact more on girls' education. If these arguments above are true then most girls would not attend school regularly as a result of lack of sanitation and hygiene facilities. Girls could also fall sick or be infected with some kind of diseases due to improper personal hygiene practices that could be exhibited during menstruation, and this largely could impact on the attendance and performance of the girl.

Poor access to water may also generate typical psychic costs on post menarche girls' schooling. There is quite a large literature on poor sanitation in rural schools, and its adverse consequences for girls' education (El-Gilany et al., 2005; Behrman at al., 1999). After having conducted interviews with many school girls, (Snel & Shordt, 2005) conclude that school drop-out rates and low literacy levels, especially among

adolescent girls, can be attributed in part to inadequate sanitation and health conditions in schools. Cairncross et al., (1996) also find that a school sanitation programme in Bangladesh increased girls' enrolment by 11 per cent. Lidonde, (2005) asserts that girls from poor African counties are marginalized in accessing education because of inadequate sanitation facilities that allow them no privacy, especially during their menstrual period. Behrman et al., (1997), using detailed data from rural Pakistan, find that poor access to water and toilet facilities significantly reduces school performance. Lidonde, (2005) also finds that about 1 in 10 school age African girls do not attend school during menstruation or they drop out altogether at puberty because of a lack of clean and private facilities. The lack of private sanitary facilities for girls at schools will also contribute to their being fewer women teachers to encourage girls to attend schools (Bista, 2004). Basically from the assertions by different authors above, improved sanitation and hygiene is one most important thing that encourages girls to attend school especially during menstruation. Also it equally promotes good performances when sanitation and hygiene facilities are clean and private.

Again if the schools in rural areas do not provide adequate sanitation facilities for girls' special hygienic needs during their period, homes will become primary cleaning places for girls. For example, Oster and Thornton, (2009) find girls in general come back home from school to wash their rags and involve self-cleaning activities during their period. If girls do not have clean and safe water sources either at home or school, they may find it difficult to remove the odour and spot resulted from menstruation and may thus be subject to physical and sexual abuse from boys and even male teachers (Bista, 2004).The above statement indicates that girls most of the time especially during their period miss a lot of their contact hours in school which implies that at the

end of the day, they may perform poorly or even drop out of school. It is important to note again that, if sanitation hygiene facilities are not adequately provided the home will be a convenient to change and wash their rags during their period. The implication of missing lessons three or four times in a month multiplied by the number of months to be spend in a term is that, girls may fail their examination or even drop out if they cannot co-operate.

Consequently, in areas where there is poor access to water parents do not feel safe sending their girls to male-dominated environments, e.g. schools, during their period (Kirk, 2005). This reality indicates the existence of a typical psychic cost on parents' side as well as on the girls' side to prevent the girls from attending school during their period for safety concerns. Furthermore, in rural India, menstruating girls are often subject to certain taboos. Girls are asked to remove themselves from public spaces such as classrooms and thus suffer their schooling during all the menstruation period (Nahar, 2006). However, this phenomenon is believed to be a less common practice in China.

Finally, the arguments above boil down to the possibility that that post-menarche girls' education suffers due to the greater time, health and psychic costs associated with poor access to clean water. All these 'special' costs induced by the interaction of the poor water access and menarche are likely to make girls drop out of school early. In this study, poor access to water is defined as having no access to tap water, since water from other sources (e.g. lakes, wells) are found to be contaminated and is a source of infectious and parasite disease in rural China (Wu, 1999). If the definition to poor access to water holds, then most schools in Africa falls within that range and so this problem of poor access may compel girls to stay at home, play truancy or drop early from school.

Snel, Ganguly, and Shordt (2002) also confirms that, the success of a school hygiene programme is not determined only by the number of latrines constructed, the number of hand pumps installed or water connections built. In other words, construction is not enough for a successful SSHE programme. Nor is the success of a programme determined simply by what children know. If SSHE knowledge is not applied to the practice of hygiene behaviours, this may lead to failure of the programme.

A UNICEF study found that over 1,200 school children died because of poor sanitation conditions at school during the 1997 cholera outbreak (UNICEF, 2002). Consequently, 560 primary schools around the country were closed because they lacked acceptable latrine facilities.

Aside poor sanitation leading to premature deaths, (WHO, 1998) asserts that behaviour development can only be achieved if it is supported by the provision of hardware components of sanitation, thus SSHE is combined with hardware, which is the total package of water supply and sanitary conditions and facilities available in and around the school compound. The arguments presented above boils down to similar arguments raised by other researchers. Lack of sanitation and hygiene facilities coupled with poor sanitation in schools may affect or lead to girls falling sick which may further affect their quality of education.

In conclusion, a significant amount of disease could be prevented especially in developing countries through better access to safe water supply, adequate sanitation facilities and better hygiene practices. In another dimension, there is little doubt that safe water, clean toilets, and germ-free hands lead to improved health outcomes. Schools are one venue to reach thousands of children each day with these common-sense inputs for improved health. It is therefore important to note that healthier

students learn better, become productive members of society, and can share the importance of basic public health measures in their own homes and communities.

2.6 Conceptual Framework

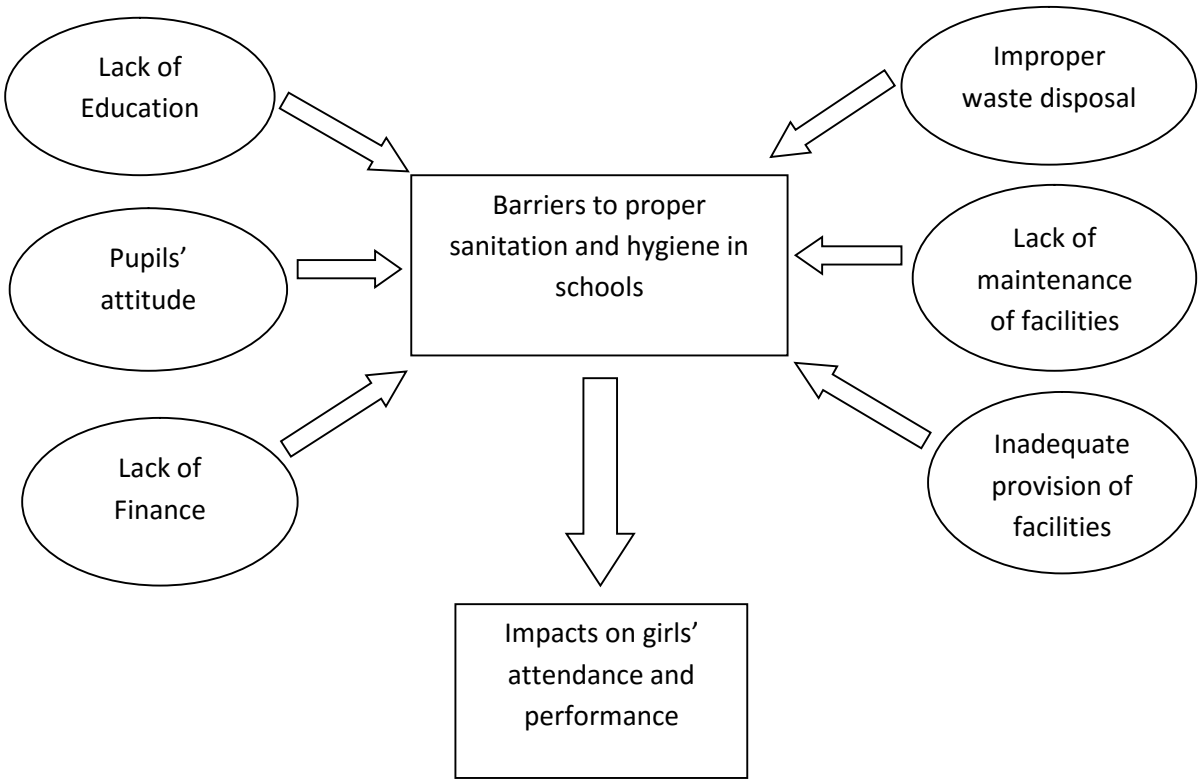
After the review of literature, a couple of factors were identified to be emerging issues that contribute to improper sanitation and hygiene in schools. These factors subsequently, are said to have had a negative impact on the attendance and performance of girls in schools. The factors that have identified as barriers to proper sanitation and hygiene include; lack of finance, pupils attitude, lack of education, improper waste disposal, lack of maintenance of facilities and inadequate provision of sanitation and hygiene facilities.

Lack of finance by the MMAs and the schools to adequately provide sanitation and hygiene facilities has been a major factor hindering girls from enjoying the usage of sanitation and hygiene facilities in most schools. From the framework, it can be observed that, pupils own attitude is a factor that denies them from using the few facilities that exist in the school compound. Pupils misuse the facilities leading to the breakdown of certain facilities such as borehole, hand washing containers. Evidence of a broken down facility is on appendix vii of picture F.

Educating girls on proper sanitation and hygiene is their fundamental right just as educating them is. It is therefore important to note that the lack of education of girls will cause harm both at school and at home since girls carry good hygiene practices everywhere they go. On another note, the lack of education will make pupil's dispose refuse indiscriminately leading to improper hygiene behaviours and this could affect their health in a way. Inadequate provision of facilities puts pressure on the few that are available leading to the breakdown of the few. These facilities should always be

maintained to keep them functioning for use. Finally the output of the factors stated negatively affect girls attendance and performance.

Figure 2.1.THE FRAMEWORK OF SCHOOL SANITATION AND HYGIENE



Source: authors' own construct, May 2015

CHAPTER THREE: STUDY AREA AND RESEACH METHODOLOGY

3.1 Introduction

This chapter describes the study area and research methodology. Thus, it further describes the approach and methodology adopted for the study. The research design adopted and the processes used in undertaking the research are also presented and discussed. It also presents the data requirements, forms and sources, data collection and analysis tools and instruments used as well as method of presentation of findings.

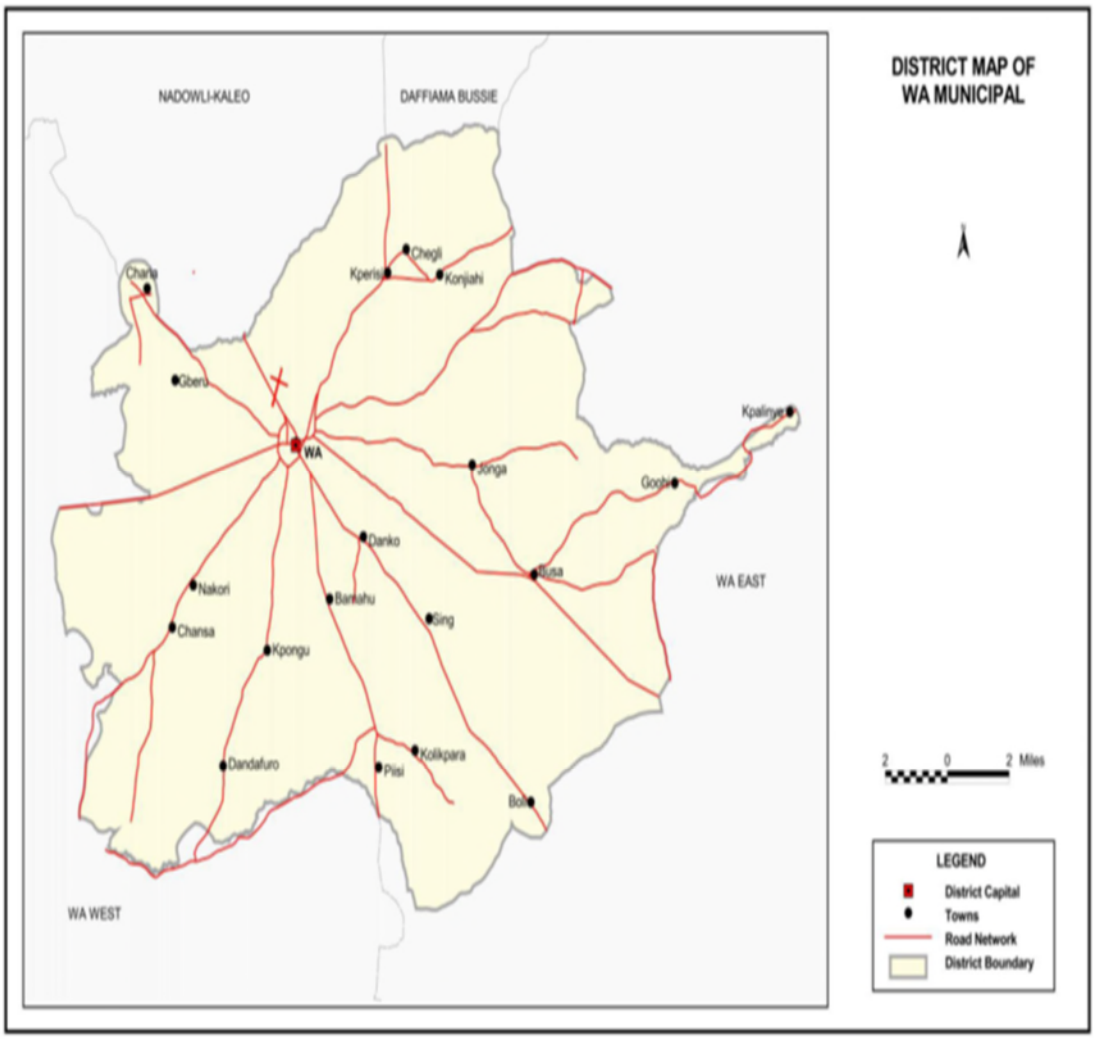
3.2 Profile of the study area

This section gives a brief profile of the Upper West Region of Ghana and the profile of the Municipality where the study was conducted. It highlighted the population, education and literacy rate of the people, physical and social characteristics of the area.

3.2.1 Location

Wa is the capital of the Upper West Region, it lies within latitude 1o 40''and 2o 45'' north and longitude 9o 32'' and 10o 20'' West. To the East of the Municipality lies the Wa East District, to the West is Wa West District, to the North is Nadowli District and to the South is Tuna – Sawla – Kalba District. It has a landmass area of approximately 23,474 square kilometers, which is about 6.4% of the region. The map below (Fig3.1) shows the location of the study area. (GSS, 2010)

Fig 3.1 Map of the study area



Source: statistical department, (2010)

3.2.2 Population

According to the Population and Housing Census (PHC, 2010) Wa Municipality has a total population of 107,214 (male: 52,996/female: 54,218). Wa town alone has a population size of 84,484 with an annual growth rate of 2.7 per cent for rural and 4 percent for urban. Using the current growth rate, the projected population for the Municipality in years to come is expected to be very high. By implication, there is a high density of population in Wa and consequently pressure on land and socio-

economic infrastructure. This raises the issue of population management, specifically; Solid waste management and land-use planning are issues to be addressed.

The high population concentration is as a result of a growth rate of 3.4 per cent. Natural factors and net in-migration have also accounted for the population increase. The rapid population growth poses the challenge of matching economic development with the needs of the population. This raises the issue of achieving the right investment mix, provision of basic infrastructure and services and promoting investment indirectly, productive and income -generating activities. The rapid population growth also has an implication for solid waste management now and in the future.

There is evidence of movement of people from the villages to Wa Town. The exact numbers of this phenomenon are not available. However, the factors which promote this population movement include:

1. Harsh socio-economic environment in the rural areas of the Upper West Region
2. Existence of educational facilities (University, Polytechnic, Distance Learning Centres, Vocational and Technical Institutes) in Wa Town.
3. Availability of electricity, water, banking, telecommunication and transportation facilities in Wa Town.
4. Promise of employment opportunities. Wa town is endowed with social and economic facilities as compared to other settlements and towns in the Upper West Region. Consequently, as Wa become increasingly urbanized, the demand and pressure for solid waste service would increase since waste generation is a function of urbanization and population growth.

The spatial distribution of the population displays the typical character of a Municipality a larger concentration of population in Wa town surrounded by smaller

towns and rural settlements. According to the(PHC,2000) the projected population figures for Wa town in 2010, is far higher than all other settlements within the municipality .The significance of this type of distribution is that Wa town provides the highest level (First level services and functions) in health, education, finance, administration, justice and security, commerce and transportation amongst others to its hinterland and patent services for resource mobilization, peace building and community needs identification.

3.2.3 Ethnicity and religion

Over 95% of the people belong to one lineage. That is the Mole Dagbani group with the patrilineal system as the rule of descent and characterized by primogeniture and patriarchy. According to traditional history, the Wala who are the indigenes migrated from various places such as Jirapa, Nalerigu, Northern Nigeria and Mali to settle at their present location; the North – Western corner of Ghana. The Dagaaba account for about 42.9% of the population, Waala 40.3%, Sisaala 5.8% all other ethnic groups in the North in the Municipality is 5.1%. Akan ethnic group 2.1%. There has been inter-marriages between the Waala and the other ethnic groups, particularly the Sisaala. Notwithstanding this ethnic heterogeneity, there is relatively, peaceful co – existence.

Traditional Religion, Christianity and Islam are the three main religions practiced in the Municipality. Christianity accounts for 35.7% , Islam 44.4% ,Traditional worship 19.8% and other forms of religious practice 0.1% and those who practice no religion at all 2.8% (PHC,2000). The practice of Christianity is spread in the Municipality with different denominations such as Catholic, Protestant, Pentecostal/Charismatic and other Christian groups' forming. Islam comprises the following sects; Ahmadiyya, Ahlsunna waljamat and Orthdox. The Orthodox dominates the other sects both within and outside the Municipality.

3.2.4Education and literacy

The Municipality has a relatively lower literacy rate of 15.8% compared with the national average of 39.8%. Majority of the adults do not have higher education due to late introduction of higher education in Northern Ghana in general. On the whole, the low literacy rate is attributed to high poverty, ignorance and retrogressive cultural practices. Gender wise females are lagging in education, perhaps due to socio – cultural beliefs and biological reasons, since females drop out of school is mostly due to teenage pregnancy. While 7 out of 10 males can be said to be literates, only 4 out of every 10 females are literates. This unfortunate situation has negative impact on effective information dissemination, particularly government policies and programmes and acquisition of knowledge through both print and electronic media. (GSS, 2010)

However, there is hope for the improvement of the situation as there are increases in the provision of educational infrastructure in the Municipality. These include the Wa Polytechnic and the University for Development Studies with varied faculties. About 80 %- 85% of the population have access to basic education. As at 2005, there were six (6) Creches , 54 Early Childhood Development Centres ,61 Primary Schools,38 Junior High School, 5 Senior High Schools, 2 Vocational/ Technical Schools, 1 Teacher Training College, 1 Polytechnic and a University. Current available statistics indicate that there are 72 primary schools, 52 Junior High schools, 65 Early Childhood Development Centres, 4 secondary schools and 2 tertiary institutions.(MEO, 2012).

3.2.5 Water and sanitation

Drinking water is considered potable if it is obtained from a treated pipe borne, deep well or a borehole either mechanized or manual. On the basis of this, greater portion

of water sources within the Township can be said to be potable. However, due to urbanization the Township is growing resulting in drastic population increase and growth. Accessing potable water has become a daunting task for women and girls. Water is supplied by the Ghana Water Company Limited, Non-governmental Organizations (NGO), Civil Society Organizations (CSO) such as Community Water and Sanitation Agency, Adventists Development Relief Agency (ADRA), PRONET and the Ghana Red Cross Society.

Sanitation is an important component of the health of a people. Consequently, their productivity and welfare are seriously affected by the state of sanitation in their environment. The sanitation situation in Wa Township needs much to be desired. Less than 5% of the total population is served with solid waste collection system and 2% are served with an acceptable house hold toilet facilities. This renders the removal and deposition of solid waste extremely difficult. These wastes are thus wrongfully disposed of which poses a serious health hazard to the inhabitants of the Township.(GWCL, 2012).

3.3 Research Methodology

The choice of research methodology depends on the purpose of the study and it serves as a guide for information gathering and analysis. The nature of the research problem, the research questions and the objectives made it feasible to adopt qualitative and quantitative research approach since the focus of the study is to examine the state of sanitation in schools and its consequences on girl child education in the Municipality.

3.3.1Research Design

The study relied on a mixed research methodology. This comprised both qualitative and quantitative research methods of data collection and analysis. A combination of both methods is termed by (Johnson et al., 2007) as a mixed research design. In their

opinion, a mixed research design is the type of research in which a researcher or a team of researchers combine the elements of qualitative and quantitative research approaches. (Yin, 1984) called it multi source evidence and (Hammersley, 1998) cited in (Bryman, 2008) refer to it as triangulation.

The qualitative research approach draws on the fact that the investigations carried out on a particular issue or characteristics give insight information about them or the issue. According to (Karim, 2000) it offers descriptive reports of individuals' perception, views and attitudes to events and things. This gives respondents the chance to clearly express their views and perception about the issue under investigation. The researcher used several methods under the qualitative method to collect information for the study. These methods include; field visits, observation interviews, questionnaires and focus group discussions (FGDs).Observation was equally done; the researcher was keen in observing and taking note of important issues on the phenomenon under study. Field visits were embarked on prior to data collection to have first-hand information on issues pertaining to sanitation and hygiene. Finally FGDs were equally conducted on girls ranging between seven to twelve members to draw information from them in a particular area of interest.

Quantitative data analysis is the numerical representation and manipulation of observation for the purpose of describing and explaining the phenomena that those observations reflect (Osei, 2012). This method made good use of frequencies in the analysis and it is equally easy to use as well as reliable. Under the quantitative method, survey research design was employed among girls to ascertain information concerning sanitation from them. Specifically questionnaires as an instrument of data collection were used to gather information on sanitation and hygiene in schools from the teachers.

3.3.2 Study population

The study population of this study consisted of JHS girls in the Wa Municipality, teachers, SHEP and PRONET co-ordinators as well as sanitation officer at the Municipal Assembly.

3.3.3 Sampling Procedure

Simple random technique was used to select schools and individual girls in these schools for FGDs. The advantage of simple random technique according to (Twumasi, 2001) is that, all elements within the sample frame stand the same opportunity of being selected. He added that 30% of the target population gives a fair representation upon which findings can be generalized. Based on this finding, a target sample of30%was set by the researcher. Out of the 52 JHS in the municipality, 20of them constituting 38% of target population were sampled using simple random technique. In the selection of the 20 JHS using simple random technique, the names of all JHS in the municipality were written on separate pieces of paper and rolled into balls. These were put into a bowl and the 20 JHS were selected. The same method was used to select 266girls from the 20 JHS for FDGs. The focus was on the girls because girls are mostly into sanitation issues in schools and suffer most when sanitation facilities are inadequate. In addition, girls in the JHS have their first menstruation (menarche) at age 11-15 and need sanitation and hygiene facilities to encourage them stay in school any time they are in that situation. Also, 20 teachers in charge of sanitation in the selected JHS were given questionnaire to answer. Finally, the researcher purposively selected the SHEP co-ordinator and the PRONET co-ordinator for interview as well as 2 sanitation officers at the Municipal Assembly. These people were selected based on their knowledge on the subject matter. In total,

the sample size of the study was 290.The 20 randomly selected JHS, their circuits; the number of girls and their sample size are recorded on table 3.1 below.

Table 3.1: Names of circuits, selected JHS, the number of girls in each school and the sample selected

Circuits	Selected JHS	Number of girls	Sample size
Busa	Busa	26	10
	Biihee	34	10
Konta	Tender Care	80	12
	T.I Ahmadiyya	60	12
Sawaba	Falahia	60	12
	Limanyiri	65	12
Kperisi	Kperisi	32	10
	Sagu	24	10
Tendamba	Tendamba	59	12
	Methodist	65	12
Jonga,	Jujeidayiri	45	10
	Our Home	72	12
Kambali	Kambali	66	12
	St.Francis	26	10
Dobile	Catholic	56	12
	Anglican	56	12
Kabanye	Kabanye	78	12
	Methodist	65	12
Charia	Charia	27	10
	Presbytarian	74	12
Bamahu	Bamahu	32	10
	Kpongu	17	10
Mangu	Mangu	46	10
	Shakafatu	45	10
TOTAL		1,210	266

Source: field survey, May 2015

3.3.4 Selection of the Study Area

The choice of the study area was based on a certain criteria. The criteria included proximity to ensure easy communication, knowledge of the district to ensure easy access to information and aside being endowed with many schools, it shares boundaries with Nadowli and Wa West Districts, which also have a good number of schools. For instance, these two districts are known to have the least number of

schools, fewer girls and fewer privileges in the region. Therefore there is bound to be inflow of pupils from the surrounding districts to take part in the activities that their colleagues do enjoy in the regional capital of Wa. Furthermore, most of the girls also travel from the surrounding villages of the Municipality migrating to the capital town to attend school in order to have quality education and also enjoy the usage of better facilities. These reasons therefore made Wa Municipal suitable for the study.

3.3.5 Types of data

Data was collected from both primary and secondary sources so as to facilitate an in-depth understanding of the nature and dynamics of sanitation situation in schools. Primary data was obtained from the field through the use of field visits, observations, questionnaire, interviews, and focus group discussions. Secondary data is information which has been collected by organisations researchers and other institutions. It is data that is readily available in various institutions. The sources of secondary data include; journals, related research works, newspapers, books and many others. This kind of data is used with caution as indicated by (Yin, 1994; Bacho, 2001) that secondary data are used with caution by acknowledging the proper and well known sources, since not all sources of the information sourced are reliable. The study further made use of content analysis as well taking into consideration the quantitative and qualitative methods of data collection tools. These tools are explained below.

3.3.6 Tools and Techniques of Data Collection

These are considered as the methods and instruments used in collecting data. The techniques and tools that were used to collect data for the study are discussed below.

3.3.7 Techniques of Data Collection

The tools /techniques of data collection that were employed on the study are field visits, direct observation, questionnaires, interviews and focus group discussions FGDs.

Field visits were embarked upon prior to data collection. All the 20 schools were visited to have first-hand information on issues pertaining to sanitation and hygiene in schools. The visits were fruitful and relevant as the researcher familiarised herself with the environment, the teachers and the pupils as well. Actually, the visit was carried out in October 2013 but the data was collected in May 2014.

Engaging in direct observation of the schools that were selected for the study was important because it helped the researcher to directly observe the hardware and software components that were directly linked with the school environment. This gave the researcher an insight of sanitation and hygiene situation at various schools under investigation. Questions regarding coping strategies, the causes of the state of sanitation and hygiene in schools as well as observing to find out if aspects of hygiene are chipped in teaching and learning or that it takes a whole period to teach sanitation and hygiene behaviours in schools were taken note off.

3.3.8 Tools of Data Collection

Questionnaires were designed to solicit information from teachers in the selected schools. These questionnaires were designed in such a way that they gave clues to the respondents as to what is demanded without any ones guidance. Questionnaires can either be close-ended or open-ended. With the open-ended questions respondents answer questions without being restricted whiles with close-ended questions restricts respondents of the choice of their alternatives or answers. Open-ended questions

were therefore designed for the teachers. The reason for using open-ended questions was not to restrict teachers in answering the questionnaire.

Interviews were conducted on the SHEP co-ordinator, PRONET co-ordinator and the officers at the Municipal Assembly. Interview schedules were used as a guide to elicit information from them. This method made it possible for the researcher to have an eye contact with respondents to get the required responses. An interview is one of the best methods of eliciting information from individuals; as such the researcher used it to seek information from the SHEP co-ordinator to ascertain information on how her position influences hygiene behaviours in schools. Also, it was also used to gather information from the project coordinator of PRONET on the terms and conditions on the provision of rain water harvesting containers, the state of sanitation in schools and generally services they offer to schools and the communities within which the assisted schools are found. The officers were asked the kind of services that is rendered to schools by the Municipal Assemble. Though interviews are said to be expensive and time consuming, it produces a higher response rate and further allows the interviewer to clear up any misunderstandings about any of the questions on the schedule.

A focus group discussion (FGD) guide was also used during the focus group discussion sections. This method really gave respondents the chance to collectively air their views on the subject matter. Girls from selected schools were engaged in a discussion to solicit information from them concerning sanitation and hygiene and how it impacts on their learning. These groups however, are usually homogenous in nature and range between seven to twelve members. Gray (2004), asserts that focus groups are less expensive and can reduce the chance of non-response to zero.

3.4 Data Analysis

Data analysis enables the researcher to “manipulate” with the data obtained during the study in order to assess and evaluate the findings and arrive at some valid, reasonable and relevant conclusions (Miles and Huberman, 1994). The qualitative data that was collected, the researcher edited it and checked for mistakes to ensure uniformity for the forms of methods employed. The qualitative data was again grouped into similar themes based on the objectives of the study and coded. For the quantitative data, various responses from respondents were coded and resultant tables were generated to facilitate the analysis. Also, frequencies and percentages were therefore used to present the information of the quantitative data.

3.5 Conclusion

This chapter described the study area and the research methodology. The next chapter deals with analysis and discussion of the data.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the data and discusses the findings of the study. The data was collected from girls in JHS in Wa Municipal, teachers in the JHS, a SHEP co-ordinator at the Municipal Education Office (MEO), an officer from PRONET as well as sanitation officers at the Municipal Assembly. The chapter is organised into parts: demographic characteristics of respondents, the state of sanitation and hygiene in schools, access to sanitation and hygiene facilities, coping strategies associated with sanitation and hygiene and the effects of school sanitation and hygiene on girls' education.

4.2 Demographic Characteristics of Respondents

There are four categories of respondents. About 98% of the respondents were JHS girls and constituting the majority of the respondents. The rest of the respondents included teachers and officers from GES, PRONET an NGO and officers at the Municipal Assembly.

From the demographic characteristics, most of the respondents were adolescents and pupils in the JHS, (1-16 age group).The few adults who form part of the total population for the study fell within the ages of (18-33). Some of the JHS girls and teachers fell within this age group. The study concentrated on the girls and particularly the adolescent age group. Girls constituted majority of the sample. It is also important to note that respondents who fell within this age group were school going children.

4.3 State of School Sanitation and Hygiene Services

One of the research questions focused on the state of school sanitation, hygiene and retention of girls in the formal educational system in the Wa Municipality. The results

are presented in terms of state of school sanitation and hygiene. Respondents were asked to evaluate elements of sanitation and hygiene such as toilets, urinals, hand washing containers, changing rooms, hygiene lessons among others in their school based on the conditions, availability and the accessibility of the facilities. Table 4.1, indicates the responses of the respondents on the state of sanitation and hygiene in schools. Also, pictures depicting the state of sanitation and hygiene in schools can be found in appendix vii of picture B and C.

Table 4.1: The state of Sanitation and Hygiene in Schools

Responses	Frequency	Percentage (%)
Excellent	15	5.1
Very good	20	6.8
Good	20	6.8
Satisfactory	27	9.3
Poor	160	55.1
Very poor	48	16.5
Total	**290**	**100**

Source: Field survey, May 2015.

The results from table 4.1 indicates that majority of respondents, (55%) rated sanitation and hygiene in schools as poor. This can be attributed to the poor nature of the sanitation situation in the municipality which is due largely to the lack of basic sanitary facilities and lack of teaching of hygiene practices in schools. The lack of these facilities as indicated in appendix vii of picture A deter most girls from school during menstruation as indicated by (Sidibe, 2007) that girls of school age, especially after puberty, are often faced with inadequate sanitation facilities at school, which poses problems during menstruation that frequently lead to poor attendance school

absence. It has been shown that improving school sanitation may help girls to stay in school (Sidibe, 2007).This implies that when WASH facilities are greatly improved and provided in their rightful quantities, then attendance of girls to schools will be regular and this will lead to improvement in girls school attendance.

In the focus group discussion (FGD) in Charia, a girl confirm from the results gathered by describing the state of sanitation in her school as follows;

> *"Once every week, we are checked at assembly by our teachers for cleanliness. It is always checking of our nails, teeth, bushy hair and uniforms. Nothing else is said concerning our health besides these mentioned. We need to learn more about health issues so that we can also teach our brothers and sisters at home. Aside this I don't like the state of sanitation in my school because it is unpleasant and so does not encourage most of us to come to school when menstruating. At other times too, we ignore all these problems and come to school knowing very well that this particular day will be a bad day"*(JHS girl FGD at Charia May 2015).

In an interview with the SHEP coordinator at the Municipal Education Office, she had a similar version and described the state of school sanitation and hygiene in the Municipality as follows;

> *"The sanitation situation in schools is not impressive. In short, one can say it is a fair situation or even grade it as poor. Because most schools lack common basic sanitary facilities like water, toilets, hand washing facilities and many others. Aside this, hygiene lessons are no longer taught in the classrooms. Rather, it is taught briefly at assembly and mostly it is checking of bushy hair, long nails and dirty uniforms. In actual fact, hygiene entails a lot more than what is done at assembly. Years past, hygiene was taught both at assembly and in the classroom. What is also done at times is that health teachers give in-service training on health issues from time to time. Finally, the facilities are not encouraging at all" (*Key informant, MEO Wa, May 2015).

However, from observations the story was not different; most schools that were visited lacked many sanitation and hygiene facilities. For instance in, Nusrat Jahan Demonstration JHS, a school right in town did not have a source of drinking water or a toilet facility they depend on their neighbours for such facilities. They usually draw water from their neighbours and make use of a toilet facility that belongs to a

neighbouring school. Very often than not, pupils defecate in the bushes around the school, making the environment polluted with unpleasant smell. Further observations showed that two or more schools in the same location shared a toilet facility indicating that, the Latrine-to-student ratios in most schools within the Municipality is not encouraging, since girls have exceeded the recommended ratio by WHO, (2009) that 1:25 for girls and 1:30 for boys. The ratio observed was 1:32 students per toilet hole, limiting privacy for young girls. In addition, the lack of soap in schools continues to pose a problem even for schools which successfully maintain other infrastructure.

It is important for all schools to possess sanitation and hygiene facilities. Some of the schools that had sanitation and hygiene facilities, they were in a bad state due to the lack of maintenance. The inability to maintain these facilities has largely led to the poor nature of sanitation and hygiene in schools. Not being able to provide these facilities in quantity and quality is as a result of inadequate financial resources to provide them. The (WHO, 2004) affirms that there is the need for all schools to possess these facilities.(WHO, 2004) further stressed that it is important for every school to acquire sanitation facilities in both quality and quantity in order to encourage girls' attendance in school. Poor sanitation, water scarcity, inferior water quality and inappropriate hygiene behaviour are disastrous for young children and are a major cause of mortality for children as well.

A girl at Busa JHS had this to say in a focus group discussion concerning the state of sanitation and hygiene and non-maintenance in her school.

> *"We go into the bush when we want to defecate because the toilet in our school is in a bad state because of lack of maintenance. We are used to it because even in our houses there are no latrines. Please but one important thing is that our lives are in danger because of risk of snake bite and stinks of scorpions in the bush. That aside, we miss*

> *some part of our lessons due to the distance we walk into the bush for open defecation*" (JHS Girl, FGD, Busa May 2014).

Further observation proved that, some sanitation and hygiene facilities in some schools were sited far away from the schools limiting physical access. Also, access to sanitary facilities is low due to lack of infrastructural development. Aside this, the non-availability of these facilities to a larger population in almost all schools in the Municipality has resulted in pupils drinking unclean water and defecating in nearby bushes around the school premises. Lastly, some of the schools shared facilities with others. The issue of children drinking unclean water confirm that over (50%) of schools do not have access to potable water.

At a focus group discussion at Biihee a girl gave her response on the same issue of accessibility as follows;

> *"The toilet is too far from the school compound so any passer-by can harass anyone if the person is alone. So sometimes when I am going to toilet I ask my friends to accompany me mostly during break time, but if lessons are going on and I am hard pressed, it means I have to go alone which causes fear in me. Also, part of the toilet has cracked from the top to down but it has not fallen off so due to this most of the pupils prefer going to toilet in the bush than in that toilet facility. We also do not have enough water in school to clean ourselves and change our sanitary pads and wash our hands as well. The water containers are not many and aside that we draw water from the community borehole which is far from the school. We at times run home before closing and do not return until the next day. Having access to personal hygiene lessons is also absent in the classroom. It is only done at assemble ground. We need more education on health issues*"(JHS Girl FGD, Biihee May 2015).

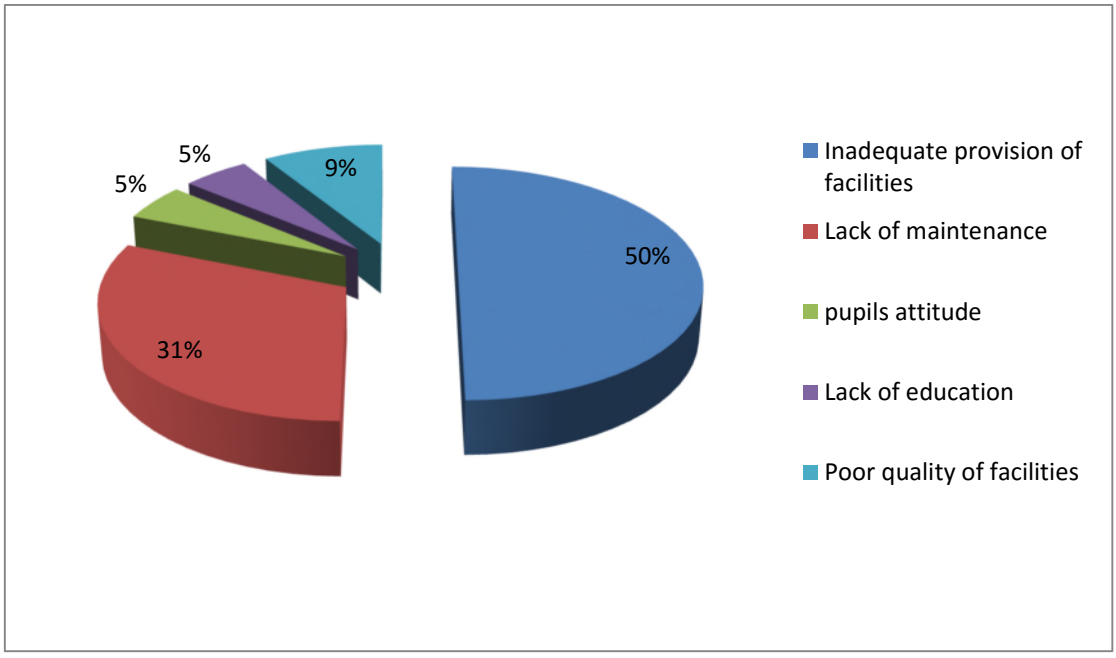
According to one of the male teachers in Jujeidayiri he said; sanitation and hygiene these days has been one of the social issues government and other NGOs are trying to solve. The provisions of sanitary facilities to most schools have been of great concern but the teaching of hygiene in classrooms has been forgotten. The sanitary aspect is of much concern, the poor state of sanitary facilities do not encourage girls to stay in schools. So the implication is that most girls will not enjoy hours spent at school and

will prefer to stay away from school (Key informant, Jujeidayiri May 2015). This goes to support the argument of (WHO, 2004) that the conditions of poor sanitation, water scarcity among others are also detrimental to the health of school-aged children, who spend long hours in schools. This results in girls staying away from school.

4.4: The Causes of the State of Sanitation and Hygiene Facilities in Schools

Another objective of the study is to find out the numerous factors that caused the state of sanitation and hygiene in schools in the Municipality. The study revealed that these factors are not caused by just an individual but rather contributed by the pupils, the Municipal Assembly and authorities in education. Figure 4.1, indicates the responses of the respondents on the causes of the state of sanitation and hygiene in schools.

Figure 4.1: causes of the state of sanitation and hygiene in schools



Source: Field survey, May 2015

4.4.1 Inadequate Provision of Facilities

Figure 4.1 shows the causes of the poor state of sanitation and hygiene in schools. According to the study, 50% of respondents revealed that it is as a result of the inadequate provision of facilities that lead the poor state of sanitation and hygiene in

schools. The implication being that this poor state of sanitation can expose pupils to some sickness once the environment equally exposed to lots of hazards, this means that parents will be forced to spend the little money they have on pupils' medications. Aside this, girls' school days will be affected as well as their performances once they miss school due to illness. This finding is not different from the argument of Zwane and Kramer, (2007) that poor sanitation and hygiene weaken Africans through disease, disruption of the environment, exacerbate poverty through medical cost and lower productivity, and rob the poor and vulnerable of dignity. WHO, (1995) stresses that Poor sanitation in schools impairs children growth and development? It also limits school attendance and retention of students and negatively affects student's ability to concentrate and learn. In another dimension WHO,(2004) argues that girls and boys are likely to be affected in different ways by inadequate provision of water, sanitation and hygiene conditions in schools and this will contribute to unequal learning opportunities.

> *"One of the sanitation officers at the Assembly confirmed that facilities are actually not adequately provided due to lack of resources. He mentioned that the assembly is aware of the inadequate provision of these facilities and that the problem will be solved gradually if funds are available"*.(Key informant, Sanitation Officer Municipal Assembly May 2015).

4.4.2 Lack of Maintenance of Facilities

Results further revealed that not only inadequate provision of facilities caused the sanitation situation in schools, but also the lack of maintenance of these facilities resulted in the poor state of sanitation in schools. On figure 4.1, about 31% of respondents confirmed this to be another issues affected the state of sanitation in schools. The lack of maintenance of facilities due to lack of resources has always put facilities in a very bad shape as such has compelled girls according to the study to

exhibit poor hygiene behaviours in schools. O'Rrilly et al., (2008) came out with a similar finding that in many low income settings, water and sanitation facilities at schools are frequently in bad condition or non-existent, with often poor practice of hygienic behaviour among students. These conditions can be attributed to many factors. Technologies and approaches applied in the schools may be culturally inappropriate, too expensive, and top-down. There may be inadequate and irregular funding for maintenance. Further findings showed that girls stay away from school during menstruation once they do not have their privacy when they come to school in times of menstruation. Pictures D and E in appendix vii indicates the kind of facilities that are found in schools in the Municipality.

4.4.3 Lack of Education and Pupils' Attitude

The lack of education on sanitation coupled with pupils attitude were said to be some of the causes of the poor state of sanitation and hygiene in schools. On figure 4.1 results showed that an insignificant number 5% of respondents each for the lack of education and pupils attitude said these factors contributed to the poor state of sanitation and hygiene in schools. Taking a critical look at the results shows that these are not the major causes of the problem, but in actual fact these factors can go a long way to affect girls in different ways because education in whatever form is an essential in every aspect of life as Joel Mokyr, (2002) equates increasing knowledge of the importance of cleanliness and sanitation in the nineteenth century with the effects of the Industrial Revolution. Joel further noted that previously, disease was associated with poverty, but the reality is that lack of education can render pupils ignorant making them exhibit certain bad attitudes both at school and at home.

4.4.4 Poor Quality of Facilities

The final result on the causes of the poor state of sanitation and hygiene in schools revealed the poor quality of facilities. On figure 4.1, about 9% of respondents revealed that this is partly caused by the poor quality of facilities. Sanitary facilities have been revealed to be inadequately provided. When facilities are not provided taking note of the quality, they will not last long no matter the quantity provided. It is important to note that sanitary facilities need to be provided in quality and quantity in order to meet the sanitary needs of girls and also ensure that facilities last long and as well prevent certain diseases. It is in line with the argument of (UNICEF, 2006) that Poor quality and insufficient quantity of water for basic hygiene combined with lack of access to improved sanitation, together lead to the vast majority of diarrheal diseases.

4.5 Availability of Sanitation and Hygiene Facilities

From the field, respondents were asked to mention the type of sanitation facilities that are available and those that are available in the schools studied in the Municipality.

Table 4.2: Availability of Sanitation and Hygiene Facilities in Schools

Types of facilities	**Availability**		**Non Availability**		**Total**	
	Yes		**No**			
	№	**(%)**	**№**	**(%)**	**№**	**(%)**
Toilets	98	34	192	66.2	290	100
Urinal	187	64.4	103	35.5	290	100
Hand washing facilities	40	13.7	250	86.2	290	100
Dust bins	100	34.4	190	65.5	290	100
Changing rooms	0	0	290	100	290	100
Potable water	120	41.3	170	58.6	290	100

Source: Field survey, May 2015.

Table 4.2 depicts the type of facilities that were reported to be available and accessible and those that were not available in the schools studied. These facilities

include; toilets, urinals, hand washing containers, dust bins, changing rooms and potable water.

4.5.1 Availability of Toilets in Schools

Table 4.2 shows availability of facilities in schools. The first sanitation and hygiene facility that is not available and therefore not accessed easily by girls is a toilet facility. Results from the field show that (66%) of girls do not have a toilet facility. There is every indication that, once some schools do not have such a facility, they go into the bush that is close to the school to defecate. In probing to find out whether girls did not have a toilet facility or it was as a result of the poor condition of the facility that discouraged them from using the facility, they responded as follows; those who do not have a toilet facility were (61%) and have been using a near plot as their place of convenience. confirming this, DeGabriele, Keast & Msukwa, (2004) argued that some schools have specifically demarcated a particular place that is a little far from the school environment for defecation to help solve the problem of a formal toilet facility. DeGabriele, Keast & Msukwa further stated that, if schools have no formal toilet facilities, it is probably best to improve the existing system (e.g defecation fields) and continue using that system until a sufficient number of toilets are available to provide accessible and hygienic facilities for everyone. Some girls (21%) also reported that it was available whiles very few girls (8%) had access but the condition of the facility discouraged them from using it.

It was also observed that toilet facilities were all not structured according to standards of (WHO, 1997) that a toilet is not complete without a hand washing point with soap, water and adequate drainage. For most of the schools their toilet facilities were nowhere close to the standards of WHO to incorporate the exhibition of good hygiene practices among girls. There were schools that had the toilet facilities but did not have

the facilities recommended by WHO to compromise their standards to help keep girls in school and discourage truancy as well, as girls themselves confirmed that inadequate facilities encourages truancy during menstruation.

As for the PRONET coordinator he had very little to say concerning accessibility of facilities by girls in schools. This was how he reacted when the question was posed to him;

> *"The availability of facilities in schools has been a problem, as a result PRONET has helped so far, and the schools were faced with a lot of challenges before they were provided with those facilities. I am not a teacher but I believe that most pupils especially girls will find it difficult to cope with these challenges. I have also seen toilets in some schools which are in a very good condition and I believe that pupils will prefer to make good use of the bushes around the school premise which is popularly known as 'free range"* (Key informant, PRONET Wa May 2015).

4.5.2 Availability of Urinals in Schools

The second sanitation and hygiene facility that was available and easily accessed by girls was the urinal. Results from table 4.2 revealed that (36%) of girls did not have urinals in their schools which is as a result of inadequate resources to provide urinals in schools. From the analysis (64%) of girls reported that they had urinals, but as to whether these facilities were built taking into consideration the girl –friendly environment was of concern. In probing to find out whether girls had separate urinals sited away from that the boys, about 95% said urinals were build together with a partition in the middle. Owing to this result, the research shows that most school environment in the Municipality is not what they should be. A girl-friendly environment can increase girls' school attendance and retain them in school because girls will have a sense of security. Water aid Nepal, (2009) confirms that, the presence of sanitary products, safe and clean toilets, and sufficient water go hand in hand. Each contributes to the creation of a clean, safe, and girl-friendly school. Sommer (2009)

reports on girls' perceptions of security and privacy. For example, in qualitative research exploring girls' reasons for absenteeism, schoolgirls in Malawi and South Africa have admitted they stay at home during menstruation, sometimes pretending to be sick, due to the conditions of toilets and water at school, feeling unwell, privacy and fears in contexts of HIV/AIDS (Sommer,2009, McPhedran, 2010).

This is mainly related to their greater need for privacy. Studies have found a relationship between school sanitation and girls' attendance. Very often separate facilities are requested. There is the need for all schools to have toilets and other facilities for both sexes to conceal female privacy and also keep them in school as affirmedby(Abioye-Kutei,2000;ones&Finlay,2000;Fakeye&Egade,1994;Deo,2007).A recent DFID-funded systematic review (Birdthistle et al., 2011) has a different view about separate facilities for boys and girls. It was found that there is currently no evidence in the peer-reviewed literature for, or against the hypothesis that well-maintained separate toilets for girls may increase school enrolment and attendance for girls – even after they reach menarche. More research is needed in this area to investigate the impact of separate sanitation and hygiene facilities for boys and girls on their enrolment and attendance.

A girl at charia JHS confirmed this in a FGD. She shared her view as follows;

> *"There are two urinals in my school but I do not use any because it is not separated from that of the boys. I am not always comfortable when I am using it for fear that boys might hide to look at me from their side and also for fear of contracting a disease. Every morning the urinals are always kept clean but towards the afternoon, they get dirty and smell. I am not the only one who do not use the urinals, I know two other friends who have joint me to urinate at the back of the building of the urinal. We hide to urinate at the back of the urinal pit but the day one is caught, instantly you are punished. However, I prefer to be punished for urinating behind the urinal pit than to contract a disease"* (JHS Girl FGD Charia, May 2015).

A female teacher at T.I Ahmadiyya JHS in her interview confirmed what the girl at Charia JHS said. She gave her contribution as follows;

> *"Frankly speaking these urinals get flirty and smell towards the afternoon time and poses as a threat to their health. I am a teacher in that school but just like the girls who have abandoned the urinal and use the back of urinal, I also do that any time I go to urinate and especially on days that I am menstruating because I might spoil the urinal and will probably not have enough water to clean the place. I know that if not for the fact that pupils are punished for that act, most of them would prefer to urinate at convenient places"* (A female teacher in T.I Ahamadyya JHS, May 2015).

3.5.3 Availability of Hand Washing Facilities in Schools

The third facility the research sort to find out whether girls had was, hand washing facilities. These facilities help to maintain personal hygiene among girls in schools. The results from table 4.2 indicated that facilities for washing hands were not in existence in most of the schools. As a result of the lack of resources, (86%) reported that they did not have hand washing facilities, such as water, soap and napkins. Only (14%) confirmed that they had such facilities in their schools.

However, observation gave a different picture to what was reported by girls. In most of the schools, hand washing facilities were not complete. In other wards they did not meet the required facilities meant to promote hygiene behaviours in pupils. The reason is that some schools provided water and soap without a napkin, some other schools provided only water for washing of hands and the last observation made was that others did not even have containers for washing hands.

In confirmation to the results, a girl at Biihee in a FGD gave her experience as follows;

> *"As at last year, our teachers provided each class with hand washing containers and soap but without a napkin. Any way it was a good idea but unfortunately, it could not be sustained for a long time because at the time these facilities were provided, pupils missed used them. For instance, soap never lasted for three days and besides that, the water*

> *in the containers was always too dirty and there was no fresh water set aside to rinse your hands after washing in the soapy water. I think that if proper hand washing procedure is not followed pupils will fall sick at the end of the day"(*JHS Girl FGD, Biihee May 2015*).*

The SHEP coordinator at the MEO in an interview further gave her confirmation on this issue as follow;

> *"On my rounds to perform my normal duty, the kind of water that pupils used to wash their hands was not clean and pupils did not change it from time to time. Besides this, so many schools I visited did not even have containers, soap and napkins to make children practice and exhibit good hygiene behaviour. I realised that most of the schools have not taken hand washing after defecation and after eating as a priority and so for that matter do not provide these facilities for the pupils. The teachers I met on my rounds confirmed that, parents are not ready to help them run the schools so the little money they get, they prefer to use on other things than to buy these facilities.(Key informant SHEP coordinator MEO, Wa, May 2015).*

4.5.4 Availability of Dust Bins in Schools

The fourth on the list on the types of facilities that are available in schools are dust bins. The research found out that in most of the schools there were no dust bins. The results on table 4.2 shows that (65%) of schools have no dust bins. This is as a result of the inadequate sanitation and hygiene facilities being provided by the schools and Municipal Assembly.

In an interview with a female teacher at Jahan Demonstration JHS, she confirmed the inaccessibility of dust bins as follow;

> *"I have been having problems with pupils who litter indiscriminately around the school environment. Though pupils do not have access to dust bins that does not mean rubbish should be disposed anyhow. There has been a site where pupils should dispose their refuse but the indiscipline these days has brought about this indiscriminate throwing of rubbish around. I think Municipal assemblies should support the schools with dust bin to be kept at vantage points to make the environment clean. But I even wonder if pupils will make use of these dust bins if they are provided*"(A female teacher in Jahan Demonstration JHS Wa, May 2015).

In one of the rounds of the researcher, information gathered showed that more than half of the schools in the Municipality did not have dust bins as such makes the environment dirty immediately after the first break. With reference to table 4.2, 65% of schools did not have dust bins so this encourages indiscriminate littering of the school compound. Further discussions with some of the teachers revealed that information reaching them from the MEO indicated that the Municipal Assembly had plans to distribute dust bins to some schools in the meantime.

A JHS pupil in a focus group discussion at Mangu JHS had a contrary view on the accessibility of dust bins in her school. She had this to say

> *"In my school, there are a lot of dusts bins that should be used by all pupils. I usually put refuse in them but some pupils drop refuse on the ground. The school compound is always dirty even though dust bins are placed at various points in the school. The environmental prefects use to punish pupils who litter the compound but of late, they have relaxed in their duty making room for pupils to become indiscipline and not exhibiting good hygiene behaviour. I always try to educate my friends on the benefits of using a dust bin, but they tease me any time I talk about it*" (JHS Girl FGD, Mangu May 2015*).*

4.5.5 Availability of Changing Rooms

The fifth type of facility that was not available in the list of sanitation and hygiene facilities in schools was changing rooms. Girls need this facility to have their privacy anytime they are menstruating. From table 4.2, girls reported that there were no changing rooms in any of the schools in the Municipality. The results revealed that (100%) of schools did not have such a facility in the Municipality

Observation from the field revealed that schools visited did not have access to changing rooms as a result of the absence of this facility. This affirms the results gathered from the field which states that (100%) of girls responded that changing rooms were inaccessible thereby infringing on the privacy of girls.

The results serve evidence that important basic sanitation and hygienic facilities like changing rooms are lacking in the study area. Surprisingly, no such rooms are available in the study area as indicated from the study. Irrespective of how or where they change in the absence of a changing room, girls suffer the most. A similar argument is made by (Claeson et al.,2000; Mitra et al., 2000;Ahmed et al., 2000) that girls are a vulnerable group at risk of suffering, particularly if water, sanitation and hygiene conditions are poor. However, retaining girls will demand that sanitation and hygiene be improved in schools as indicated by (Sidibe, 2007) early in the discussion that improving school sanitation may help girls to stay in school. Aside this, it is clear from the study area that girls attach importance to their privacy so the common usage of such facilities would stir a high sense of insecurity in girls, resulting in poor school attendance and retention.

In educating girls to achieve their future dreams of becoming economically resourceful, sanitation and hygiene facilities have to be provided in quantity and quality to motivate girls to attend school regularly as indicated by (Sidibe, 2007) that improving school sanitation may help girls to stay in school. On the contrary, (Save the children ,2005) disagrees with the argument raised by Sidibe and added that for girls to successfully complete primary school and move on to secondary education, they require more than water and sanitation at schools but then these two are critical inputs into better schools.

Just as this observation was made, a JHS girl at kpongu in a FGD gave her contribution as follows;

> *"I have never heard of changing rooms because in my school, there is no such facility so most of us do not know the essence of this facility until you mentioned it to us. I mostly use the bush or urinals as my changing room, likewise my friends. Also any time I am menstruating and want to change my pad or any day we have to change in our P.E attire for a practical lesson, the bush and urinals are the best places*

for this. There are also times where teachers will ask all the boys to leave the class so as to give the girls privacy only to change in their P.E attire"(JHS Girl FGD, Kpongu May 2015).

4.5.6 Availability of Potable Water in Schools

The last item on the facilities that are not available to pupils is potable water. Results from table 4.2 show that a significant number (58%) of girls reported that they did not have potable water in their schools. This shows the lack of resources to provide adequate potable water in schools. Potable water is an essential component of every form of life. It is clear from the study that potable water provision in schools is highly inadequate, but water is needed for good hygienic practices and also the retention of girls in school as reviewed in chapter two; (Biran et al., 2008; Schmidt et al., 2011). Improved access to water facilitates hygiene(WHO, 2004) also attest to the fact If everyone in the world had access to a regulated piped water supply and sewage connection in their houses, 1863 million days of school attendance would be gained due to less diarrhoeal illness.

In confirmation to what has been found out, a female teacher at Jujeidayiri JHS also had this to say in her interview concerning the issue of accessibility of potable water. Below is her view she expressed;

> *"Availability of facilities is a big challenge to the schools, as such it has made children to make use any available water around their school to relieve themselves some most of the time wait until they get home. The little water they fetch, sometimes get finished before second break. When there is no water in the school, children cannot wash their hands and disease spread rapidly through crowded classrooms. Many of these children lack access to safe water at home too, and often suffer from chronic diarrhoea and host intestinal parasites that stunt their growth. None of these conditions make learning pleasurable or easy. Also Poor quality and insufficient quantity of water for basic hygiene, combined with lack of access to improved sanitation, together lead to the vast majority of diarrheal diseases and finally girls stay away from school as a result of the ailments they will contract"(* A female teacher, Jujeidayiri JHS Wa, May 2015).

A JHS girl in the same school also gave her contribution backing what the teacher said. Her contribution is as follows;

> *"In Jujeidayiri JHS, we do not have access to our own potable water. Though we get water from our neighbours, it is sometimes very difficult to come by the key they use to lock the tape. So it means for this particular day after struggling to fetch water elsewhere, it will not be enough for the day. To be frank, for me when there is no water, I do not suffer to search for it to wash my hands after defecation, the little water that I get, I always prefer to drink it than to use it to wash my hands because most of the time I do not bring money to school to buy pure water"*(JHS Girl FGD Jujeidayiri, May 2015*).*

4.6 Number of Hygiene Lessons in Schools

Another limiting factor is the lack of hygiene education through lessons in classrooms as part of formal system of education. The results showed that hygiene lessons were practiced during morning assembly session. For instance at Demonstration JHS, hygiene lessons are usually treated at assembly ground and this method of impacting behaviours to pupils applied to almost all the schools in the Municipality.

Table 4.3: Number of times hygiene lessons are taught at assembles.

Number of hygiene lessons	**Frequency**	**Percentage (%)**
Once in week	198	68.2
Two times a week	77	26.5
Three times a week	15	5.1
Four times a week	0	0
Total	**290**	**100**

Source: Field Survey, May 2015.

It was also found out that hygiene lessons did not reflect on the time table in the schools visited rather, Basic Design and Technology lessons (BDT) captured a little on hygiene issues. Data gathered on this subject matter gives a true reflection of responses of the respondents as indicated on table 4.3.

Table 4.3 depicts the number of times hygiene lessons are taught at assembles instead of the classrooms where much time could be dedicated to the issue. It is so serious to note that about (68%) of the respondents said they received their hygiene lessons at assemble just once a week and very often it's on Mondays or towards the end of the week. Another (27%) indicated that lessons on personal hygiene were received twice in a week. The study further sort to find out whether the schools were able to maintain the number of times mentioned that hygiene was taught? About (73%) responded 'Yes' and (27%) said 'No'. It implies that the number of times hygiene lessons are taught at assemble in a term was consistent throughout the term or year.

Schools are intended to teach fully the integrated life skills and hygiene education but findings revealed that life skills and hygiene education were no longer taught in schools. In this light, it is important that each school develops adequate knowledge, attitudes and skills on hygiene through life skills-based hygiene education and child participation. Full participation of children in hygiene lessons will help to be actively involved in the life – skills based programme therefore leading to their retention in school. Teaching and improving hygiene behaviour must go along with toilet construction and the provision of safe water and washing facilities in schools (WHO, 2003). Life skills-based hygiene education rests on the principle that new knowledge does not, by definition, translate into new practices. Therefore, life skills-based education seeks to instil hygiene practices into the realities of children's daily lives, helping them acquire the knowledge of appropriate hygiene behaviours and the skills to use them. This approach considers the learning differences of various stages of child development and addresses them in the programme design, allowing children to effectively transform knowledge into practice. It is equally important to teach children hygiene practices or catch them young with health education because that stage is

crucial and most of the times many of them become mothers at a young age. (Save the children, 2005). Stresses, children need to have knowledge on their lifestyle.

Also from a focus group discussion, it was clear that towards the end of the term the lessons are usually not effective as compared to the beginning or middle of the term. At Mangu JHS a participant at the focus group discussion could not hide her feeling concerning the issue, and this was what she said;

> *"In this school our lessons are not effective since it is mostly taught at assemble because there is always not much time to deal so much into hygiene issues, other things are done at the same time too. Also most often than not, it is always a repetition of the previous week's discussion on health issues so it does not play any important role in our lives. I think if much time is dedicated to it, we will be enlightened more on issues of personal hygiene*" (*JHS Girl FGD, Mangu, May 2015).*

Another issue that came up was a concern raised by a discussant at Kpongo JHS pointing to the number of hygiene lessons on the time table. This was what she said;

> *"There are no hygiene lessons on our time table. It is only taught at assembly and almost all the time, the same things are talked off instead of tackling the holistic nature of hygiene to promote good hygiene behaviour. Strong hygiene education awareness is needed in the school to ensure replication of the sanitation component. One area of intervention could be the promotion of SSHE through the formation of school health clubs (SHCs). She insisted that if these clubs are formed by all schools, they could encourage positive health and hygiene practices but unfortunately, these clubs do not exist in most of the schools to help change our behaviour'. We need more education than what we are receiving"(JHS Girl FGD, kpongu May 2015).*

4.7 Coping Strategies of School Sanitation and Hygiene among Girls

Findings revealed that girls adopted multiple coping strategies for dealing with the challenges of poor sanitation infrastructure. It further revealed that most of the schools that were visited did not put in place measures for dealing with the sanitation and hygiene needs of girls. The results show that pupils have adopted some coping strategies for dealing with the lack of sanitation facilities. These common coping strategies adopted by girls include the following; staying away from school

completely during menstruation until the period is over, absconding from school when they feel uncomfortable, resorting to open defecation free (ODF) to change their sanitary pads any time they are menstruating and use the facilities that are in poor condition.

4.7.1Staying Away From School Completely in Times of Menstruation

Information on common coping strategies from the field which girls reported to have adopted regarding the poor sanitation conditions in schools as presented on table 4.4 shows that girls have adopted in order to meet the inadequate sanitation and hygiene needs in school is that girls stay away from school completely any time they were menstruating.

Table 4.4: Coping Strategies of School Sanitation and Hygiene among Girl

Coping strategies among girls	**Yes**		**No**		**Total**	
	№	**(%)**	**№**	**(%)**	**№**	**(%)**
Stay away from school	175	60.3	115	39.6	290	100
Abscond from school	167	57.5	123	42.4	290	100
Open defecation	170	58.6	120	41.3	290	100
Use facilities in bad condition	140	48.2	150	51.7	290	100

Source: Field Survey, May 2015.

From the field survey, results show that pupils stayed away from school during menstruation as a way to deal with the lack of sanitation and hygiene facilities in school. From the analysis about 60% of respondents reported that they stayed away from school completely any time they were menstruating was a strategy adopted by girls to deal with the state of sanitation and hygiene in schools. Only 40% manage with the existing facilities that are available. This finding is similar to the finding of (Sidibe, 2007) that girls of school going age, especially after puberty, are often faced

with inadequate sanitation facilities at school, which poses problems during menstruation that frequently lead to school absence. This is an indication that when sanitation and hygiene facilities are not adequately provided, it affects girls' school attendance and learning.

The results on table 4.4 goes to confirm the information gathered during the focus group discussions. A participant at a FGD in Kperisi JHS remarked on this issue as follows;

> *"There are actually no laid down rules set aside in the school to encourage girls to go school regularly. I always come to school every day but stay away from school completely on days that I have my menses because I find it difficult to cope with the problem of having to change my pad in a toilet that we share with the boys. She also said that the boys are always at their side whiles listening keenly to whatever that is going on at our side or even at times one of the boys will intentionally enter our side and pretend as if that was his first time of using the toilet. I am also always afraid that I might soil my uniform so due to this I don't come to school on such days. This again implies we are really faced with a lot of problems in terms of sanitation and hygiene which most of the time deter me from attending school any time I am menstruating or when I have a running stomach".(* JHS Girl FGD, Kperisi May 2015).

One other girl's view at Busa JHS during another FGD was noted as follows;

> *"Very often, we struggle so much to adapt to the situation of inadequate facilities in our school. Though, most of us do not have enough and better facilities at home, yet we find it difficult to adjust to the situation. I thought the school would have been a better place for me to enjoy the usage of sanitary facilities especially any time I am menstruating. Also, I don't even come to school for the first and second days of menstruating due to my heavy flows and the absence of privacy in my school. I know this problem does not apply to only me but to other girls in my school" (*JHS Girl FGD, Busa May 2015*).*

In an interview with the SHEP coordinator on the same issue, she also remarked that;

> *"The greatest problem that teachers face these days is absenteeism and under performance which is largely due to the lack of information on school sanitation and hygiene and the provision of sanitation facilities for schools. She stressed that there are strategies that pupils themselves have adopted to meet the challenges that they are confronted with concerning school sanitation and hygiene. These strategies include, leaving school immediately they feel uncomfortable*

*and secondly by staying away from school completely. Still on the same note, she added that girls are certain times camped and lectured on health issues. These camps are often organised by NGOs known as "girls' camp". These first strategies mentioned unfortunately exist in schools which are largely due to the fact that the subject 'personal hygiene' has also been relegated to the background of late and as such most teachers do not incorporate the subject in their lessons except the BDT teachers. Also the lack of sanitation facilities and other factors makes girls stay away from school"(*Key informant SHEP coordinator MEO, May 2015).

4.7.2 Absconding from School in times of Menstruation

The second coping strategy that has been adopted by girls to deal with the lack of sanitation and hygiene facilities in school is absconding from school any day they come to school and realise they that are menstruating. From Table 4.4, the results showed that 58% of girls affirmed that they leave school quickly and secretly any time they come to school and immediately realise that they are menstruating and feel uncomfortable as well. The remaining 42% are girls that are a little matured and can manage their menstrual issues despite the situation they find themselves. The implication of girls absconding from school as a strategy for dealing with the inadequate sanitation and hygiene facilities in school any day they are menstruating will lead to absenteeism and non- performance .As a way of avoiding embarrassment, girls leave school and go home secretly to wash and change their sanitary pads as (Oster and Thornton, 2009) affirmed that girls in general come back home from school to wash their rags and involve in self-cleaning activities during their periods. This means that when sanitation and hygiene needs are not provided at school, the home becomes a convenient place for changing and washing of their rags in order to avoid embarrassment.

Information gathered in a FGD gives a true reflection of the data found from the field survey. At Charia JHS one discussant described how she manages with the problem of inadequate facilities in the school;

> *"To be frank I like going to school and stay until closing, but days I go to school and realise that I am menstruating, I quickly leave even before closing time to avoid embarrassment. Any day I think I can cope with the inadequate sanitation situation I go to school then later, when I am uncomfortable I leave quickly and secretly knowing that the next day I will be punished for that behaviour I put up. Actually, to be punished is better than to disgrace myself in public. The fact of the matter is, one cannot rely on the school to provide sanitary pad any time there is an emergency, so I resort to this method to avoid any disgrace"(*JHS Girl FGD Charia, May 2015*).*

A female teacher at Fongo JHS had this to say;

> *"Girls in this school and other schools as well face a lot of problems in terms of sanitation and hygiene facilities. The reason is that the facilities are not of standard and even some schools the sub- standard facilities are not even there. Due to this some girls come to school and run back home any time they are menstruating. There are also times that others asking for permission, but at certain times some girls leave secretly without informing any teacher"(*A female teacher, Fongo JHS May 2015).

On the same issue a girl at Charia JHS gave a similar remark as follows;

> *"I use not to go back home any time I come to school and notice that I am menstruating because, I always carry my sanitary pad in my school bag waiting for emergencies, but one day I got to school and realised that there was no sanitary pad in my bag and on that unfortunate day I was menstruating. On this day, there was nothing I could do than to leave school quickly to the house because teachers do not keep sanitary pad at school to solve emergency cases*". (JHS Girl FGD Charia, May 2015).

4.7.3 Girls Resorting to Open Defecation

The third strategy that girls have adopted to cope with the inadequate sanitation and hygiene facilities in school is resorting to open defecation to deal with the lack of facilities. The results on table 4.4 confirms that most girls59%who neither stayed away from school completely nor abscond from school any time they feel uncomfortable in times of their menses, indicated that they resort to open defecation to attend to nature's call and to change their sanitary pads any day they are menstruating. In the study, it was revealed that most schools had urinals built but lacked toilet. According to (De Gabriele; Keast & Msukwa, 2004), urinals for girls

and women, as well for boys and men, have been used with success in some countries. That they are quicker and cheaper to build than toilets, they reduce the smells in toilets and they are easy for young children to use. Once most schools reported that they did not have toilets, most of their pupils resorted to open defecation and girls used the bush for multi-purposes, including changing their sanitary pads. Some schools have specifically demarcated a particular place that is a little far from the school environment for defecation to help solve the problem of a formal toilet facility. De Gabriele, Keast & Msukwa (2004), confirmed that if schools have no formal toilet facilities, it is probably best to improve the existing system (e.g defecation fields) and continue using that system until a sufficient number of toilets are available to provide accessible and hygienic facilities for everyone. But Harvey; Baghri & Reed, (2002) have a different view concerning open defecation and the improvement of defecation fields. He argued that defecation areas can be improved by using shallow trench latrines rather than open defecation, providing correct drainage to avoid contaminating the nearby environment, and setting up a rotation system.

It is important to note that pupils are more receptive to ideas and this most appropriately should be through motivation and education. The best institution therefore is the school where teachers can impart knowledge on pupils on the dangers of open defecation. When this happens pupils carry the information home to educate their uneducated parents, brothers and sisters on their conditioned habits from open defecation to the use of lavatory as indicated by (RCRSP, 1998).

It was further revealed that schools that did not have formal toilet facilities made good use of the bushes that is close to the premises of the school. Pupils have no choice than to defecate in the bush despite the education they have had concerning the dangers involved in this act. The awareness of providing and using latrines is an

essential component for breaking the cycle of transmission of excreta related diseases so that girls will remain healthy and attend school regularly. People must be provided with toilet facilities that eliminate their contact with human excreta and waste water by making available toilets that are convenient, affordable, clean and easily accessible to all as reported by (UN-Habitat, 2003).

Further confirmations were revealed during an interview session with the PRONET coordinator. The PRONENT coordinator gave his contribution as follows;

> *"PRONET, an NGO has taken the provision of sanitation and hygiene facilities upon itself as part of their duty to help in the provision of sanitation and hygiene facilities in some schools. For instance, the reason for which a toilet facility is usually provided to schools is to discourage pupils from resorting to open defecation. I also think the health of pupils is very important so we provide sanitation and hygiene facilities to improve their health and encourage them to attend school regularly".(*Key informant PRONET Coordinator, Wa May 2015*).*

On this same subject a girl in a FGD at Kperisi JHS gave her contribution as follows;

> *"I know that going into the bush to defecate or even change our sanitary pad is dangerous because there was a time that a girl was nearly raped by one boy in the bush, but the toilet too is not safe once there are lots of cracks on the wall. The best strategy we devised is to go in groups so that we will feel safe and secured in the bush"(*JHS Girl FGD, kperisi May 2015).

In a FGD, a discussant confirmed this as it was an opportunity to air her views. This was the view a girl in Mangu JHS shared concerning the subject matter;

> *"The popular name we have given to this third strategy is 'free range'. It is actually free because the land is vast, full of fresh air and free from any disease unlike the public toilet .I do not like using the school toilet because of the heat that comes out of the toilet. At the same time when I use the toilet without freshening up, my whole body turns to have a very bad scent which makes me uncomfortable to mingle with my friends. Also with this heat in the toilet, one can easily be infected with some kind of a disease so these are the reasons why I do not use the toilet facility in my school likewise my friends"(* JHS Girl FGD, Mangu May 2015).

When one of the female teachers at Jahan Demonstration JHS was asked the same question, she gave her view as follows;

> *"Pupils in this school have no option than to use the bush whenever they want to defecate. The girls also use the bush around the school premises to clean and change their sanitary pads because there is no single toilet built for the school to serve both primary and the JHS. In fact, the teachers and pupils are suffering because any time we are hard pressed, it means we just have to compete with the pupils in the bush to defecate. I pity the female teachers and the girls because this time they no longer talk of their privacy when it means they have to clean and change their sanitary pads"(*A female teacher Jahan Demonstration, May 2015).

4.7.4 Using Existing Facilities

The last strategy that girls have adopted to deal with the lack of sanitation and hygiene facilities in the school is making use of the existing facilities in the school despite their condition. The results on table 4.4 show that very few girls risked their lives to use the existing facilities. Though these facilities were in a poor state, girls still used them which are ways of dealing with the lack of improved sanitation and hygiene facilities in school. From the analysis, (48%) of girls reported that they used the facilities that were in school despite their condition. Girls further reported that they had no choice than to make use of the facilities that were inadequate and yet not well maintained to meet their needs. Most girls complained that the urinals and toilets are most of the time filthy that is, immediately after first break and so due to this most girls go back home without urinating or visiting the toilet during schooling hours. This case is similar to a survey carried out by (UNICEF, 2002) in Senegal which revealed that cleaning was done once a week and that, the latrines were very dirty. The girls explained that this is why they did not use them and their mothers warned them not to urinate at school. To avoid urination they tried not to drink during school time. It is clear that girls mostly do not urinate or defecate at school due to the bad state of the facilities, but this way keeping this faecal matter for a long time could affect the system in way. Aside that, girls will lose concentration once they might be hard pressed to nature's call.

At kpongu JHS a girl gave her experience as follows.

> *"I am a girl from a home that do not have facilities that are better than these facilities in school, so I dare not stay away with a reason that the facilities are not there .At home, I use the public toilet because my parents have not been able to construct a private toilet for the family, so the facilities in school are even better than those in the house. In this case I have never stayed away from school except for the reason that I may be sick, but my staying away will not be due to the poor nature of sanitation and hygiene facilities in my school. I also try as much as possible to manage with the poor nature of facilities in school". (*JHS Girl FGD Kpongu, May 2015*).*

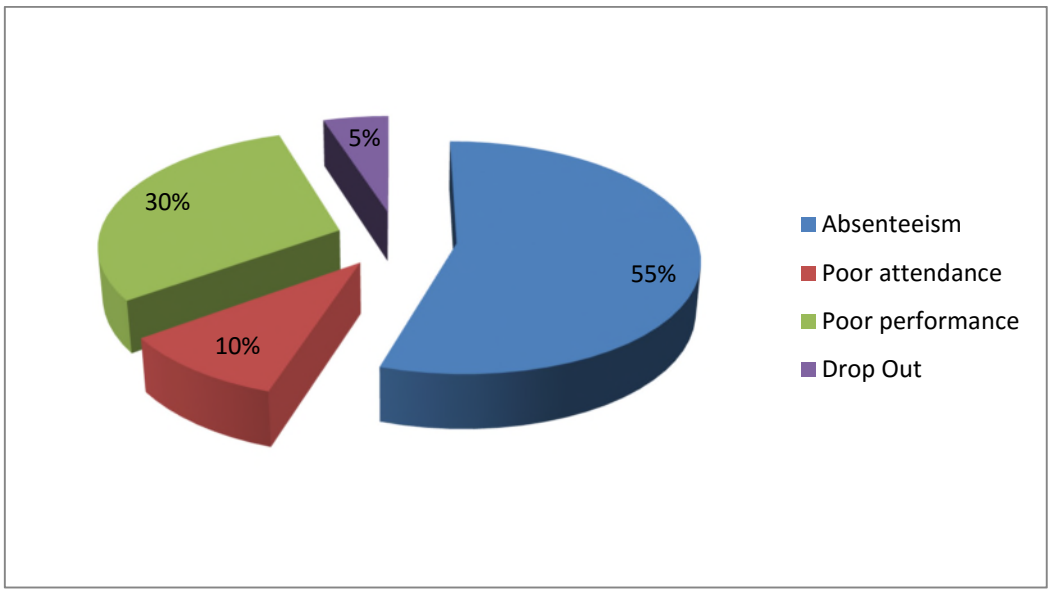
Still on the same question on making use of existing facilities in school, a female at Jahan Demonstration JHS in an interview gave her response as follows;

> *"This whole school including the primary has no toilet facility but has just one urinal which is shared by teachers and pupils. However, the only toilet facility that is available belongs to the training college which is not even in a good condition. So some of the teachers use the urinal and make use of the bush around but for me I make use of the existing facilities in the school no matter the condition of the facilities".(*Female teacher, Jahan Demonstration JHS May 2015).

4.8 The Effects of Sanitation and hygiene on girl child education.

Results from the study show that poor access to sanitation and hygiene facilities affect girls' education negatively.

Figure 4.2: Effects of inadequate sanitation and hygiene facilities on girls' education.



Source: Field Survey, May 2015.

The effects are multiple and include absenteeism, poor attendance and performance and drop out. The results on figure 4.2 present the effects of inadequate sanitation and Hygiene on girls' education.

4.8.1 Absenteeism

The first problem that girls encounter in their studies due to inadequate sanitation and hygiene facilities is absenteeism. The results from field survey showed that girls stayed away from school any day they are menstruating as a way of dealing with the poor sanitation and hygiene needs. Figure 4.2, shows that majority (55%) of the respondents reported that poor sanitation and hygiene is a major cause of absenteeism in schools. The effects of limited facilities in order wards inadequate facilities in schools results in impaired learning, increased absences from school, and decreased future economic productivity as indicated by (Bethony et al., 2006; Clasen et al., 2010). This is an indication that girls missing school as a result of the challenges they are confronted with impacts negatively on their studies and at the long round the nation. (Rajasthan, 2006) has a contrary view concerning girls' absenteeism. In his study, he found that 15% of aged between 15 and 18 years, report to be absent due to cramping pains experienced during or before their monthly period. In his analysis it was realised that a girl can miss up to 10-20% of her school days (3-4 days/month; 9-12days/term; 27-36days per school year). This means that girls do not only stay away from school due to inadequate sanitation and hygiene facilities but other reasons will lead to their absence.

What is required to curb absenteeism is a total package of a good sanitation and hygiene in schools and that is by providing schools with safe drinking water, improved sanitation facilities and hygiene education that will encourage girls attend

school regularly. The provision of these facilities therefore will reduce massive disease burden which is paramount to girls in schools. United Nations Economic and Social Council, (2006) emphasised the provision of improved sanitation and good hygiene practices to help reduce some infections. Also, the adequate provision of these facilities will result in good enrolment figures and retain girls in schools and as well minimize absenteeism in schools. Freeman, (2010) attest to the fact that a comprehensive school WASH programme (including improvements in hygiene, sanitation and water treatment) reduced absenteeism, including absenteeism due to illness in Kenya. WHO, (1995) also shares a similar view concerning sanitation and girls' health, their attendance and retention in schools? Poor sanitation in schools impairs children growth and development. It also limits school attendance and retention of students and negatively affects students' ability to concentrate and learn. About 40 percent of the world's 400 million school age children are infected with intestinal worms (WHO, 1995).

During the study it was again realised that schools that had access to a few of the facilities resulted in significant girl's enrolment. It means that if schools are able to secure most of these facilities to promote an environment that is girl-friendly, there will be great improvement in school enrolment as well as attendance. To be precise, the availability of clean water, adequate sanitation and hygiene education can have a profound impact on the health of children, on learning, the teaching environment, and on girls' education. It is directly related not only to physical, mental and social health, but ultimately to economic and political development.

At Biihee in a FGD a girl raised her concern about how inadequate sanitation and hygiene generally in school affect her as well as her colleagues. Below is her view on the issue which affirms results of the field survey.

> *"Inadequate sanitation and hygiene facilities play a great role in attendance, but also unclean surroundings can have an effect on our health which can cause sickness which will lead to absenteeism This problem of inadequacy of facilities does not encourage me to come to school. So because of this, some of I prefer to stay away from school anytime I am menstruating. The implications are that, good sanitation and hygienic practices in schools makes us attend school regularly. A situation where we do not have good facilities in our schools, it gives me and my colleagues a problem any time we are menstruating. Actually, not attending school for some days in a term affects our studies"*. (JHS Girl FGD Biihee, May 2015).

In an interview with the SHEP coordinator, the research sort to find out from her what the effects of inadequate sanitation and hygiene means to girls in terms of absenteeism. In her response she stated that;

> *The effects of inadequate sanitation and hygiene facilities impacts negatively on girls' retention in school. I think facilities must be encouraging enough to lure girls to stay in school especially at times that they have their menses. Girls mostly at this age are always very shy and fear that they will soil their uniforms when they are not free to get out of the class at times they want. So they prefer staying away from school any time they were menstruating. The positive effect is that when children have safe water to drink, water and soap to wash hands, and clean their toilets, it makes them healthy, child-friendly schools, and healthy schools make healthy children.(Key informant SHEP Coordinator MEO, May 2015).*

4.8.2 Poor Attendance in School

Poor attendance was the second problem that girls encountered as a result of inadequate sanitation and hygiene facilities in school. From the field survey, the results presented on figure 4.2 show that a few girls usually do not attend school throughout the week whenever they are menstruating. The analysis (10%) of respondents reported that girls who do not attend school regularly were faced with lots of challenges in their educational carrier. The challenges girls faced by girls limits school attendance and health among girls as WHO, (1995) notes the effects of inadequate sanitation and hygiene as well as girls' health, their attendance and retention in school. WHO (1995) emphasized that; poor sanitation in schools impairs

children growth and development. It also limits school attendance and retention of students and negatively affects students' ability to concentrate and learn. About 40 percent of the world's 400 million school age children are infected with intestinal worms (WHO,1995).This means that girls who will be affected, will be absent from school for a number of days limiting their attendance and performance in school

In probing to find out and also to confirm whether unimproved and inadequate sanitation and hygiene facilities had any bearing on girls school attendance, (32%) of respondents said 'yes' that unimproved sanitation discouraged girls from attending school throughout the week and (58%) answered 'No' whiles (10%) were actually undecided.

In an interview however, with one of the male teachers' at Jujeidayiri JHS he gave a different view on this matter as follows;

> *"I think children these days do not just want to sacrifice their pleasures for learning, so due to this they find it difficult to adjust to every little situation that may serve as a barrier to their studies. Several years back, our senior sisters and mothers did not have these kinds of facilities at their disposal, yet they learned and passed very well. So in my opinion girls should be encouraged to forget about pleasures of the world and learn hard to acquire better facilities in future".(*Male teacher, jujeidayiri May 2015).

In discussing further at Kpongu JHS on the effects of inadequate Sanitation and Hygiene facilities, a girl gave her view as follows;

> *"Inadequate sanitation and Hygiene Facilities has affected a lot of the girls in my class and me as well. For instance if in a term we were to spend fifty six days, I will attend school for about thirty nine days and stay away from school for the seventeen days likewise my colleagues. Absenteeism has made me backward in class in terms of my academics. This has been a worry to me in particular and may affect me in future".* (JHS Girl FGD Kpongu, May 2015)

4.8.3 Poor Performance in Schools

Further discussions on the effects of inadequate sanitation and hygiene facilities revealed a third effect as poor performance of girls as a result of lack of facilities in

schools. From figure 4.2, the results showed that girls who do not attend school regularly perform poorly. The analysis shows that (30%) of girls are confronted with problems in their education which leads to poor academic performance. Behrman et al., (1997), using detailed data from rural Pakistan, find that poor access to water and toilet facilities significantly reduces school performance.

A male teacher at Jujeidayiri JHS gave a confirmation on the effects of inadequate facilities on girls' education. He gave his report as follows;

> *"The effects are numerous, but the challenging one is that most girls stay away from school for about two or three days in a month and this can affect their performance in school. On the average, such girls lose five contact hours of education per day. This amounts to 20 hours of non- contact time each month. In this case assuming in a term there are 15 weeks, which is approximately four months, as much as 80hours of contact period is lost as a result of inadequate sanitary facilities which in a long round affect their performance."(*Male teacher Jujeidayiri, May 2015).

A girl at Busa JHS gave a conflicting view on the effects of inadequate sanitation and hygiene facilities in school. She said this in a FGD session.

> *" I have a different view concerning the fact that inadequate sanitation leads to poor performance among girls. There are some girls that if everything is at their disposal but learning will still remain a problem to them. In cases of such then, girls who complain of these facilities and refuse to attend school during menstruation are not ready to learn. I am from a home that has good and improved facilities yet I attend school regularly knowing that in my school the facilities are improved, but I am not boarded. I have also learned not to mix pleasure with learning".(* JHS Girl FGD, Busa May 2015).

4.8.4 Drop Out in Schools

The final effect on inadequate sanitation and hygiene facilities in school was drop out. The results from the field survey revealed that girls who drop out of school is not as a result of inadequate sanitation and hygiene facilities but probably due to some reason. Analysis on figure 4.2 indicated that an insignificant figure (5%) shows that girls drop out of school as a result of inadequate sanitation and hygiene facilities. Though the percentage of girls who drop out of school is not so huge,

but the results show that the inadequacy of facilities in schools affect girls' education negatively. El-Gilany et al., (2005); Behrman at al., (1999) buttresses the point by indicating that there is quite a large literature on poor sanitation in rural schools, and its adverse consequences for girls' education. After having conducted interviews with many school girls, (Snel & Shordt, 2005) conclude that school drop-out rates and low literacy levels, especially among adolescent girls, can be attributed in part to inadequate sanitation and health conditions in schools. (Cairncross et al., 1996) also find that a school sanitation programme in Bangladesh increased girls' enrolment by 11 per cent. (Lidonde, 2005) asserts that girls from poor African counties are marginalized in accessing education because of inadequate sanitation facilities that allow them no privacy, especially during their menstrual period. Lidonde, (2005) also finds that about 1 in 10 school age African girls do not attend school during menstruation or they drop out altogether at puberty because of a lack of clean and private facilities.

At Mangu JHS a girl confirmed that inadequate facilities are not a barrier to girls' education. She narrated how a friend dropped out of school.

> *"In my class as at last year we were twelve girls including some boys. A friend called Alimata did not attend school regularly due some reasons. There was however, no time she did not complain about how teachers in the school discipline pupils that were indiscipline and she was one of them. She kept on complaining until the term came to a close. Subsequently, a new term began and she never showed up and that was how she dropped out from school. She dropped from school because of her indiscipline behaviour and not because of inadequate sanitation and hygiene facilities in school".*(JHS Girl FGD, Mangu May 2015)

4.9 Conclusion

This chapter entailed a discussion of the findings, the discussion covered the demographic and socio-demographic characteristics of respondents, state of sanitation

in schools, access to sanitary facilities in schools, coping strategies among girls in schools and the effects of sanitation and hygiene on girls education. The next chapter presents the conclusions for the study and some policy recommendations

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents conclusion for the study and puts forward some recommendations for improving sanitation and hygiene in schools for the eradication of poverty in the Wa Municipality.

5.2 Summary of Findings

The main findings from the study include the following:

- The government of Ghana in 2003 took initiatives to build HIPC urinals and toilets for some schools in the Municipality to cater for some sanitary needs of schools. Also the capitation grant for schools was introduced in 2005 to help in the running of schools. This means a portion of this grants is allocated to purchase sanitary facilities such as (soap, napkins, pads etc). Unfortunately, the research revealed that the state of sanitation and hygiene facilities and services in schools are poor. Most schools lacked access to basic sanitation and hygiene facilities. For schools that have basic facilities, they are in deplorable condition due to poor maintenance. In addition, hygiene condition in classrooms is lacking.
- The creation of the Girls Camp over the past years by the Ghana Education Service was aimed at teaching girls how to cope with their menstrual issues despite the sanitation challenges they encounter in their various schools. Female teachers also made it clear that in programmes drawn for the term in schools, ‘peep talks’ for girls has been included which takes the form of educating them on hygiene needs and how to handle menstrual issues carefully without being disgraced. “Peep talks” have been scheduled for only

two times in the term. Most girls that were interviewed revealed that they did not have knowledge of the Camp for Girls and so have devised multiple coping strategies for dealing with poor access to sanitation and hygiene facilities in schools. These mainly include staying away from school during menstruation, absconding from school to the house for care, making use of poor state of infrastructure and resorting to ODF in the absence of facilities or use the bushes for changing of sanitary pads during menstruation.

- The formation of School Health Clubs and 'ZOOM KIDS' clubs have been instituted to motivate and encourage girls in schools to participate in sanitation and hygiene delivery. These clubs have made frantic efforts to provide the schools with some sanitation and hygiene facilities such as (dust bins, brooms, wheel barrows, sanitary pads etc.) to help maintain a good and healthy environment. In the same way Parent Teacher Associations (PTA) have put up urinals, toilets, donations and other things to schools to help solve their sanitation challenges. Despite the efforts made by these clubs, the research revealed that sanitation and hygiene facilities and services is poor which intend leads to absenteeism and poor attendance among girls in schools. This ultimately leads to poor performance among girls.

5.3 Conclusion

The study sought to find out the state of school sanitation and hygiene in the Municipality. Based on the findings of the study, it can be concluded that the nature/state of sanitation, hygiene and retention of girls in the JHS in the Municipality is poor. The study also explores to find out if there are on-going initiatives to ensure that schools are less challenged with sanitation and hygiene facilities. It has been established that the poor state of sanitation and hygiene in the JHS is as a result of the

inadequate sanitation and hygiene facilities in the Municipality. The lack of hygiene lesson on the school time coupled with the lack of maintenance of facilities in schools has been some of the causes that led to the poor sanitation in the JHS in the Municipality. Even though the government and NGOs have taken initiatives to ensure schools have good sanitation, the study revealed that these initiatives are not enough to solve the problem of sanitation in schools.

5.4 Recommendation

Based on the findings from the sanitation and hygiene needs in schools in the municipality, recommendations have been made to enhance a comprehensive sanitation service delivery as well as hygiene and retention of girls in the Junior High Schools in the municipality. They are as follows:

- The government initiative such as the capitation grant which is aimed at helping schools to achieve their goals is still on-going for years. However, the research revealed the poor nature of sanitation and hygiene in schools. Government is advised to increase the amount of grants allocated to schools in the support of running of schools. Also an integrated package of sanitation and hygiene facilities that caters for the differential needs of girls and boys (toilets, urinals, hand washing facilities, changing rooms etc.) should be provided by the assembly.
- The Ministry of Education through the Ghana Education Service should make it a policy in the service so that districts and Municipalities can always Camp Girls termly instead of the yearly camps. Health/Girl child coordinators in the various schools should be motivated in the form of awards to make them work seriously and also increase the number of “peep talks” to be held in a term. Hygiene lessons should be integrated on the school time table to make room

for the effective teaching and learning of topics that will again cater for the differential needs of pupils instead of teaching hygiene at assemblies.

- Frequent symposiums should be organised in schools and then invite the SHEP coordinator and the representative the ZOOM KIDS club to educate them on issues concerning sanitation and hygiene. Encouraging the involvement of stakeholders in education including NGOs, and community members (PTAs) in the provision of sanitation and hygiene facilities for the school will meet the hygiene needs of pupils in schools.

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APPENDIX I

UNIVERSITY FOR DEVELOPMENT STUDIES

FACULTY OF PLANNING AND LAND MANAGEMENT

(DEPARTMENT OF PLANNING AND MANAGEMENT)

INTERVIEW SCHEDULE FOR (SHEP) CO-ORDINATOR

CONFIDENTIALITY; this questionnaire is purely for academic purposes and the information provided will be used for academic work. Both the identity and responses provided will be confidentially handled.

SECTION 'A'; Demographic Characteristics

Place of work :

Schedule :

Job experience:

Age :

SECTION 'B'; the state of School Sanitation and Hygiene in the Municipality.

1. Are there hygiene lessons on schools time tables? (YES / NO)

2. If yes, how often are the lessons and if no, how are issues of hygiene convoyed to the students?

3. How girl – friendly are the basic schools in Wa Municipal?

4. How would you assess the sanitation and hygiene situation in Wa Municipality?

5. As a (SHEP) co – coordinator, how do you think girls are coping with the current state of sanitation and hygiene in the study area?

SECTION 'C'; Effects of Sanitation and Hygiene on attendance and performance.

6. Can poor sanitation and hygiene in schools have a negative effect on girls' school attendance? (YES / NO)

7. What are some of the set – backs of poor sanitation and hygiene to girls' school attendance and performance?

8. Can low Sanitation coverage lead to girls dropping out of school?

9. What are the positive effects of improved Sanitation and Hygiene in Schools?

SECTION 'D'; The effects of separate facilities on attendance and coping strategies.

10. Do some schools in Wa Municipality have separate facilities especially toilets for girls? (YES / NO)

11. If they do, has enrolment been better in such schools? (YES / NO)

12. Should girls be provided with separate toilets? (YES / NO)

13. If yes or no, state your reasons

14. Kindly state how you think the provision of separate toilet facilities can affect school attendance of girls.

15. What are your recommendations in terms of school sanitation and Hygiene?

16 Do you think girls are able to cope with the state of sanitation in schools?

17 What are some of the strategies put in place to help them adapt to the state of sanitation?

THANKYOU VERY MUCH FOR YOUR RESPONSE

APPENDIX II

UNIVERSITY FOR DEVELOPMENT STUDIES

FACULTY OF PLANNING AND LAND MANAGEMENT

(DEPARTMENT OF PLANNING AND MANAGEMENT)

INTERVIEW SCHEDULE FOR PRONET CO-ORDINATOR

CONFIDENTIALITY; this questionnaire is purely for academic purposes and the information provided will be used for academic work. Both the identity and responses provided will be confidentially handled.

SECTION 'A'; Demographic Characteristics

Place of work :

Schedule :

Job experience:

SECTION 'B'; the state of sanitation and Hygiene in schools.

1. What are the main objectives of your outfit to your beneficiaries (schools?)
2. What are the major services you provide within your coverage area with regards to sanitation and hygiene?
3. Why do you provide such services?
4. Are basic schools beneficiaries of your project?
5. What facilities do they enjoy from your outfit?
6. How many basic schools have benefited from your project since you started operation?
7. And when have you been in operation in Wa Municipality?
8. In your own opinion, what is your assessment of the sanitation and hygiene situation in the basic schools in Wa Municipality? ----------
9. Are girls part of your target?

10. Do girls need any special attention in terms provision of sanitary facilities?

SECTION 'B'; Improving Sanitation and Hygiene in Schools.

11. Are you satisfied with the sanitation and hygiene situation in basic schools in Wa Municipality? (YES / NO)

12. If yes or no , please state your reasons.

13. How does your outfit intend to improve upon sanitation and hygiene in the study area?

14. Do you think that children exhibit good hygiene behaviors?

15. What is your opinion on separate facilities for girls?

16. Does your outfit promote hand washing with soap?

SECTION 'C'; the effects of Sanitation and Hygiene in Schools?

17. In your opinion what are the effects of low Sanitation coverage to girls?

THANK YOU VERY MUCH FOR YOUR RESPONSE

APPENDIX III

UNIVERSITY FOR DEVELOPMENT STUDIES

FACULTY OF PLANNING AND LAND MANAGEMENT

(DEPARTMENT OF PLANNING AND MANAGEMENT)

INTERVIEW SCHEDULE FOR SANITATION OFFFICERS AT THE MUNICIPAL ASSEMBLY

1. In your view what is the state of sanitation in the municipality?
2. What is also the state of school sanitation in the Municipality?
3. What is the role of the municipal Assembly in school sanitation?
4. What efforts have you so far made in dealing with the school sanitation in the municipality?
5. What challenges do you encounter in the discharge of your duties?
6. Do you offer schools any other support? Yes No
7. If yes, kindly mention the kind of support you give.
8. What suggestions will you give to improve sanitation in schools?

APPENDIX IV

UNIVERSITY FOR DEVELOPMENT STUDIES

FACULTY OF PLANNING AND LAND MANAGEMENT

(DEPARTMENT OF PLANNING AND MANAGEMENT)

QUESTIONNAIRE FOR TEACHERS

CONFIDENTIALITY; this questionnaire is purely for academic purposes and the information provided will be used for academic work. Both the identity and responses provided will be confidentially handled.

SECTION 'A'; Demographic Characteristics

Place of work :

Schedule :

Job experience

SECTION 'B'; The State of School Sanitation and Hygiene

1. Has your school got sanitary facilities? (YES / NO)
2. If yes list the sanitary items in your school;----------
3. Do you use such facilities yourself and if no how do you cope with the situation?----------
4. If you have sanitary facilities how often are they cleaned? ----------

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5. As a female, do you feel comfortable with a separate toilet for ladies or you can share such a facility with males? ----------

---

6. Do you teach your students basic hygienic practices in school? (YES / NO)
7. If yes, how often do you teach it in a week?----------

8. If no state the ways in which issues on hygiene are passed onto the students.---

---

9. Does hygiene reflect on the time table? If yes how many times and if no why and how is hygiene lessons impacted to children?

10. Comment on the general state of sanitation and hygiene in your school?--------

---

SECTION 'C'; Effects of Sanitation and Hygiene on girls School attendance and coping strategies

11. Briefly state how the sanitary and hygiene situation in your school affect girls school attendance.----------

12. Would you recommend the provision of separate toilets for girls in basic schools?-----

13. Give reasons to your response in (11) above----------

14. In your own opinion state the ways in which the provision of separate toilets for girls in basic schools can improve their school attendance?.----------

---

15. Is there any source of clean water in your school (YES / NO)

16. What is the source of the water in your school?----------

17. Do students often wash their hands after visiting the toilet?----------

18. Do they use water and soap? ----------

19. Do you keep sanitary pad in the school for emergency cases? If no why?

19. Are girls able to cope with the nature of Sanitation in your school?

20. What are some of the strategies put in place to encourage them attend school?

SECTION'D'; Improving on Sanitation and Hygiene in Basic Schools.

Strongly Agreed [SA], Agreed [A], Undecided [UD], Disagreed [DA], strongly disagreed [SD].

21. The sanitation and hygiene situation in my school is good.

[SA] [A] [UD] [DA] [SD].

22. There is the need for improving on both sanitation and hygiene in my school.

[SA] [A] [UD] [DA] [SD]

23. State measures you think need to be put in place to improve on both sanitation and hygiene in schools, to improve on girls' school attendance. ----------

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THANK YOU VERY MUCH FOR YOUR RESPONSE

APPENDIX V

UNIVERSITY FOR DEVELOPMENT STUDIES

FACULTY OF PLANNING AND LAND MANAGEMENT

(DEPARTMENT OF PLANNING AND MANAGEMENT)

Focus Group Discussion Guide

Date of discussion:

Name of community:

Target: Girls in Junior High school

1. Do you have a toilet and urinal facility in your school?

2. Do you have a pipe or bore hole in your school? If no which other source of water do you have?

3. What can you say about the nature of sanitation in your school?

4. Is the toilet or what source close to your school?

5. Is your toilet and urinal always clean?

6. How often do you clean them? Are there locks in them?

7. Do you wash your hands with water and soap after defecation? What of before and after meals?

8. Are there hand washing facilities in your school? Do you use them regularly? Are they in good shape?

9. Are there personal hygiene lessons on the time table?

10. How many times is it taught?

11. Besides the classroom where else is hygiene lessons taught?

12. Do the topics vary?

13. Has the teaching of personal hygiene changed your life in any way?

14. What are the good things the lessons have offered you?

15. Do you have changing rooms? Do teachers keep sanitary pad in school for emergency cases?

16. Do the girls have separate sanitary facilities from that of the boys?

17. Are SHCs existent and vibrant in the school?

18. Is the ZOOMKIDS club vibrant, what do they do?

19. Do you at times absent yourself from school? Give reasons if yes or no.

20. What do you think can be done to encourage you to come to school regularly?

21. Are you able to cope with the nature of the situation of sanitation and hygiene in your school?

22. What strategies have you adapted to help you cope with the situation?

23. What strategies have your teachers put in place to encourage you to come to school?

24. What do you think can be done to improve sanitation situation in schools?

THANK YOU VERY MUCH FOR YOUR RESPONSE

APPENDIX VI

UNIVERSITY FOR DEVELOPMENT STUDIES

FACULTY OF PLANNING AND LAND MANAGEMENT

(DEPARTMENT OF PLANNING AND MANAGEMENT)

INSTRUMENTS USED IN DATA COLLECTION

The Instruments or tools used in collecting data for the study included:

Method	Instrument
Interview	Interview schedule (for, sanitation Officers, SHEP and PRONET) coordinators
Questionnaire	Questionnaire for teachers
Focus Group Discussion	Focus Group Discussion Guide (girls)
Secondary data	Articles and other research materials

APPENDIX VII

Picture A: Lack of sanitation and hygiene facilities

Source: Field Survey, May 2015

Picture B: The state of sanitation and hygiene facilities

Source: Field Survey, May 2015

Picture C: The state of sanitation and hygiene facilities

Source: Field Survey, May 2015

Picture D: Lack of maintenance of sanitation and hygiene facilities

Source: Field Survey, May 2015

Picture E: Lack of maintenance of sanitation and hygiene facilities

Source: Field Survey, May 2015

Picture E: Lack of maintenance of sanitation and hygiene facilities

Source: Field Survey, May 2015

Picture F: Lack of maintenance of water facilities

Source: Field Survey, May 2015