

**SANITATION AND GIRL CHILD EDUCATION IN SELECTED UNIVERSAL  
PRIMARY EDUCATION SCHOOLS IN VURRA COUNTY, ARUA DISTRICT,  
UGANDA**

**BY**

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF MANAGEMENT SCIENCE IN  
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## DECLARATION

I, Johnson Ochan ABIC, hereby declare that the information contained in this dissertation entitled "*SANITATION AND GIRL CHILD EDUCATION IN SELECTED UNIVERSAL PRIMARY EDUCATION SCHOOLS IN VURRA COUNTY, ARUA DISTRICT, UGANDA*" is my original work and has not been produced before. All other pieces of work that were used in this dissertation have been duly acknowledged in references.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## **APPROVAL**

This dissertation entitled “*SANITATION AND GIRL CHILD EDUCATION IN SELECTED UNIVERSAL PRIMARY EDUCATION SCHOOLS IN VURRA COUNTY, ARUA DISTRICT, UGANDA*” was done under our supervision and has been submitted to Uganda Management Institute for examination with our approval.

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## **DEDICATION**

This dissertation is dedicated to my lovely parents, Rtd Capt. Erukulano Chua Odur (RIP) and Mrs. Achola Dorothy Odur (RIP), without whose efforts I would not have been what I am today. They selflessly showed me the value of education, hard work and inspired me to clamp education as a key to success.

They will remain a source of pride, joy, inspiration and positive challenge to me.

Their parental guidance enabled me to overcome difficult situations especially after they passed on.

May GOD the ALMIGHTY grand you eternal life and always pray for us

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## **List of abbreviations/Acronyms**

EFA	Education For All
IRC	International Rescue Committee
MDGs	Millennium Development Goals
SNV	Netherlands Development Organisation
UN	United Nations
UNCRC	United Nations Convention on the Rights of Children
UNICEF	United Nations International Children's Education Fund
WASH	Water Sanitation and Hygiene
WHO	World Health Organization

## **ABSTRACT**

This study sought to investigate the effect of sanitation on girl child education in Universal Primary Education schools in Vurra County, Arua District, Uganda. Sanitation was the independent variable and girl child education was the dependent variable. Cultural practices are the moderator variable. The theoretical framework underpinning this study was the Stimulus-Response Theory by Edward L. Thorndike (1903). The study reviewed textbooks, training materials, dissertations, reports and journals to further explore the concepts under study and the gaps. A cross sectional survey research design was used. A sample size of 121 comprising district officials, teachers and pupils was reached from 139 elements with 82.7% response rate. Quantitative data was computed by use of Statistical Package for Social Scientists (SPSS) program and qualitative data was triangulated to augment quantitative data. The study used Pearson's Rank Correlation and the Regression Analysis to determine the correlation between the various dimensions of the independent variable and dependent variable. The study found that there was a strong positive statistically significant ( $r= 0.534$ ) correlation between sanitary facilities and girl child education. The correlation between hygiene education and girl child education was found to be statistically significant ( $r= 0.689$ ). The study also revealed a ( $r= 0.426$ ) moderating effect of cultural practices on the relationship between school sanitation and girl child education. The study recommends that the Ministry of Education, Science, Technology, and Sports (MOESTS) and the Arua District Local Government should initiate programmes to improve sanitary facilities in schools, develop a strong hygiene education programme in schools by scaling up intervention on sanitary pads and education on menstruation management as well as introduce policies that empower women to teach in upper classes. This may provide an avenue that raises alternative perspectives or highlight the specific needs of girls during puberty.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1. Introduction**

This study investigated the effects of sanitation on girl child education in primary schools in Vurra County, Arua District –West Nile region, Uganda. The key variable in the study was sanitation as an independent variable (IV), girl child education as the dependent variable (DV) and cultural practices as the moderating variable (MV). Sanitation was measured in terms of sanitary facilities and hygiene education while girl child education was measured in terms of retention, class attendance, completion rate and academic performance. Cultural practices as a moderating variable was measured by practices such as taboos and the placement of less value in girls than the boys as explained in the conceptual framework.

This chapter covers the background to the study, statement of the problem, general objective, specific objectives, research questions, hypotheses, scope, significance, and justification of the study.

### **1.2. Background to the Study**

#### **1.2.1. Historical Background**

The 1948 Universal Declaration of Human Rights states that every person has a right to education. Similarly, the 1989 Convention on the Rights of the Child (CRC), which 194 countries ratified, including Uganda, provides that children have a right to a safe environment for enhanced learning, health and development of good citizens. At the 1990 United Nations World Summit on Children in New York, world leaders not only reaffirmed their commitment that girls and boys alike should have quality basic education, they also pledged to place emphasis on



reducing the disparities that had existed in school enrolment for decades. In September 2000, world leaders again set out a series of time-bound targets - with a deadline of 2015 - that have become known as the Millennium Development Goals (MDGs). Most significant to this study are Goals 2 and 3 that strive to achieve Universal Primary Education and promote gender equity and empower women respectively. These goals are important because it is believed that through education of the girl child, future generations will have the ability to reduce or put an end to world poverty and help to achieve worldwide peace and security.

As a requirement under international and national laws in furtherance of its duty to fulfill, respect and promote these rights and achieve the MDGs framework of 2015, Uganda introduced Universal Primary Education (UPE) in 1997 to ensure Education For All at primary level. In 2004, the United Nations Girls' Education Initiative (UNGEI) launched in Uganda an overarching multi-stakeholder response that would set forth a context-specific development roadmap for girls' education in the country.

Globally, despite all efforts and the legal frameworks that enhance and promote the rights of girls and women, Africa and Asia still have numerous challenges in observing the rights of girls to education. In 2007, 101 million children of primary school age were not in school. Almost half of these children live in Africa and 39 percent in Asia. Across the two regions, approximately 20 percent of the girls of primary school age are either not enrolled or are not attending primary (UNICEF, 2009).

The United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2010) report revealed that in East Africa, Uganda has the highest school dropout rate compared to Kenya and Tanzania. Girls constitute the largest proportion of out-of-school children and lag behind boys in

performance in national examinations (UNGEI Uganda Country Report, 2011). The latest UNESCO statistics show that 700,000 children in Uganda have no access to school and the country was ranked 11th in the world with the highest number of children out of school. This puts Uganda in danger of failing to hit the 2015 MDGs on education for all (Daily Monitor, June 27, 2014). It was against this background that the study investigated if there was a relationship between school sanitation and girl child education.

### **1.2.2. Theoretical Background**

The theoretical framework underpinning this study was the Stimulus-Response theory. The proponent of this theory is Edward L. Thorndike (1903). Thorndike holds that behavior is caused by someone or something (the stimulus) outside the individual; the action following is a response to that stimulus. Thorndike asserted that “man is an animal and his actions are actually always reactions.” He “equated” children with rats and monkeys, and believed that “the aim of the teacher is to produce desirable and prevent undesirable changes in human beings by producing and preventing certain responses. This theory is relevant to the study in that, it recognizes or brings to light that primary schools is as stimulus-response. Sanitation plays a critical effect (positively or negatively) on girl child education. In this study, sanitation was viewed as a stimulus and girl child education as the response. The theory therefore assisted this study in investigating how sanitation affects girl child education using the dimensions in the study.

### **1.2.3. Conceptual Background**

The concepts that were considered in this section are:

Sanitation 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 behaviors. The

hardware components include drinking water, hand washing and sanitary facilities in and around the school compound. The software components include hygiene educations which in turn include activities (Life skill education, Information Education and Communication materials and guidance and counseling) that promote conditions at school and practices of school staff that help prevent water and sanitation-related diseases and parasites such as worms (UNICEF and IRC 1998). The Government of India (2011) defines school sanitation as the provision of toilet infrastructure and hand washing facilities in schools and hygiene education, to promote behavioral change amongst children. For the purposes of this study, sanitation was referred to as the provision of adequate sanitary facilities and hygiene education. In this study, sanitation formed the independent variable and consists of the following dimensions:

Sanitation is a collective term for toilet, shower, bathing and changing facilities in buildings (WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) 2012). An "improved" sanitation facility is one that hygienically separates human excreta from human contact. In this study, the following were considered as sanitary facilities applicable to schools: toilets, Bathroom facilities, personal hygiene effects, and safe water facilities.

Hygiene education is the activities that aim to promote practices that will help to prevent diseases as well as encourage healthy behavior in future adult generation. Hygiene education at school helps children to learn about water and sanitation- related behaviors and the reasons why these lead to good health and bad health. It also examines the social context of hygiene practices. (Protos Uganda, 2005). Life skills education, counseling and guidance and Information Education and Communication (IEC) were considered in this study as the indicators of hygiene education.

The girl-child is a biological female offspring from birth to eighteen (18) years of age (UNCRC 1948). Education is the process through which individuals are made functional members of their society (Ocho, 2005). It is a process through which the young acquire knowledge and realize their potential and use them for self-actualization, to be useful to themselves and others. Girl child education is the dependent variable which for this study refers to girls accessing and remaining in schools until they complete the full cycle of education. Girl child education in this study was measured in terms of retention, class attendance, completion rate, performance and continuity to the next education levels.

In undertaking this review, cultural practices are taken as a moderating factor and have impact on sanitation and consequently affect girl child education in a positive or negative way. It was assumed that sanitation has a cultural dimension and this situation usually complicates other support to promote girl child education thereby affecting girl child education in Universal Primary Education schools. A society's cultural practices can be conceptualized in terms of the incidence or prevalence of behaviors or the actions of groups and organizations (Biglan 1995).

#### **1.2.4. Contextual Background**

The Arua District Local Government (ADLG) Education Ordinance, 2008 part V section 25, sub-section (1), states that a girl child shall at all levels access education like any other child. Section (30) talks about sanitary facilities and under it sub-section (a), a school shall have a girls' latrine separate from the boys' latrine; (b) keep at least two emergency sanitary packets at all times during school days; (c) avail a room or space to be used for counseling and guidance. The ordinance aims at enhancing and promoting girl child education.

However, available information leaves the situation of girl child education in Arua wanting and this has persisted for a long time. The education threshold is: Out of 100 pupils enrolled in Primary One (P.1), only 87 girls as opposed to 98 boys are able to reach Primary Four (P.4). 17 % girls are able to complete Primary Seven (P.7) against 83 % girls who do not survive up to Primary Seven (P.7). The drop-out rate is 33% for boys and 67 % completion rate for boys and 83-85% is the drop-out rate for girls (District Education Officer, 2011). In Awika Primary School for example, the 2012 school enrolment indicates more girls are enrolled in lower primary than boys with 146 girls and 140 boys in P.1 and 63 girls and 50 boys in P.2 and in upper primary, especially primary seven, the number of girls enrolled is two times less than the number of boys with only 12 girls completing primary seven (School enrolment record, 2012). The question to ask is, where are the rest of the girls? It is therefore in this context that the study investigated if sanitation could be a factor contributing to the wanting situation of girl child education.

### **1.3. Statement of the Problem**

Having adopted international legal frameworks that enhance and promote the rights of girls to education and the introduction of Universal Primary Education (UPE) 1997, Uganda expected that by 2015 children everywhere, both boys and girls would be able to complete the primary cycle and also contribute to the economic development of the country. However, sanitation and related challenges surrounding girl child education have persisted and remained a challenge to development and efforts in attaining the MDG framework of 2015 and UPE.

The Arua District Health Record (2013/2014) revealed huge gaps in sanitation. In Ajia sub-county, a record from nine (9) primary schools puts the latrine stance ratio for girls at 1:80. Yet according to ministry of health guidelines (2000), for school sanitation promotion, the standard

ratio should be 1:40 in a day school. This means that girls do not have access to adequate sanitation facilities which might impact on their education. Child protection in Crisis mapping (2013) indicates that some girls in Arua and Nebbi districts are out of schools because of unfriendly cultural practices. Education Management Information System (EMIS) and the Harmonized Data-base Arua (HDB) 2012, indicate that persistent completion rates for the girl child stands at 37% on average. Only 37 out of 100 girls complete primary education (see appendix 5). This trend means that every missed opportunity for an education is a great loss for the girls, since education speeds up human development, empowerment, and transforms society.

The situation of girl child education in as far as sanitation is concerned remains wanting. It was therefore necessary that a scientific study be undertaken to establish if there is a relationship between sanitation and girl child education so as to inform policy and check the deteriorating level of girl child education in Universal Primary Education schools in Vurra County, Arua District, Uganda.

#### **1.4. General Objective**

The study investigated the effect of sanitation on girl child education in Universal Primary Education schools in Vurra County, Arua District -Uganda.

#### **1.5. Specific Objectives**

Below are the specific objectives of this study.

- 1) To establish the effect of sanitary facilities on girl child education in primary schools in Vurra County, Arua District.
- 2) To examine the effect of hygiene education on girl child education in primary schools in Vurra County, Arua District

- 3) To assess the moderating effect of cultural practices on the relationship between sanitation and girl child education in primary schools in Vurra County, Arua District

### **1.6. Research Questions**

The following research questions were formulated as per the specific objectives above.

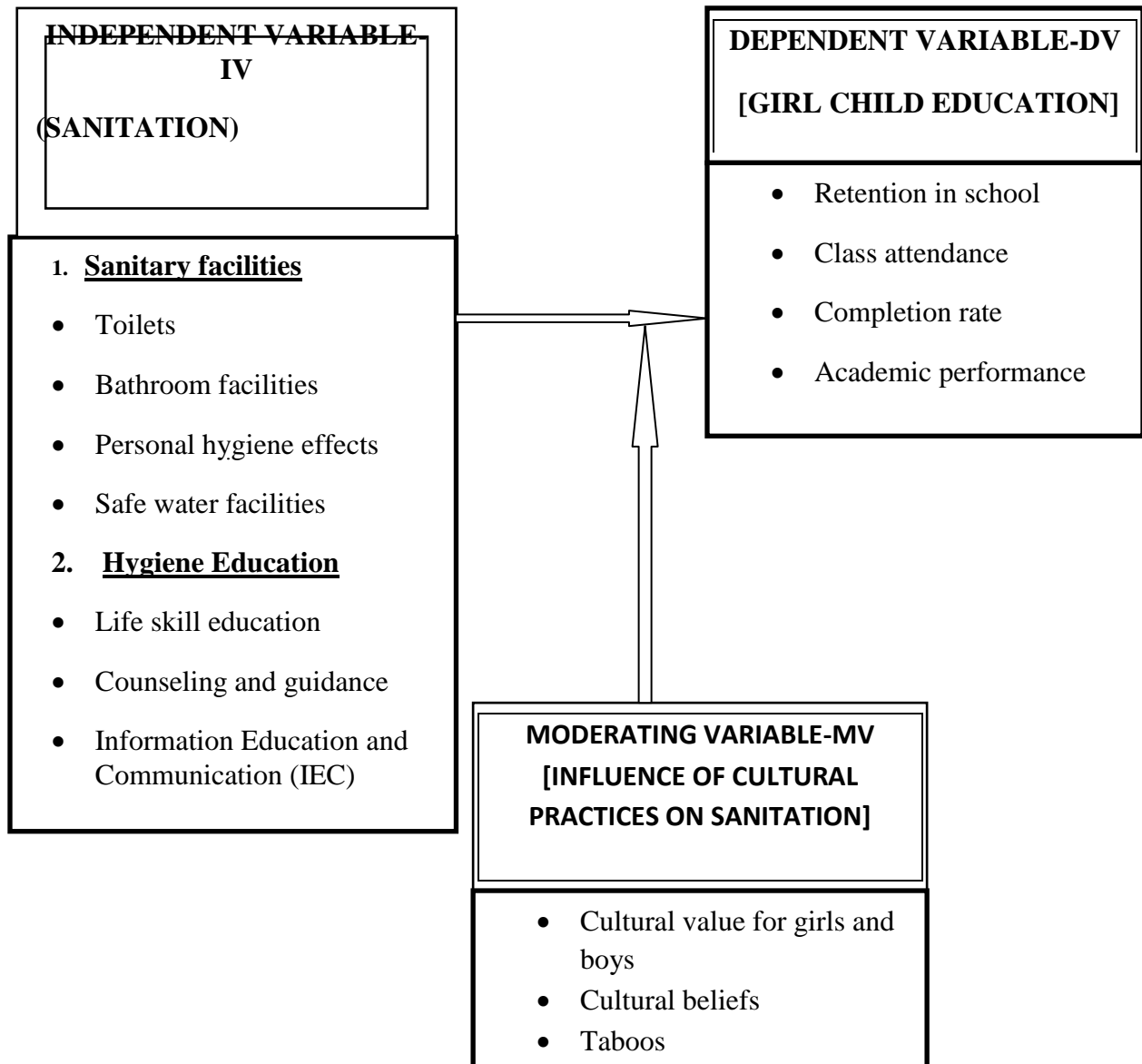
- 1) What is the effect of sanitary facilities on girl child education in primary schools in Vurra County, Arua District?
- 2) How does hygiene education affect girl child education in primary schools in Vurra County, Arua District?
- 3) How do cultural practices affect the relationship between sanitation and girl child education?

### **1.7. Hypotheses**

- 1) Sanitary facilities significantly affect girl child education in primary education.
- 2) Hygiene education strongly affects girl child education in primary schools.
- 3) Cultural practices have a significant moderating effect on the relationship between sanitation and girl child education.

### **1.8. Conceptual Framework**

This conceptual framework gives a summary of the relationships that exist between the Independent Variable (IV) the Dependent Variable (DV) in the study and the impact of the Moderator Variable.



**Figure 1.** *The Conceptual Framework Source: Adopted and modified from World Bank (2011)*

Figure 1 shows the linkage between different sanitation factors and girl child education. It shows that girl child education as a Dependent Variable (DV) is related to the Independent Variable (IV), which is the availability of sanitary facilities (toilets and bathroom, personal hygiene effects and safe water facilities) and Hygiene Education (Life skills education, counseling and guidance and Information Education Communication).



Figure 1 also identified cultural practices as Moderating Variables (MV), which may affect the relationship between the IV and DV positively or negatively. The moderating factor plays a role in bringing out the output, which is girl child education. If these variables are not controlled, they may interfere with the results of the study.

## **1.9. Scope of the Study**

The scope of this study was divided into the following dimensions:

### **1.9.1. Geographic Scope**

This study was conducted in eight selected schools Vurra County in Arua District. Arua district is found in the West Nile sub-region of Uganda bordered by Democratic Republic of the Congo to the West. Arua is the largest town in the sub-region. Arua lies approximately 420 kilometers (260 miles), by road, Northwest of Kampala, the capital of Uganda. Arua is neighbored by Maracha to the North, Yumbe to the Northeast, Nebbi to the South, Amuru District to the East, and Zombo to the South West. Arua District has five counties of Vurra, Madi-Okollo, Ayivu, Terego and Rhino camp. Vurra County is made up of four sub-counties namely: Ajia, Vurra, Logiri and Arivu.

### **1.9.2. Content Scope**

This study investigated how sanitation affects girl child education in Universal Primary Education schools. The study identified the following dimensions under both the Independent Variable (school sanitation) and the Dependent Variable (girl child education); under the Independent Variable, the study looked at sanitary facilities and hygiene education; under the Dependent Variable, girl child education was examined in regard to the effect of the Independent Variable on retention in schools, class attendance, completion rate and academic

performance; under the Moderating Variable, the study investigated the moderating effect of cultural practices (cultural value for girls and boys, cultural beliefs and taboos) on girl child education.

### **1.9.3. Time Scope**

The study majorly considered the timeframe between 2011 and 2014. This period was critical for the study because statistics from the Education Management System (2012) and the Harmonized Data-base Arua (2011, 2012, and 2013) revealed a serious drop in completion rates for girl child within the primary education cycle, poor retention of girls in schools, low class attendance and a drop in girls' academic performance as compared to that of boys during those years (*Refer to appendix 5 and 6*).

### **1.10. Significance of the Study**

The study may be important to various stakeholders (Government and development partners) in the arena of education, child' rights, and WASH programming in the following ways.

The Government of Uganda, especially the Ministry of Education, Science, Technology, and Sports (MOESTS) and The Arua district local government can use this study to inform policy revision on their commitment and efforts in the furtherance of their duty to fulfill, respect and promote the rights of children to education. This will be through the identification of gaps in relation to school sanitation and girl child education and design a strategy to resolve the stakes in girl child education.

Humanitarian agencies with focus on child rights, education and WASH, can use this study to support them in evidence-based advocacy and resource mobilization from development partners towards bridging the gaps in ensuring the realization of the rights to education especially for

vulnerable groups like the girls. This study will provide them with recommendations that can be used in redesigning their approaches in ensuring a free and safe school environment that promotes and enhances girl child education.

School Management Committees (S.M.C), Parents Teachers Associations (P.T.A), school administrations, and school health committees can use the findings to conduct fundraising activities and educate the community on the importance of school sanitation and its impact on girl child education. The study will provide a platform for stakeholders to educate other communities where the study area did not cover.

Being a researcher and a strong advocate of child protection, this study is expected to broaden my understanding of the plight of children beyond violence perpetrated against children in and around schools, but rather recognize broader problems faced by children in the school environment. The study will probably bring immediate and strategic value and further develop my current skills further.

The study is expected to contribute to the existing body of knowledge and provide avenues for further research on this theme or related themes.

### **1.11. Justification of the study**

Girl child education has become a center of interest in the world because without special interest in the girl child and women, their potential to contribute to development will not be realized. International and national leaders as evidenced in their commitments to EFA and MDGs tried to create an enabling environment for girl child education. Yet evidence from various reports and studies indicates that many girls are either out of schools or fail to complete due to several

reasons ranging from in school to out of school factors. There was need to investigate more and design strategies to curb the vice.

A number of studies have been conducted to investigate factors that affect the education of girls, but many have taken a generic approach and sanitation only mentioned as a factor but no proper investigation conducted if school sanitation is really a big factor in girls' education. As noted by Kulanyi, (2013), Uganda has no real concrete evidence to show the effects of menstrual hygiene on girls' education. No systematic research has been conducted on the relationship between the lack of appropriate sanitary facilities and the drop-out rate of adolescent girls. Some information seems to suggest that about 1 in 10 school-age African girls do not attend school during menstruation or drop out at puberty because of lack of clean and private sanitation facilities in schools UNICEF (2005).

As noted in the contextual background and problem statement, the situation of girl-child education is wanting. There was, therefore a need to investigate if there is a relationship between sanitation and girl child education in Vurra County in Arua District-Uganda.

### **1.11. Operational definitions of Key terms**

The following are the operational definitions that were used.

**Sanitation:** Sanitation is the provision of adequate sanitary facilities and hygiene education. School sanitation therefore is the provision of adequate sanitary facilities and hygiene education that provide a healthy learning environment for pupils.

**Sanitary Facilities:** Refers to facilities that improve the management of excreta and these facilities include; toilet and bathroom facilities, personal hygiene effects and safe water facilities.

**Hygiene education:** These activities include life skills education, counseling and guidance, and Information Education and Communication. These activities aim to improve the education and hygiene and sanitation practices of the school-going children and the quality of their life

**Universal Primary Education Schools:** Refers to primary schools aided by the government of Uganda to promote equal access, opportunity and quality education for all school going children.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1. Introduction**

This chapter carefully evaluated and criticized existing literature from other authors and scholars on specific aspects of the study; that is, the effect of sanitation on girl child education with the aim of filling the research gap identified in the problem statement. In the review, the study gained confidence and brought focus to the concepts under study, exposed methodologies that can be adopted and used in the study. The sources of literature reviewed included text books, government publications, websites (internet), newspapers, training materials and journals. These sources were read, reviewed and critically analyzed to determine possible areas of similarity and divergence. It also involved a systematic identification, location and analysis of the above documents containing information related to the research problem that was under investigation. In this study the literature review was carried out in line with the objectives.

#### **2.2. Theoretical review**

This study was guided by the Stimulus-Response theory. The proponent of this theory is Edward L. Thorndike (1903). This theory mainly explains human behavior. Thorndike asserted that “man is an animal and that his actions are actually always reactions.” He “equated” children with rats and monkeys, and believed that “the aim of the teacher is to produce desirable and prevent undesirable changes in human beings by producing and preventing certain responses.” The theory assumes that, behavior is caused by someone or something (the stimulus) outside the individual; the action following is a response to that stimulus. All complex forms of behavior, including reasoning, habit, and emotional reactions are composed of simple stimulus-response to

events which can be seen and measured. We can trace a child's attitude back to a specific stimulus. Once we have identified a stimulus that produced certain responses, we can predict the individual's behavior. Furthermore, if we can control the stimulus, we can control the individual's behavior. In summary, the stimulus response theory shows us that all human behavior is motivated by responses that are rooted outside the individual.

When viewed in the context of this study, this theory was very relevant. It implies that in Universal Primary Education schools, educational outcomes are result of stimulus and response and in this study condition of sanitation are stimulus and the action of the girl child that result in the educational outcome is the response to the conditions of the school sanitation and cultural practices. How satisfying the sanitation is, determines girl child education. So the theory assisted this study in investigating the effect of sanitation on girl child education in Universal Primary Education schools in Vurra County, Arua District, Uganda.

### **2.3. Actual literature review**

This sub-section looked at actual analysis, evaluation and criticism of the works of previous researchers and scholars with a view of identifying the gaps that may exist in such documents so that such gaps may be closed by this research for further research that could be recommended by the study.

#### **2.3.1. Sanitation facilities and girl child education**

In this section, the study reviewed documents on sanitary facilities and girl child education to establish the relationship between the two variables and the possible gaps.

Sanitation facilities are facilities and services for the safe disposal of human urine and feaces (WHO, 2000). Worldwide, one in five children of upper primary school age is out of school,

including one in four children in South Asia (UNESCO, 2010). As cited by Anjali (2014), Herz and Sperling (2004) noted that girls in developing countries disproportionately drop out of school, particularly around puberty, which some have been attributed to lack of sanitation facilities for menstruating girls. Adequacy of sanitary facilities has affected girl's participation in education and this is because girls thrive well in a clean environment and they are sensitive to embarrassment, diseases and issues that create trauma on them (Priscilla and Kyalo, 2014).

Lack of clean and healthy sanitation facilities like toilets and a latrines means that girls often do not have anywhere to change or dispose of pads safely and privately and this affects their education (UNESCO 2009). School girls in South Africa also reported a fear of using sanitation facilities due to sexual assaults in school toilets located far from the school building as well as avoiding schools during menstruation (Naeemah, Shanaaz, and Petunia, 2006). Sommer (2010) in his study found that post-pubescent female school girls in Tanzania face challenges to travel to attend school because of inadequate school facilities and water. From a practical perspective, girls who lack adequate sanitary materials may miss school each month during their periods.

If girls attend schools which-as many do-lack adequate latrines and water supplies for girls comfortably change sanitary pads and wash themselves in privacy, they may be unable to remain comfortably in class during their menstrual cycle (Kirk, 2005). Adequate facilities in schools, especially sanitary facilities and materials for girls like wash rooms, pads to help them during menstruation management at school is said to be promoter of girl's retention in primary schools in Kitgum (Atim, 2013). As cited by Kulanyi (2013), a pilot study on menstrual management in Uganda conducted by SNV and IRC in 2012 revealed that lack of proper sanitary infrastructure coupled with lack of menstrual pads in schools have contributed to girls dropping out of school completely. However, other studies suggest that poor sanitation facilities do not necessarily keep



girls away from school, and that cultural beliefs are more of a barrier than the absence of sanitation facilities Abraham (2001). Kremer (2012) expresses skepticism that school latrines impact girls' enrollment, referencing Oster and Thornton's finding of no impact on school attendance from providing menstrual cups to girls in four schools in Nepal, though Kremer mainly emphasizes the need for evidence from additional settings.

Available documents reviewed in this section highlight that sanitary facilities affect girl child education. Inadequate sanitary facilities affects girl's participation in education, girls always avoid schools and end up dropping out of schools.

### **2.3.2. Hygiene education and girl child education**

In this section, the study reviewed available literature on hygiene education and its effect on girl child education with the aim of highlighting possible relationship and the knowledge gaps.

Hygiene education can be defined as a software component or activities that promote conditions at schools and practices of school staff and children that help to prevent water and sanitation related and parasites. Hygiene education is aimed at improving hygiene behaviors through the provision of information and learning opportunities to help prevent these water and sanitation related diseases. Traditional health “information based” approaches give children academic knowledge but they often neglect the “real life” applications of information and the role of attitudes and values and the possible shortcomings of facilities. Often, it is taken for granted that pupils know how to use the facilities and therefore service providers focus on providing the facilities (hardware) while neglecting the users' level of awareness on how the different WASH facilities operate, how they can be used ( Water Aid Uganda, 2013).

Del Rosso and Marek (1996) noted that children who are taught in schools to acquire essential health related knowledge and skills are not only less likely to engage in health-compromising behavior as adolescents, but more likely to carry the knowledge and skills into adulthood and lead healthy lifestyles. Young Kenyan girls are not generally taught how to control or manage their menstruation, which is a monthly aspect of their lives and this has a tremendous impact on the ways a girl views herself. In the absence of guidance, girls appear to internalize a sense that their bodies are beyond their control (McMahon, Winch, Caruso, Obure, Ogotu, Ochari and Reagans, 2011).

From the available literature cited in this section, hygiene education was found to improve girls' behavior through the provision of information and learning opportunities that promote the girl child education.

#### **2.3.4. Moderating effect of cultural practices on sanitation**

As noted in the conceptual background, cultural practices were treated as having moderating effects on school sanitation. In this section, the study reviewed available literature on how cultural practices relate to school sanitation and knowledge gaps in this area.

Factors related to cultural norms, traditional beliefs and practices can have a strong influence on girls' enrolment, persistence and performance in school (Coclough, Rose, and Tembon, 1998). In the context where cultural taboos restrict the activities of menstruating girls, and where the lack of adequate sanitary protection makes movement away from home physically impossible, the onset of it will inevitably have an impact on girls' access to education (Kirk and Sommer, 2005).

Rivers et. Al, Atuyambe et .al, 2000 and Burke, 1980 as cited by Kulanyi (2013), noted that menstruation in Uganda has traditionally been regarded as "pollution" and there exist taboos

against discussing menstruation and related subjects openly. Even mothers were not supposed to discuss menstruation with their daughters. Since menstruation is regarded as a taboo and is not to be discussed, girls might not have services or even get sanitary facilities and hygiene education. Young girls learned about it either through their aunts or peers.

Among the Batooro in mid-Western Uganda, if a woman in her menses touched a certain plant and it tried or held a baby and it got rashes, that lady was considered to have bad luck. Among the tribes in Northeastern Uganda, girls in their menstrual periods would be isolated in a separate “*manyata*” a grass thatched hut, where they would stay all through their periods while seated in sand to absorb the flow (Kulanyi 2013). Such situations in Mid-western and Northeast Uganda mean that girls will have to stay out of school, thereby, affecting their education. Some girls in Arua and Nebbi are out of schools because of bad cultural practices, Child Protection in Crisis (2013).

During the review, the study noted that although cultural practices have been noted as a factor for girls being out of school, no such studies directly link cultural practices to sanitation. Other studies cited in this review are outside the area of study. This study expected to bring a possible relationship between cultural practices and sanitation in the study area.

#### **2.4. Summary**

After a review of the literature on sanitation and the girl child education, the study draws the following conclusions from the analysis.

The literature reviewed attempted to highlight how sanitation affects girl child education in primary schools. This seems to agree with the hypothesis in the study and this study expected to prove more. As revealed by the various studies, girl child education in Universal Primary

Education schools is dependent on factors like sanitary facilities, safe water facilities, and hygiene education. It is therefore not surprising that where sanitation is poor, girl child education may highly be affected.

Findings from the studies conducted in different locations indicated that sanitation has a big bearing on the girl child education outcome. Because of lack of latrines, girls do not attend classes regularly and this affects their performance, and they end up dropping out of schools.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1. Introduction**

This chapter explains the methodology that was used in this study. It brought forth the research design used, the study population, sample size and selection, sampling techniques and procedure employed, data collection methods, procedures for data collection, data analysis and measurement of variables.

#### **3.2. Research Design**

The study employed a cross-sectional survey research design that used both qualitative and quantitative methods so that issues missed in the quantitative methods can be found through qualitative methods. The study adopted this design because of its appropriateness when time and other resources are limited. The design also gives a detailed description of events as they are at the time, as reported by a cross section of people. The quantitative method was used in this study to measure the degree and extent of the attitudes. The quantitative method is flexible in terms of multiple scale and the indices focused on the same construct, allowing for different responses from the many target respondents, knowledge and experience on the subject under study (Ahuja, 2005). Meanwhile, the qualitative method was used because it helps the study to give in-depth understanding of the respondents' attitudes. Qualitative explains and gives deeper insights into a problem (Amin, 2005). Such data was analyzed by the study to give more meaning so as to complement qualitative data.

### **3.3. Study Population**

The study population comprised of the population of eight (8) mixed Universal Primary Education schools in Vurra County in Arua District. The study targeted 139 respondents in four different categories, namely: three (3) District Officials, eight (8) head teachers, 40 teachers, 80 girls (pupils' leaders of upper classes), and eight (8) senior women teachers. The choice of respondents was based on recognizing them as key stakeholders in school programs and girl child welfare.

### **3.4. Determination of the Sample size**

Since the school population was large and we had limited resources, a sample of 139 was studied. Each stratum sample size was determined through purposive sampling because of their active roles and knowledge in education and girls' welfare. For teachers and girls (pupils' leaders) Krejcie & Morgan Table (Krejcie & Morgan, 1970 as adopted by Sarantakos, 2005) was used since they are many and resources and time would not allow data collection on each of them.

### **3.5. Sample techniques and procedure**

The study used stratified random sampling to achieve the desired representatives groups. According to Amin (2005), in a stratified sampling, the population is divided into sub-population such that the elements within each sub-population are homogenous. The categories under the target population in 3.3 were treated as different strata as illustrated in the Table 2 below. District officials, head teachers, and senior women teachers were purposively selected. Purposive sample is based on the researchers own judgment or experiences in selecting elements in a sample. District officials were purposively selected because of their roles in education at the district level and they have critical information. The senior women teachers are responsible for

girl's welfare in schools and provision of guidance and counseling to the girls. Teachers and pupils (girls) were selected using simple random sampling. This procedure gave each item an equal probability of being selected.

**Table 1. Study Population and Sample Size**

Category	Population	Sample size	Sampling Techniques
District officials	3	3	Purposive
Head Teachers	8	8	Purposive
Teachers	45	40	Simple random
Senior Women Teachers	8	8	Purposive
Pupils' Leaders (Girls)	100	80	Simple random
TOTAL	164	<b>139</b>	

*Source: Arua District Education Office statistical data 2014*

### **3.6. Data Collection Methods**

The study used both quantitative and qualitative data collection methods. Under quantitative data collection method, the questionnaire method was employed while under qualitative data collection method, interview and Focus Group Discussion and documentary review were used.

#### **3.6.1. Questionnaire Survey Method**

The questionnaire survey method was used on a selected population of teachers. The method was used in the study because; it allows the study to administer to a large population at the same time. Mugenda and Mugenda (2005) stated that a questionnaire is used to obtain important information about the population and ensures wide coverage of the population in a short time. This method was used to collect data from 40 teachers especially the Deputy head teacher in-

charge of administration, teachers' in-charge of health (male and female), and class mistresses for upper classes (P.5, P.6 and P.7). This is based on a recognition that they play a critical role in school sanitation and girl child education at various levels.

### **3.6.2. Interview Method**

Qualitative data was collected using the interview method. Interview, as a method of qualitative data collection was used in this study because it will provide a deeper insight into the matter/data to be obtained and the same question can be asked in different ways to enhance accuracy, allows the study of body language by the researcher as well as the credibility and seriousness of the researcher and enhancing interpersonal relationship between the researcher and the interviewees since the former or his/her agent appears physically before the latter and is less costly and instant since you don't spend in mailing and you get the data immediately.

Interview method was used to collect data from selected respondents who have experience and expertise in the area of study and this supplemented data gathered through the qualitative method. Targeted respondents for this method included 3 District officials (District Education Officer, District Inspector of schools and the District Health Inspector), 8 Head teachers and 8 senior women teachers. This is because district officials (the District Education Officer is the head of education at the district and have critical information, the District Inspector of Schools has more knowledge on the condition of the schools in the district and regularly visits them, the District Health Inspector is responsible for environmental health and sanitation in the district and has information on school sanitation), Head teachers are heads of schools and have critical information concerning the situation of sanitation and girl child welfare, senior women teachers are responsible for girls' welfare in schools and provide guidance and counseling to the girls.



### **3.6.3. Focus Group Discussion Method**

Qualitative data was also collected using the Focus group discussion with pupils especially the girls. FGD according to Barifaijo, Basheka and Oonyu (2010) is qualitative data collection method that is effective in helping researchers learn the social norms of the community. It requires one or two researchers and several participants to meet and discuss a given research topic. FGD was used because studies have shown that people feel more empowered and supported when in a group and with peers compared to one on one discussion (Uskul 2004: 670). FGD will help the study to get a deeper and more meaningful understanding of participants' views and experiences, how they feel about a particular topic, and their beliefs and understanding of a problem in question.

The study used FGD to collect information for the 80 pupils' leaders (girls) especially the Head Girls, Deputy Head Girls, Class Monitors (female) for upper class of P.5, P.6 and P.7, prefect in-charge of Health, girls' in-charge of sports and prefects' in-charge of clubs on how school sanitation affects their education. The pupils' leaders, especially girls were selected on recognition that they are within the ages that have experience the menstrual cycle and sanitation challenges, they are in-charge of girl's issues and have critical information regarding the challenges that are facing girls in schools. Seven (7) FGD were conducted in seven(7) schools comprising of 10 pupils per group.

### **3.6.4. Documentary Review Method**

The study also reviewed available documents from the district education office, district health offices, Non-Governmental Organization and schools. The materials for analysis included books, minutes of meetings, and reports. The advantage of content analysis of documents as a method of data collection is that the information obtained therein is official, credible and can stand the

test of time and can still be referred to in future as proof by the supervisors and other researchers. Its main disadvantage is that it can be tampered with hence giving false information and not very easy to access since one has to get express permission from management.

### **3.7.Data Collection instruments**

The following were the data collection instruments that were used in this study.

**Questionnaire(Appendix 1.)** is an instrument that was used to collect data from 39 teachers.

Self-administered structured questionnaires were used to collect data from teachers.

**Interview Guide (Appendix 2 & 3)** is an instrument for data collection in this study. A guide containing a set of open ended questions was used for interviewing district officials, head teachers and senior women teachers.

**Focus Group Discussion Guide: (Appendix 4).** To be able to get qualitative data, the study employed Focus Group Discussion (FGD). A list of open ended questions was used to collect data from pupils.

**Documentary Review Checklist: (Appendix 5)** is an instrument for data collection that was used in this study.

### **3.8. Validity and reliability**

#### **3.8.1 Validity**

In this study, validity measurement was geared towards content and constructs validity measuring the extent to which a measure reflects the specific intended domain of content and construct. Expert individuals from World Vision, SNV, Nutricare, and Danish Refugee Council were used to establish correct operational parameters for the concept being studied.

### **3.8.2. Reliability**

The tools were pretested in two schools in two sub-counties of Ullepi and Okollo to assess the reliability and 20 teachers participated. This pretest established the reliability value of the instrument Amin (2005). The instrument was used because the reliability value was 0.96 Cronbach's Coefficient Alpha.

### **3.9. Procedure of data collection**

The researcher got an introduction letter from the Uganda Management Institute permitting the researcher to proceed with data collection. The letter was presented to the Arua District Chief Administrative Officer and the District Education Officer for their approval and introduction to the schools where the data collection took place. The researcher informed the school three days in advance before the date of the data collection.

The researcher trained a research assistant who is a local resident on how to administer questionnaires and Focus Group Discussions for children. The researcher worked with the research assistants in order to ensure quality and ethics in the data collection.

### **3.10. Data Analysis**

#### **3.10.1. Quantitative Data Analysis**

Data obtained through quantitative data collection methods were thoroughly checked and cross-checked for completeness. Thereafter, editing, coding was done and the data manipulated for analysis that comprise of computation (by use of Statistical Package for Social Scientists). Descriptive statistics included the measures of central tendencies. Here, mean, median and mode were considered. Also, measures of dispersion such as standard deviation and range were considered.

For hypothesis testing, relational/correlation data analysis which examines three major aspects of relationships: The presence or absence of correlation, the direction of correlation (positive or negative) and the strength of correlation. Here, Pearson's Correlation coefficient ( $r$ ) was calculated to determine the strength of association between two variables. The study also employed Regression Analysis to test for relationship and linearity of the variables.

### **3.10.2. Qualitative Data Analysis**

Information collected through qualitative data collection instruments was triangulated into quantitative data and accordingly classified, coded and presented. The frequency of responses was tallied and interpreted. Data that is well coded, conceptually organized, interrelated, evaluated and analyzed can be used as a spring board for further research until critical aspects of a study or problem area has been fully understood so as to inform policy (Sarantakos, 2005, p.345).

### **3.11. Measurements of variables**

Here, the coding system was used whereby numbers were assigned to characteristics to operationally define the variables accordingly. Nominal scale of measurement was applied to cases that have some common characteristics such as sex or marital status. In this case, numbers were assigned for the purpose of identification and did not carry any value or allow for comparison. Ordinal measurement styles were used. This does not only categorize the elements being measured but also ranks the discrete variables (Amin, 2005, p. 111).

The study used Likert Scale to measure people's attitudes, perception or feelings (Likert Scale: 1=Strongly Disagree, 2=Disagree, 3=Not sure, 4= Agree and 5=Strongly Agree)

## CHAPTER FOUR

### PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

#### 4.0 Introduction

The study investigated the effect of sanitation on girl child education in Universal Primary Education schools in Vurra County, Arua District -Uganda. The independent variable in this study was sanitation while the dependent variable was girl child education. The study also had a moderating variable which was cultural practices.

Three questions were answered and three hypotheses were to be tested to uphold or reject them as per the findings and conclusions made. The study used Pearson's rank correlations and regression analysis to determine the correlations between the various dimensions of the independent variable and the dependent variable. This chapter therefore presents the main findings of the study obtained from the data that were collected using both primary and secondary mean and computed by using the Statistical Package for Social Scientists (SPSS) program.

#### 4.1 Response rate

*Table 2. Participants' response rate*

<b>Tools</b>	<b>Target Respondents</b>	<b>Actual Respondents</b>	<b>Response rate in %</b>
Questionnaires	40	39	97.5
Interviews	19	12	63.2
Focus Group Discussion	80	70	87.5
<b>Overall response rate</b>			248.2/3 = 82.7

Source: Field Data

From Table 2 above, a total of 40 questionnaires were administered to the respondents, out of which 39 were returned fully completed. This implies a response rate of 97.5 %. For the interview, 19 were targeted for the interviews but only 12 were interviewed. This represents 63.2 % response rate. Eight (8) groups of children with 10 participants each were targeted for the focus group discussion out of which only seven (7) were held representing 87.5% response rate. The overall response rate for the study is therefore 82.7%. This response rate of 82.7% was over and above what is recommended by Amin (2004). This is significant enough to stand the test or valid finding.

## 4.2 Results on the background characteristics of respondents

### 4.2.1 Sex of the respondents

*Table 3. Sex of the respondents*

		Sex			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	16	41.0	41.0	41.0
	Male	23	59.0	59.0	100.0
	Total	39	100.0	100.0	

Source: Field Data

Table 3 indicates that 41 % of persons that responded to the questionnaire are female teachers and 59.0% were male teachers. Male teachers are more than female teachers because women teachers prefer teaching lower classes while their counterparts dominate upper classes. This explained the reason for the demographic data. Since the majority of the respondents were male, they could not provide more information as the female teachers who understand best the challenges faced by the girls in upper classes.

#### 4.2.2 Position in the school

*Table 4. Position of the respondents in the school.*

**Table 4 Position in the School**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Deputy head teacher	6	15.4	15.4	15.4
Teacher in charge of health	2	5.1	5.1	20.5
Class mistress	6	15.4	15.4	35.9
Deputy senior woman teacher	2	5.1	5.1	41.0
Class teacher	23	59.0	59.0	100.0
Total	39	100.0	100.0	

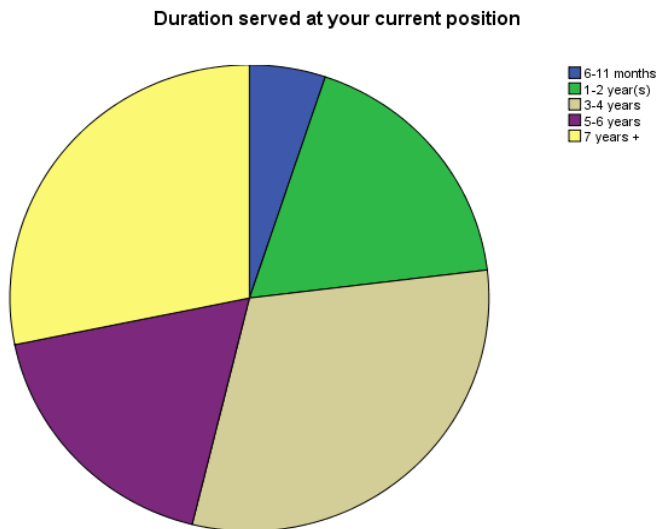
Source: Field Data

From Table 4, it is evident that 59% of the respondents were class teachers. Deputy head teachers and class mistresses were each at 15.4%. Deputy senior woman teachers and teacher in charge of health all were at 5.1%. The figure of 59% means the majority of participants were class teachers. 59% of the class teachers meant more of the respondents had interaction with the girls on a daily basis and can provide useful information regarding sanitation in schools and the situation of girl child education.

#### 4.2.3 Duration served at your current position.

The study also determined through the questionnaire, the duration of service of each of the respondents so as to gauge the quality of answers they give if it is evidence-based and a function of experience. Figure 2 below indicates this finding.

**Figure 2. Duration served at your current position**



Source: Field Data

According to Figure 2, most of the respondents had served in the school for more than 3 years. Since a greater percentage of the teachers have served for more than 3 years, this means they have enough knowledge and experience on the situation of sanitation and girl child education and therefore could communicate reliably on the area of the study.

#### **4.2.4 Age group of the respondents**

The study inquired into the age of the respondents and obtained the following data presented in the Table 5.



**Table 5. Age group of the respondents**

		Age group			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 to 29 years	1	2.6	2.6	2.6
	30 to 39 years	22	56.4	56.4	59.0
	40 to 49 years	12	30.8	30.8	89.7
	50 years +	4	10.3	10.3	100.0
	Total	39	100.0	100.0	

Source: Field Data

According to Table 5, majority of the respondents were between the age bracket of 30 to 39 representing 56.4%, age group of 40 to 49 were 30.8% and 10.3% were 50 years +. Only 2.6% of the respondents were between ages of 20 to 29. Since the majority were 30+ years. This means the respondents are mature enough to interpret the questions and therefore make the findings of the study relevant.

### **4.3 Study Findings**

This section presents the study findings of the research

#### **4.3.1 Research Question One:**

##### **What are the effects of sanitary facilities on girl child education in primary schools in Vurra County, Arua District?**

This section presents study findings from the respondents with regards to the first objective of the study which investigated the effect of sanitation facilities on girl child education. The

responses from the respondents for each question under this specific objective are as presented in the Table 6.

**Table 6. Responses on how sanitary facilities affect girl child education**

Questions/opinion	Frequency/percentage					Mean	Standard deviation
	SD	D	N	A	SA		
The school has sufficient toilet facilities for girls	3 (7.7%)	14 (35.9%)	3 (7.7%)	15 (38.5%)	4 (10.3%)	3.08	1.222
A learning environment should have separate toilets for males and females	2 (5.1%)	1 (2.6%)	3 (7.7%)	8 (20.5%)	25 (64.1%)	4.36	1.088
Separate toilets for girls and boys encourage girls to stay in school	2 (5.1%)	1 (2.6%)	1 (2.6%)	17 (43.6%)	18 (46.3%)	4.23	1.012
Separate toilets for boys and girls motivate older girls to stay in school	4 (10.3%)	1 (2.6%)	3 (7.7%)	16 (41.0%)	15 (38.5%)	3.95	1.234
The girls' toilet is always clean	4 (10.3%)	13 (33.3%)	6 (15.4%)	11 (28.2%)	5 (12.8%)	3.00	1.257
Girls feel comfortable in our school because of the toilet facilities	5 (12.8%)	11 (28.2%)	5 (12.8%)	11 (28.2%)	7 (17.9%)	3.10	1.353
Our school has bathrooms that are	13 (33.3%)	7 (17.9%)	4 (10.3%)	8 (20.5%)	7 (17.9%)	2.72	1.555

used by girls in case they experience menstrual periods							
girls do not come to school because of lack of bathroom facilities	8 (20.5%)	12 (30.8%)	7 (17.9%)	10 (25.6%)	2 (5.1%)	2.64	1.224
Our school provides girls with buckets for bathing during menstruation	7 (17.9%)	4 (10.3%)	4 (10.3%)	16 (41.0%)	8 (20.5%)	3.36	1.405
Our school provides Sanitary towels for girls	12 (30.8%)	6 (15.4%)	5 (12.8%)	9 (23.1%)	7 (17.9%)	2.82	1.537
The girls can easily access our water sources.	5 (12.8%)	2 (5.1%)	3 (7.7%)	16 (41.0%)	13 (33.3%)	3.77	1.327
Provision of safe drinking water allows girls stay in school	5 (12.8%)	4 (10.3%)	5 (12.8%)	13 (33.3%)	12 (30.8%)	3.59	1.371
Inadequate water facilities discourage girls from participating in school activities	7 (17.9%)	5 (12.8%)	3 (7.7%)	14 (35.9%)	10 (25.6%)	3.38	1.462

N=39

KEY: LIKERT SCALE (SD= Strongly Disagree; D= Disagree; N=Not sure; A= Agree; SA= Strongly Agree)

Source: Primary Data

From the responses in Table 6, 38.5% (15) respondents tend towards agreement with the statement that the school has sufficient toilet facilities for girls. 35.9% (14) disagreed with the statement, 10.3% (4) strongly agreed while 7.7% (3) of the respondents strongly disagreed and

were not sure with the statement respectively. There mean is at 3.08 at a standard deviation of 1.222. Although majority with 38.5% agreed that schools have sufficient toilets, 35.9% disagreed and this can be interpreted that some schools had sufficient toilets for girls and others do not have. It can also be that most of the respondents are not aware about the standard ratio of 1 stance to 40 pupils. A review of 2014 school enrollment for the 8 schools indicates that schools lack sufficient toilets for girls and on average the stance ratio is 1:80. However there was general agreement at 38.5% that it cannot be safely concluded that other schools have sufficient toilets while others do not have. A review of Ave P/S school enrollment statistics for 2014 shows that there were 426 girls using 6 stances pit latrine and this implied a stance ratio of 1:70. Findings from Key Informant and FGD shed a similar picture about toilet facilities and that because of the large numbers of girls in schools, the available stances are inadequate. Participants in the FGD noted that:

*“Since the number of pupils especially girls has grown tremendously, the available sanitary facilities are not enough for all the girls in the school. This makes us feel bad about coming to school. Inadequate toilet and bathroom facilities makes it hard for us especially during the time of our periods because we cannot change clothes and pad ourselves which then forces us to stay home until the periods are over. This affects our performance in that we don’t attend classes regularly like the boys do”.* (FGD, Nov 13, 2014)

A similar comment was also obtained from a participant during the FGD

*“Toilets are not enough and when experiencing diarrhea and you want to use the toilet, the rooms may be full and you are forced to go home”* (FGD, Nov 13, 2014)

When asked whether a learning environment should have separate toilets for males and females 64.1% (25) of the respondents strongly agreed with the statement while only 5.1% (2) strongly disagreed. The respondent’s views were far apart from each other at a mean of 4.36 at a standard

deviation of 1.088. 64.1% is over and above half, this can be interpreted that respondents are in strong agreement that a learning environment should have a separate toilets for males and females.

46.3% (18) of the respondents strongly agreed and 43.6% (17) of the respondents agreed with the statement that separate toilets for girls and boys encourage girls to stay in school while only 5.1% (2) and 2.6% (1) strongly disagreed and disagreed with the statement. The mean stood at 4.23 at a standard deviation of 1.012. Since only 5.1% and 2.6% of the respondents strongly disagreed and disagreed with the statement, the study can therefore conclude that a separate toilet for girls and boys encourage girls to stay in school. While 33.3% (13) of the respondents disagreed with the statement that the girls' toilets are always clean. 28.2% (11) of the respondents agreed that the girls toilets are always clean. 15.4% (6) were not sure, 12.8% strongly agreed and 10.3% strongly disagreeing. The mean stood at 3.00 at a standard deviation of 1.257 meaning the respondent views were wide scattered. Findings from FGD and Key Informants revealed that girls' toilets are always dirty as they are also used by church congregation and if the school is at the trading center the community members makes it dirty every day. A key informant said,

*“In our school, we have a Rota for cleaning the toilets and this is done by girls in upper classes. We have witness girls not coming to school especially on Monday and after-market days because they fear cleaning a dirty place”.* (KI-Head teacher Nov, 14, 2014)

There was also a general level of agreement in the FGD and Key Informant interviews that when latrines are dirty, girls get disease and may not come to school.

*“For us women “we are opened” and dirt can flash on your private parts and can cause itching/disease and this can make the girls uncomfortable in the class and eventually force them to leave school”.* (KI-Deputy Senior woman Teacher Nov, 14, 2014)

In schools where the toilets are clean, qualitative data revealed that it promotes girl child education. One of the girls noted,

*“If toilets are clean, we do not waste time going home, this makes us always present at school and attend classes”* (FGD-Nov 13, 2014)

Also discussants were quick to mention:

*“The clean latrines and bathing shelter has prevented us from contracting diseases like candida which is dangerous to girls and it is normally got through dirty facilities like toilets, basins, shelter. This allows us to continue with education with no problems.”*(FGD Nov 15, 2014)

For the question whether school has bathrooms used by girls in case they experience menstrual period, 33.3% (13) of the respondents were in strong disagreement that schools have bathrooms that are used by girls in case they experience menstrual period while 20.5% (8) tended to agree that their school has bathrooms. The respondents' views varied at a mean of 2.72 at a standard deviation of 1.555. Data from the FGD also revealed that where the schools do not have bathroom facilities, girls use facilities in the teachers' homes especially for the senior women teachers and not all girls can have access. A similar comment was also obtained from key informant interview in one of the school. She said,

*“Since everyone cannot access the teachers quarters, some girls are forced to go home during menstruation and this makes them not to attend school regularly”.*(KII-Head teacher Nov 15, 2014)

On the statement that girls do not come to school because of lack of bathroom facilities, 30.8% (12) of the respondents generally disagreed with the statement while 25.6% (10) agreed. 20.5% (8) also strongly disagreed with the statement. The mean value is at 2.64 at a standard deviation of 1.224, meaning the respondents' views were varying. During FGD girls revealed that using

facilities at teachers' homes also exposed or undermined the personal privacy of the girls and they end up being harassed by boys. One of the discussants in the FGD noted that:

*“Boys always say we have aborted if they see us going to the teachers' home and so we just go home and only come after menstruation”.*(FGD Nov 14, 2014)

On whether schools provide sanitary towels to girls, 30.8% (12) of the respondents tended to strongly disagree that their school provides sanitary towels for girls while only 23.1% (9) of the respondents were in agreement. The respondents' views were closed at a mean value of 2.82 at a standard deviation of 1.537. This can also be interpreted that some schools provide sanitary towels and others do not provide. Qualitative data also shed a similar picture that numerous schools do not provide sanitary material and only few schools provide materials like sanitary towels, soap, smearing oil, jerricans, basins and “*Kitenge*”. Most of these materials are provided as a response to emergency. During interviews, one of the key informants noted thus:

*“We only provide sanitary pads on the first day of menstrual period and we treat it as emergency. We do encourage girls to discuss with their parents to provide for the second and third day but you will find that most parents do not provide girls with sanitary pads and because they are not provided, girls will not come to school on day two and three. They will only report back to school after”* (KII – Nov 16, 2014)

In some schools the Netherlands Development Organisation (SNV) through their partners trained senior female teachers on making re-usable pads using local materials and the knowledge and skills imparted to girls. During a FGD with girls, participants noted that the skills of making re-usable pads have reduced the burden of buying pads by parents. They can make themselves re-usable pads and this makes them stay in schools during menstrual cycle.

Also the quantitative data from questionnaires indicated that 33.3% (13) of the respondents were in general agreement that the provision of safe drinking water allows girls to stay in school while only 12.8% (5) strongly disagreed with the statement. The mean stood at 3.59 at a standard deviation of 1.371. Findings from qualitative data revealed that 3 schools use water from community protected springs, and Odukulo, Ala and Enyau rivers which are far from school. Some schools use boreholes which are far away. There was overall agreement among FGD participants that lack of water in schools negatively affect girl child education. A participant in the FDG noted,

*“When we are in our periods, the water in the bathing shelter is not enough to support all the entire girls, since we only have three jerricans to support the girls bathing shelter. It really affects us a lot. Some girls even end up not bathing and go home instead.”* FGD Nov 13, 2014).

And when asked if inadequate water facilities discourage girls from participating in school activities, 35.9% (14) of the respondents were in agreement with the statement, 25.6% (10) strongly agreed, 17.9% (7) strongly disagreed, 12.8% (5) disagreed and 7.7% (3) were not sure. The respondents’ views were scattered far apart with a mean value of 3.38 at a standard deviation of 1.462.

In conclusion therefore, sanitary facilities are a very important prerequisite to have good educational outcomes of girl child education. It is therefore not possible to have good educational outcomes from a girl child with inadequate sanitary facilities



### 4.3.2 Null Hypothesis One:

#### **Sanitary facilities do not significantly affect girl child education in primary schools.**

In order to draw a conclusion, the study used Pearson's rank correlation to test for the relationship between sanitary facilities and girl child education in primary schools.

*Table 7. Pearson's Correlations findings for Hypothesis One*

		Sanitary facilities	Girl Child Education
Sanitary facilities	Pearson Correlation	1	.534**
	Sig. (2-tailed)		.000
	N	39	39
Girl Child Education	Pearson Correlation	.534**	1
	Sig. (2-tailed)	.000	
	N	39	39

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: Primary Data

The relationship between sanitary facilities and girl child education was investigated using the Pearson product-moment correlation coefficient (r). It was found that there is a strong positive correlation between sanitary facilities and girl child education which was statistically significant at (r= . 534. N=39, p=0.000) as in Table 7. It could also be explained that the study obtained a positive correlation coefficient of 0.534\* between sanitary facilities and girl child education at a significant level of 0.00 (2-tailed). Since the result was less than the set level of significance at 0.05, it means that the correlation between sanitary facilities and girl child education was strong and significant. So if there is adequate sanitary facilities, girl child education will improve and

vice versa, the null hypothesis (HO) was accordingly rejected and the positive hypothesis (HI) was accepted that sanitary facilities significantly affect girl child education.

Regression analysis was also run to establish the extent of the relationship and the effect of sanitary facilities on girl child education and the results were as illustrated in the Table 8.

**Table 8. Model Summary for Hypothesis one**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.534 <sup>a</sup>	.285	.266	3.90993

- a. Predictors: (Constant), Sanitary facilities  
Source: Primary Data

According to the results in Table 8 above,  $r=.534$ ,  $r^2=.285$  and when expressed in percentage terms implied that the effect of Sanitary facilities on girl child education was 53.4%. The remaining 46.6 % could be explained by other factors other than sanitary facilities.

**Table 9. Regression analysis coefficient for Hypothesis One**

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.802	3.340		4.731	.000
	Sanitary facilities	.287	.075	.534	3.843	.000

- a. Dependent Variable: Girl child education  
Source: Primary Data

From Table 9, the standardized coefficient of positive Beta of .534 for sanitary facilities was significant at 0.000 at a significance level of 0.05 (2 tailed) and indicate a strong relationship between sanitary facilities and girl child education. This statistic shows that sanitary facilities affected girl child education by up 53.4% and the remaining percentage was caused by other

factors other than sanitary facilities. A gain the Null hypothesis (NO) was rejected and the positive hypothesis that sanitary facilities affect girl child education in primary schools was accepted and retained.

#### 4.4.1 Research Question Two:

#### How does hygiene education affect girl child education in primary schools in Vurra County, Arua District?

This section will present study findings from the respondents with regards to the second objective of the study which is to examine the effect of hygiene education on girl child education in primary schools in Vurra County, Arua District. The responses from the respondents for each statement under this specific objective are as presented in the table below.

*Table 10. Responses on effect of hygiene education on the girl child education*

Questions/opinion	Frequency/percentage					Mean	Standard deviation
	SD	D	N	A	SA		
Our school equips girls with sanitary towel making skills	9 (23.1%)	7 (17.9%)	5 (12.8%)	12 (30.8%)	6 (15.4%)	2.97	1.442
We equip girls with menstrual management skills	1 (2.6%)	2 (5.1%)	1 (2.6%)	21 (53.8%)	14 (35.9%)	4.15	.904
The menstrual management skills make girls organized in school	1 (2.6%)	1 (2.6%)	2 (5.1%)	19 (48.7%)	16 (41.0%)	4.23	.872

Hygiene life skills empower girls as change agents	3 (7.7%)		3 (7.7%)	17 (43.6%)	16 (41.0%)	4.10	1.095
Counseling and guidance by senior women teachers creates a good environment for girls in school	1 (2.6%)	3 (7.7%)	2 (5.1%)	13 (33.3%)	20 (51.3%)	4.23	1.038
Guidance and counseling allows girl to stay in school	2 (5.1%)	1 (2.6%)	1 (2.6%)	14 (35.9%)	21 (53.8%)	4.31	1.030
We regularly provide counseling and guidance to girls		1 (2.6%)	2 (5.1%)	30 (76.9%)	6 (15.4%)	4.05	.560
Girls change their behaviour because of counseling and guidance		2 (5.1%)	1 (2.6%)	21 (53.8%)	15 (38.5%)	4.26	.751
Availing girls with Information Education Communication (IEC) materials on menstruation promotes awareness	1 (2.6%)	3 (7.7%)	5 (12.8%)	18 (46.2%)	12 (30.8%)	3.95	.999
We use Information Education materials to disseminate messages on hygiene education	3 (7.7%)		6 (15.4%)	27 (69.2%)	3 (7.7%)	3.69	.922

Contents of our Information Education materials includes sanitation and hygiene promotion which are very good for girls		5 (12.8%)	1 (2.6%)	22 (56.4%)	11 (28.2%)	4.00	.918
Our school regularly provides information education materials to girls, especially older ones	1 (2.6%)	7 (17.9%)	3 (7.7%)	19 (48.7%)	9 (23.1%)	3.72	1.099

N=39

KEY: LIKERT SCALE (SD= Strongly Disagree; D= Disagree; N=Not sure; A= Agree; SA= Strongly Agree)

Source: Primary Data

From Table 10 above, 30.8% (12) of the respondents generally agreed that their school equip girls with sanitary towel making skills while 23.1% (9) strongly disagreed with the statement. 12.8% (5) were not sure with the statement. The mean value stood at 2.97 at a standard deviation of 1.442, this means that much as the majority of the respondent's views on this opinion is positive, there are some sections of the respondents who do not agree with this opinion that's why there is a relatively higher standard deviation from the mean.

Key informant and FGD with children revealed that senior women teachers in some schools received training from Non-Governmental Organisations on making re-usable pads and they are imparting the skills to girls on how to make local pads or use alternative towels like cotton cloth.

The Table also revealed that 53.8% (21) of the respondents generally agreed with statement that they equip girls with menstrual management skills while only 2 of the respondents (5.1%) disagreed with the statement. This means majority of the respondents agree with the opinions set although there are some sections of the respondents who do not agree at a mean of 4.15 at a standard deviation of 0.904. Findings from Key informants, FDGs and documentary review of note books for counseling and guidance revealed that all schools have discussion on hygiene education and the topics include; body cleanliness, personal hygiene, menstruation management, premarital sex and puberty and its challenges

On the statement whether menstrual management skills make girls organized in school, 48.7% (19) of the respondents generally agreed with the statement. 41.0% (16) of the respondents were in strong agreement while only 2.6% tended to disagree with the statement. The mean value stood at 4.23 at a standard deviation of 0.872, meaning the majority of the respondents are in agreement with the statement. This is further supported by analysis of qualitative data that menstrual management skills make girls learn how to keep personal hygiene, which makes them stay in school, promote general cleanliness and encourages girls to have interest in education, become psychologically strong to handle themselves and when experiencing menstrual challenges, attend classes, view menstruation as normal and would not miss schools. Menstrual management skills made girls to have at least an alternative measure like cotton clothing that keeps them in school. A participant in a FGD noted:

*“Most of us have learnt to manage our periods with no problem. And this has helped us stay in school since we now know the side effects of menstruation, and how we are supposed to conduct ourselves during menstruation.”* (FGD Nov 17, 2014)

Regarding the statement that hygiene life skills empower girls as change agents, 43.6% (17) agreed with the statement while only 7.7% (3) strongly disagreed and 7.7% (3) were not sure. The mean stood at 4.10 at a standard deviation of 1.095. This implies that most of the respondents agree that hygiene life skills empower girls as change agents and this impacts positively on the girl child education as supported by qualitative data analysis that some girls can now at least discuss openly with their colleagues issues affecting them and also advise others unlike before where they will just sneak and go home when they are facing problems.

Whether counseling and guidance by senior women teachers create a good environment for girls in schools, 51.3% (20) of the respondents strongly agreed that counseling and guidance by senior women teachers creates a good environment for girls in school while only 7.7% (3) tend to disagree with the statement. The mean stood at 4.23 at a standard deviation of 1.038, meaning the majority are in agreement with the statement. Regarding the statement on whether if guidance and counseling allows girls to stay in school, 53.8% (21) of the respondents strongly agreed and only 5.1% (2) strongly disagreed with the statement. 2.6% (1) of the respondents disagreed and were not sure respectively. The respondents' views were closed at a mean of 4.31 at a standard deviation of 1.030. During an interview a key informant said:

*“Through hygiene education girls come to school nowadays. This has led to improvement in their performance. It has promoted general cleanliness among girls unlike in the past where some girls would come to school with dirty uniforms having “crackers” which inconveniences them leading to loss of interest in education”.*(KII-Senior Woman Teacher, 15, November 2014)

In conclusion, both qualitative and quantitative data agreed that hygiene education has a positive impact on girl child education. It is therefore not possible to have a good situation in terms of girl child education without hygiene education.

#### 4.4.2 Null Hypothesis Two:

#### Hygiene education does not strongly affect girl child education in primary schools

Pearson's rank correlation was run to determine whether hygiene education strongly affects girl child education in primary schools. Table 11 shows the statistics obtained after running the test

**Table 11. Pearson's Correlations findings for Hypothesis two**

		Hygiene Education	Girl Child Education
Hygiene Education	Pearson Correlation	1	.689**
	Sig. (2-tailed)		.000
	N	39	39
Girl Child Education	Pearson Correlation	.689**	1
	Sig. (2-tailed)	.000	
	N	39	39

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: Primary Data

From Table 11 above, the Pearson correlation coefficient (r) between hygiene education and girl child education was found to be statistically significant ( $r=0.689$ ,  $n=39$ ,  $P=0.000$ ). The finding of 0.689 means that there is a positive strong effect of Hygiene education on girl child education as shown in Table 13. It could also be explained that the study obtained a positive correlation coefficient of 0.689\* between sanitary facilities and girl child education at a significant level of 0.00 (2-tailed). Since the result was less than the set level of significant at 0.05, it means that the correlation between Hygiene education and girl child education was strong and significant. So if there is hygiene education in school, girl child education will improve and vice versa, the null



hypothesis (HO) was accordingly rejected and the positive hypothesis (HI) was accepted that hygiene education strongly affect girl child education.

Regression analysis was also run to establish the extent of the relationship and the effect of hygiene education on girl child education and the results were as illustrated in Table 12

**Table 12. Model Summary for Hypothesis Two**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.689 <sup>a</sup>	.474	.460	3.35334

- a. Predictors: (Constant), Hygiene education  
Source: Primary Data

According to the results in Table 12 above,  $r=.689$ ,  $r^2=.474$  and when expressed in percentage terms implied that the effect of Sanitary facilities on girl child education was 68.9%. The remaining 31.1 % could be explained by other factors other than hygiene education.

**Table 13. Regression analysis coefficient for hypothesis One**

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.568	3.990		1.396	.171
	Hygiene education	.479	.083	.689	5.778	.000

- a. Dependent Variable: Girl child education  
Source: Primary Data

The standardized coefficient of strong positive Beta of 0.689 for hygiene education was significant at 0.000 at a significant level of 0.05 (2 tailed) and indicates a positive relationship between hygiene education and girl child education. This statistic shows that hygiene affected girl child education by up 68.9% and the remaining 31.1 % percentage was caused by other factors other than hygiene education. So the null hypothesis (HO) that hygiene education did not

affect girl child education in Universal Primary Education schools was rejected and the positive hypothesis that hygiene education affects girl child education was accepted and retained.

#### 4.5.1 Research Question Three

#### How do cultural practices affect the relationship between sanitation and girl child education in primary schools in Vurra County, Arua District?

This section will present study findings from the respondents with regard to the third objective of the study which is to assess the moderating effect of cultural practices on the relationship between sanitation and girl child education in primary schools in Vurra County, Arua District. The responses from the respondents for statements under this specific objective are as presented in the table below.

*Table 14. Response on moderating effect of cultural practices*

Questions/opinion	Frequency/percentage					Mea n	Standard deviation
	SD	D	N	A	SA		
Cultural preference for boys over girls affects the provision of sanitary facilities for girls in school	2 (5.1%)	9 (23.1%)	7 (17.9%)	20 (51.3%)	1 (2.6%)	3.23	1.012
Parents always provide personal hygiene effects for girls when they come to school	7 (17.9%)	16 (41.0%)	6 (15.4%)	9 (23.1%)	1 (2.6%)	2.51	1.121
Senior women teachers help girls		3 (7.7%)	3 (7.7%)	16 (41.0%)	17 (43.6%)	4.21	.894

understand sanitation							
Girls and boys sharing latrines affects personal privacy	6 (15.4%)	5 (12.8%)	4 (10.3%)	8 (20.5%)	16 (41.0%)	3.59	1.517
Culturally girls do not share personal problems with male teachers	3 (7.7%)	5 (12.8%)	1 (2.6%)	13 (33.3%)	17 (43.6%)	3.92	1.306

N=39

KEY: LIKERT SCALE (SD= Strongly Disagree; D= Disagree; N=Not sure; A= Agree; SA= Strongly Agree)

Source: Primary Data

From Table 14 above, 51.3 % (20) of the respondents agreed that cultural preference for boys over girls affects the provision of sanitary facilities for girls in school. 23.1% (9) of the respondents disagreed that cultural preference for boys over girls affects the provision of sanitary facilities for girls in school. This could imply that access to sanitary materials like sanitary towels could be difficult for girls and this may affect their education. The mean response stood at 3.23 at a standard deviation of 1.012.

41.0% (16) of the respondents disagreed with the statement that parents always provide personal hygiene effects for girls when they come to school and only 23.1% (9) agreed. 17.9% (7) strongly disagreed, 15.4% (6) were not sure and only 2.6% (1) strongly agreed with the statement that parents always provide personal hygiene effects for girls when they come to school. The mean response stood at 2.51 at a standard deviation of 1.121. This is further supported by data analysis of qualitative information. Key informant noted:

*“Because of the cultural beliefs parents do not support girls and neglect them and wish they could get married. If not given pads, girls will not come to school; they will remain at home. When the period starts at home, girls will stay at home because their parents have not provided the pads so they end up not coming to school hence dropping out”.*(KI-Head teacher Nov 17, 2014)

Qualitative data analysis also revealed that the community had a traditional way of managing menstruation and this could be the reason why parents do not provide effects for girls’ personal hygiene. During an interview a key informant noted:

*“Traditionally women and girls use old pieces of cotton cloth and this is culturally accepted, Parents would therefore not buy sanitary towels and they expect girls to use available pieces of cotton cloths”.*(KI-Head teacher Nov 16, 2014)

In regard to whether senior women teachers help girls understand sanitation, 43.6% (17) of the respondents strongly agreed with the statement that senior women teachers help girls understand sanitation and 41.0% (16) agreed. 7.7% (3) of the respondents disagreed and were not sure respectively. The mean response stood at 4.21 at a standard deviation of 0.894, meaning that respondents were in agreement with the statement. However there was a strong agreement of 41.0% (16) with the statement that girls and boys sharing latrine affects personal privacy. 20.5% (8) agreed, 15.4% (6) strongly disagreed, 12.8% (5) disagreeing and 10.3% (4) not sure. The mean response stood at 3.59 at a standard deviation of 1.517, this means that much as majority of the respondents’ views on this opinion is positive, there are some sections of the respondents who do not agree to this opinion that is why there is a relatively higher standard deviation from the mean. This can be supported by a quote from the qualitative data:

*“Girls fear to use the bathroom and toilets because boys can get suspicious and harass them. Boys always say the girls have “aborted” and culturally, menstruation needs to be in privacy”.*(FGD 15/Nov 2014)

Regarding the statement whether culturally girls do not share personal problems with male teachers, 43.6% (17) of the respondents strongly agreed with the statement and 33.3% (13) agreeing. 12.8% (5) of the respondents disagreed with the statement, 7.7% (3) strongly disagreed and only 2.6% (1) were not sure. The mean response stood at 3.92 at a standard deviation of 1.306. 43.6% means majority of the respondent are in agreement that culturally girls do not share personal problems with the male teachers.

#### 4.5.2 Null Hypothesis Three

**Cultural practices do not have a significant moderating effect on girl child education.**

The study also ran Pearson’s Rank Correlation to test the relationship between moderating effects of cultural practices in sanitation on girl child education. The results obtained are as displayed in the table below.

**Table 75. Pearson’s Correlations findings for Hypothesis three**

<b>Correlations</b>			
		School sanitation and Girl Child Education	Cultural Practices and school sanitation
School sanitation and girl child education	Pearson Correlation	1	.426**
	Sig. (2-tailed)		.007
	N	39	39
Cultural practices and school sanitation	Pearson Correlation	.426**	1
	Sig. (2-tailed)	.007	
	N	39	39

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: Primary Data

From Table 15 above the Pearson correlation coefficient (r) was found to be 0.426 at a significant level of 0.01 and p – Value of 0.007. The findings of 0.426 can be concluded that there is a moderate effect of cultural practices on the relationship between school sanitation and girl child education as shown in table 16. It could also be explained that the study obtained a positive correlation coefficient of 0.495\* between cultural practices, sanitation and girl child education at a significant level of 0.07 (2-tailed). Since the result was less than the set level of significance at 0.05, it means that the correlation between cultural practices, school sanitation and girl child education was strong and significant. So if there is positive cultural practices, school sanitation will improve and girl child education will also improve and vice versa, the null hypothesis (HO) was accordingly rejected and the positive hypothesis (HI) was accepted that cultural practices have a significant moderating effect on the relationship between sanitation and girl child education.

The Regression analysis was also run to establish the extent of the moderating effect of cultural practices on relationship between sanitation and girl child education and the results were as illustrated in the table16

**Table 86. Model Summary of Hypothesis Three**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.495 <sup>a</sup>	.246	.225	4.01731

- a. Predictors: (Constant), Cultural practices and school sanitation  
Source: Primary Data

According to the result in Table 16 above,  $r = 0.495$ ,  $r^2 = 0.246$  and when expressed in percentage terms implied that the moderating effect of cultural practices on sanitation and girl child

education was 49.5%. The remaining 50.5% could be explained by other factor other than cultural practices.

**Table 17. Regression analysis coefficients for Hypothesis three**

**Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	15.919	3.657		4.353	.000
Cultural practices and school sanitation	.715	.206	.495	3.470	.001

a. Dependent Variable: Girl child education

The standardized coefficient of positive beta of 0.495 for moderating effects of cultural practices in sanitation was significant at 0.001 (2 tailed) and indicated a positive relationship between moderating effects of cultural practices on sanitation and girl child education. In this case positive hypothesis (HI) that the cultural practices affect the relationship between sanitation and girl child education was accordingly accepted and adopted by the study.

**4.6.1 Explanation of statistics obtained under dependent variable**

The study also formulated questions/statements to inquire into certain key aspects of the Dependent Variable that would augment or strengthen the findings obtained under 3 specific objectives earlier on analyzed and interpreted. The data obtained from the questionnaire are as presented below and discussion are made after the statistics

**Table 18. Responses on Girl Child Education**

Questions/opinion	Frequency/percentage					Mean	Standard deviation
	SD	D	N	A	SA		
Girls attend classes regularly	3 (7.7%)	15 (38.5%)	2 (5.1%)	17 (43.6%)	2 (5.1%)	3.00	1.170
We register high class attendance for girls	3 (7.7%)	8 (20.5%)	5 (12.8%)	14 (35.9%)	9 (23.1%)	3.46	1.274
Some girls do not come to school regularly	3 (7.7%)	10 (25.6%)	5 (12.8%)	18 (46.2%)	3 (7.7%)	3.21	1.151
Most girls always complete primary education/P.7	10 (25.6%)	12 (30.8%)	5 (12.8%)	12 (30.8%)		2.49	1.189
Many girls drop out of school before completing primary seven	2 (5.1%)	4 (10.3%)	3 (7.7%)	17 (43.6%)	13 (33.3%)	3.90	1.142
There are fewer girls in upper classes compared to lower classes	4 (10.3%)	3 (7.7%)	2 (5.1%)	16 (41.0%)	14 (35.9%)	3.85	1.288
Academic performance of girls in our school is good	4 (10.3%)	15 (38.5%)	8 (20.5%)	10 (25.6%)	2 (5.1%)	2.77	1.111
Girls perform better than boys in upper primary	7 (17.9%)	20 (51.3%)	6 (15.4%)	5 (12.8%)	1 (2.6%)	2.31	1.004
Girls' performance	3	9	4	16	9	3.44	1.294



is affected in upper classes by menstrual challenges	(7.7%)	(23.1%)	(10.3%)	(35.9%)	(23.1%)		
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N=39

KEY: LIKERT SCALE (SD= Strongly Disagree; D= Disagree; N=Not sure; A= Agree; SA= Strongly Agree)

Source: Primary Data

From the 18Table above, 43.6% (17) of the respondents agreed with the statement that girls attend classes regularly while 38.5% 15 disagreed with the statement. 5.1 % (2) were not sure.

The mean response rate stood at 3.00 at a standard deviation of 1.170. A review of P.4 and P.5 2014 class attendance register of Arivu, Awalio and Ocoko P/S revealed that on average a girl missed school seven (7) days in a term.

On the statement whether schools register high class attendance for girls 35.9% (14) of the respondents agreed with the statement and 23.1% (9) strongly agreed and 20.5% (8) disagreed. The mean response stood at 3.46 at a standard deviation of 1.274, meaning the respondents' views varied. However 46.2% (18) of the respondents were in agreement with the statement that some girls do not come to school regularly while 25.6% (10) disagreed. Only 12.8% (5) were not sure whether some girls do not come to school regularly. The mean response stood at 3.31 at a standard deviation of 1.151. A review of SNV (2012) report revealed that about half of the girls missed 1-3 days a month, 8 to 24 school days per year due to menstrual period and sanitation challenges.

The investigation also revealed that 30.8% (12) of the respondents agreed and 30.8% disagreed respectively with the statement that most girls always complete primary education/P.7. 25.6% (10) strongly disagreed with the statement and only 12.8% (5) were not sure. The mean response

stood at 2.49 at a standard deviation of 1.189. When asked whether many girls drop out of school before completing primary seven, 43.6% (17) of the respondents strongly agreed with the statement and 33.3% (13) were in agreement. 10.3% (4) disagreed with the statement. The mean response stood at 3.90 at a standard deviation of 1.142, meaning that the respondents were in agreement. The findings from documentary reviews equally indicate that many girls tend to drop out in upper classes and for Arivu in 2014, 13 girls out of 78 dropped out of school.

On the statement that there are fewer girls in upper classes compared to lower classes, 41.0% (16) agreed with the statement and 35.9% (14) strongly agreed. 10.3% (4) strongly disagreed, 7.7% (3) disagreed while only 5.1% (2) were not sure of the statement. The mean response is at 3.85 at a standard deviation of 1.288, meaning majority of the respondents are in agreement. When asked if the academic performance of girls in their school is good, 38.5% (15) of the respondents disagreed with the statement while 25.6% (10) agreed. 20.5% (8) respondents were not sure. The mean stood at 2.77 at a standard deviation of 1.111.

Whether girls perform better than boys in upper primary, 51.3% (20) of the respondents disagreed with the statement and 17.9% (7) strongly disagreed. 12.8% (5) agreed, 2.6% (1) strongly agreed and 15.4% (6) were not sure. The mean is at 2.31 at a standard deviation of 1.004, meaning respondents are in agreement with the statement. Finally, 35.9% (16) of the respondents agreed with the statement that girls' performance is affected in upper classes by menstrual challenges, 23.1% (9) are in strong agreement. 23.1% (9) disagreed with the statement. The mean is at 3.44 at a standard deviation of 1.294.

#### **4.7 Summary**

Analysis of data collected from the field indicates that sanitation has a bearing on the outcome of girl child education. An investigation on the dimensions under Independent variable indicated

that there is a strong positive correlation between sanitary facilities and girl child education which was statistically significant at ( $r = .534$ ,  $N = 39$ ,  $p = 0.000$ ). The null hypothesis (HO) was accordingly rejected and the positive hypothesis (HI) was accepted that sanitary facilities significantly affect girl child education. Hygiene education and girl child education was found to be statistically significant at ( $r = .689$ ,  $N = 39$ ,  $p = 0.000$ ). The null hypothesis (HO) that hygiene education did not affect girl child education in primary schools in Vurra was rejected and the positive hypothesis that hygiene education affects girl child education was accepted and retained. Investigation on the moderator variable was found to be 0.426 at a significant level of 0.01 and p-Value of 0.007. In this case the positive hypothesis (HI) that cultural practices affect the relationship between sanitation and girl child education was accordingly accepted and adopted by the study.

## CHAPTER FIVE

### SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

The study investigated the effect of sanitation on girl child education in primary schools in Vurra County, Arua District -Uganda. In this chapter, the study presents the summary findings, discusses them, and presents conclusions and recommendations.

#### 5.2 Summary of Findings

Below is the summary of the major findings the study obtained from the field and it is presented specific objective by specific objective.

##### 5.2.1 Specific Objective Number One

#### **To establish the effect of sanitary facilities on girl child education in primary schools in Vurra county, Arua District**

The first objective of this study was to establish the effect of sanitary facilities on girl child education in primary schools in Vurra County, Arua District. The study revealed a correlation coefficient of 0.534\* between sanitary facilities and girl child education which was significant at 0.000 at a set level of 0.05. This means sanitary facilities had a strong and significant bearing on girl child education. After running the Regression Analysis, it was found that sanitary facilities had a significant effect on the girl child education by up to 53.4%. This implies that the remaining 46.6% effect on girl child education can be explained using other factors other than sanitary facilities. The null hypothesis (H<sub>0</sub>) that sanitary facilities do not significantly affect girl child education in primary school was accordingly rejected and the positive hypothesis (H<sub>1</sub>) was accepted that sanitary facilities significantly affect girl child education.

From the qualitative data collected, most of the respondents interviewed maintained that sanitary facilities affect girl child education in primary schools. The number of girls enrolled in primary school is high and the available sanitary facilities are inadequate and make the learning environment not fit for girls hence affecting their education negatively. This position was further supported by findings through literature review and other official documents.

### **5.2.2 Specific Objective Number Two:**

#### **To examine the effect of hygiene education on girl child education in primary schools in Vurra county, Arua District**

The second objective of this study was to examine the effect of hygiene education on girl child education in primary schools in Vurra County, Arua District. The study findings revealed a correlation coefficient of 0.689\* at 0.000 (2-tailed) level of significant. The set level of significant was 0.05. This means that hygiene education had a positive strong effect on girl child education. After running the Regression Analysis, it was found that hygiene education had a significant effect on girl child education by up to 68.9%. This implies that the remaining 31.1% effect on girl child education can be explained using other factors other than hygiene education. The hypothesis that hygiene education does not strongly affect girl child education in primary schools was rejected and the positive hypothesis (H1) was accepted.

Most respondents interviewed and those that participated in the focus group discussion confirmed that hygiene education is given to children and topics included menstrual management, sanitation around school and home and this has created a lot of positive changes on girl child education. This position was further supported by findings in the literature review and other official documents.

### **5.2.3 Specific Objective Number Three:**

#### **To assess the moderating effect of cultural practices on the relationship between sanitation and girl child education in primary schools in Vurra County, Arua District**

The third objective of the study was to assess the moderating effect of cultural practices on the relationship between sanitation and girl child education in primary schools in Vurra County, Arua District. Findings revealed a positive correlation coefficient of 0.495\* between cultural practices, sanitation and girl child education at a significant level of 0.07 (2-tailed). Since the result was less than the set level of significant at 0.05, it means that the correlation between cultural practices, sanitation and girl child education was strong and significant. The null hypothesis (HO) was accordingly rejected and the positive hypothesis (HI) was accepted that cultural practices have a significant moderating effect on the relationship between sanitation and girl child education. The result from the Regressions Analysis was found to be at  $r = 0.495$  and when expressed in percentage terms implied that the moderating effect of cultural practices on sanitation and girl child education was 49.5%. The remaining 50.5% could be explained by other factors other than cultural practices.

The study also found a similar outcome through qualitative method (interviews and focus group discussions) that interviewees believed that cultural practices affect the relationship between sanitation and girl child education.

### **5.3 Discussion of Results**

This section is the discussion of the major findings of the study made so as to give a better picture of the situation and general feelings in the field.

#### **5.3.1 Specific Objective Number One:**

## **To establish the effect of sanitary facilities on girl child education in primary schools in Vurra county, Arua District**

Under this objective, a hypothesis (sanitary facilities affect girl child education) was developed and findings accordingly obtained indicating that sanitary facilities affected girl child education by up to 53.4%. It therefore indicated that sanitary facilities are responsible for girl child educational outcomes. There was complete agreement that sanitary facilities are inadequate in schools and that it affected girl child education negatively. This is similar with what UNESCO (2009) indicated: Lack of clean and healthy sanitation facilities like toilets and a latrines means that girls often do not have anywhere to change or dispose pads safely and privately and this affected their education.

### ***Toilets and girl child education***

The study found out that because of the large number of girls in schools, the available stances are inadequate. In a situation where toilet or latrine facilities are inadequate, girls feel uncomfortable reporting to school and may not complete the primary cycle. As cited by Anjali (2014), Herz and Sperling (2004) noted that girls in developing countries disproportionately drop out of school, particularly around puberty, which some have attributed to lack of school sanitation facilities for menstruating girls.

The study further revealed that inadequate toilet facilities force girls during menstrual periods not to attend classes and on average miss up to 7 days in a term and this has an impact on their performance. This finding is in agreement with Fitzgerald, (2002). Regular absence from school for several days a month can –even in the short term–have a negative impact on a girl’s learning and therefore on her academic performance in school. Interrupted attendance, insufficient learning and therefore poor results in the long term can contribute to eventual drop-out. Equally,

Sommer (2010) in his study also noted that post-pubescent female school girls in Tanzania face challenges to travel to and to attend school because of inadequate school facilities and water. Because the inadequate toilets force girls not to attend classes regularly, they end up missing lessons which impact on their Academic performance.

The study also revealed that girls of upper classes always missed schools on days when they expect that the toilets have been made dirty by the community as they do not want to associate with unsanitary toilets. Dirty toilets also expose girls to the risk of contracting diseases which make them not to attend classes or even drop-out completely. This is similar with findings by Priscilla and Kyalo (2014) that adequacy of sanitary facilities has affected girl's participation in education. This is because girls thrive well in clean environments and they are sensitive to embarrassment, diseases and issues that cause trauma to them.

This finding is in line with the theory that underpinned this study. Toilet facilities as a stimulus have a bearing on girl child education. Where the toilets are inadequate, girls' response will be seen through poor completion rate, low class attendance and poor performance.

### ***Bathrooms facilities and girl child education***

This study also found out that lack of bathroom facilities in schools undermines personal privacy of the girls and they encounter harassment from the male pupils. The male counterparts embarrassed them by saying they had aborted. Girls are forced to go home during menstruation and this makes them not to attend classes. Some girls also preferred to stay home during their periods. This agrees with Janda (as quoted by Priscila, M.W., & Paul, K. ,2014). In conversations on the subject of menstruation in Southern Sudan, girls explained that they have to ensure that they are very clean before getting back to school otherwise boys will tease them publicly, bully



and say nasty things about them. ‘It is so unfortunate that we avoid the embarrassment by staying away from school’.

The theoretical framework underpinning this study is supported by the finding that bathroom facilities affect girl child education. This study found that lack of bathroom facilities in schools which is a stimulus undermines the personal privacy of the girls and they encountered harassment from male pupils. Girls ‘responses are therefore seen in low class attendance and performance.

### ***Personal hygiene effects and girl child education***

The study also found that some schools provide sanitary towels and others do not provide them. In a situation where schools provide sanitary towels, they only cater for a day and treated it as emergency. Most girls do not attend classes on day two and three because of lack of sanitary towels. A pilot study on menstrual management in Uganda conducted by (SNV/ IRC, 2012) revealed a similar finding that lack of proper sanitary infrastructure coupled with lack of menstrual pads in schools have contributed to girls dropping out of school completely. The study also out that in schools where girls were imparted skills in making re-usable pads; they registered regular class attendance and retention for girls. The findings from this study are similar to findings by (Atim, 2013). According to her research, adequate facilities in schools, especially sanitary facilities and materials for girls like wash rooms, pads to help them during menstruation management at school is said to be promoter of girl’s retention in primary schools in Kitgum.

The finding of this study is in agreement with the theoretical framework that underpinned this study. Personal hygiene is a stimulus that encourages girl child education and provides positive response

### ***Safe water facilities and girl child education***

Findings from this report revealed that 35.9% of the participants agreed that inadequate water facilities discourage girls from participating in school activities. Most of the schools use water from community protected springs and rivers which are far away from schools. Inadequate water supply in schools means water shortage and this does not support the water needs of the girls when experiencing menstrual challenges. In most cases they end up going home and only return after a number of days. Kirk, 2005 also noted a similar finding that if girls attend schools which as many do-lack adequate latrines and water supplies for girls comfortable change sanitary pads and wash themselves in privacy, they may be unable to remain comfortably in class during their menstrual cycle.

The theory supported the study that safe water facilities affect girl child education. Where the stimulus is poor the response is always negative and this affects the girl child educational outcomes.

### **5.3.2 Specific Objective Number Two:**

#### **To examine the effect of hygiene education on girl child education in primary schools in Vurra County, Arua District**

Here, more scrutiny was made on hygiene education under the hypothesis formulated to determine whether hygiene education strongly affects girl child education in primary schools.

The study obtained a positive effect of (68.9%). On the overall, hygiene education was perceived

to have a strong effect on girl child education. This was supported by the themes that emerged from the thematic analysis of interview data.

### ***Life skills education and girl child education***

The findings from this report revealed that girls who received life skills education, especially on menstrual management are able to keep personal hygiene which makes them stay in school. Life skills education makes girls become psychologically strong to handle themselves and attend classes and will not miss classes. McMahon, Winch, Caruso, Obure, Ogutu, Ochariand Reagans, 2011 also had a similar finding. According to them young Kenyan girls are not generally taught how to control or manage their menstruation, which is a monthly aspect of their lives and has a tremendous impact on the way a girl views herself. The study also revealed that life skills education empowers girls as change agents and discuss with their colleagues issues that affect them and this makes them not to sneak from school and go to stay home. This finding is comparable with what was noted in School Health Education Program (SHEP) in Ghana that creates well informed health conscious school population who has full potential to act as change agents (WHO, 2009).

This finding is in line with the theory that underpinned this study. Life skills education as a stimulus has a bearing on girl child education. Life skills education as a stimulus is found to provide positive response from the girl child and makes them stay in school.

### ***Counseling and guidance and girl child education***

The study also found out that counseling and guidance create a good environment for girls in school, allow girls to stay in school and change their behavior. This finding is related with information earlier reviewed. Del Rosso and Marek (1996) noted that children who are taught in

schools to acquire essential health related knowledge and skills are not only less likely to engage in health-compromising behavior as adolescents, but more likely to carry the knowledge and skills into adulthood and lead healthy life styles. In the absence of guidance, a girl appears to internalize a sense that their bodies are beyond their control (McMahon, Winch, Caruso, Obure, Ogutu, Ochari and Rheingans, 2011).

The finding of this study is in agreement with the theoretical framework that underpinned this study. Counseling and guidance as a stimulus encourages girl child education and provides positive response

### **5.3.3 Specific Objective Number Three:**

#### **To assess the moderating effect of cultural practices on the relationship between sanitation and girl child education in primary schools in Vurra County, Arua District**

This objective was investigated by the use of hypothesis which was coined to measure the effect of cultural practices as a moderating variable on sanitation and girl child education. It was established that cultural practices as a moderating variable had 42.6% effect on girl child education. This means that the interaction between cultural practices and sanitation accounts greatly for girl child educational outcomes in terms of retention, class attendance, completion and academic performance. The analysis of the data from interviews and Focus Group Discussion showed clearly that cultural practices affect education of girls

#### ***Cultural value for girls and boys and girl child education***

Culturally girls are treated or seen as marriage objects and parents believe there is no need to support the education of girls. Critical needs for the girls like provision of sanitary pads are neglected. Girls are expected to use the local available wool or cotton pieces and if not available,

girls end up not coming to school hence dropping out. Child Protection in Crisis (2013) report had a similar finding that some girls in Arua and Nebbi are out of schools because of bad cultural practices. The study also revealed that culturally, menstruation needs to be in privacy and discussing it with others would mean breaking privacy.

This finding is in line with the theory that underpinned this study. Cultural value for girls and boys as a stimulus has a bearing on girl child education. Less cultural value for the girls attract negative response and can be seen through poor completion rate, low class attendance and poor performance.

### ***Cultural beliefs and girl child education***

Coclough, Rose, and Tembon, 1998 also noted a related finding that factors related to cultural norms, traditional beliefs and practices can have a strong influence on girls' enrolment, persistence and performance in school.

The finding of this study is in agreement with the theoretical framework that underpinned this study. Cultural beliefs if not well handled will create bad stimulus and girl's response will be negative and can be seen through low academic performance, low attendance and high drop-out rates.

### ***Taboos and girl child education***

In a situation where the sanitary facilities are inadequate and not well maintained, girls tend not to use the sanitary facilities and end up not attending classes or dropping out of school. Culturally it is not right for girls to share their problems with male teachers. Rivers et. Al, Atuyambe et .al, 2000 and Burke, 1980 as cited by Kulanyi (2013), also noted that menstruation

in Uganda has traditionally been regarded as “pollution” and there exist taboos against discussing menstruation and related subjects openly. Even mothers were not supposed to discuss menstruation with their daughters. Since menstruation is regarded as a taboo and not to be discussed, girls might not have services that may assist them to manage their menstruation periods.

The theory supported the study that taboos affect girl child education. Where the stimulus is poor the response is always negative and this affects girl child educational outcomes.

#### **5.4 Conclusions**

The study investigated the effect of sanitation on girl child education in primary schools in Vurra County, Arua District -Uganda. The study draws the following conclusions under each specific objective.

##### **5.4.1 Specific Objective Number One:**

###### **To establish the effect of sanitary facilities on girl child education in primary schools in Vurra County, Arua District**

The study concluded that there is a strong positive relationship between sanitary facilities and girl child education which was statistically significant at ( $r=.534$ ,  $N=39$ ,  $p=0.000$ ). Since the result was less than the set level of significant at 0.05, it means that the correlation between sanitary facilities and girl child education was strong and significant. The study also found that if there are adequate sanitary facilities girl child education will improve and vice versa. The study rejected the null hypothesis (H<sub>0</sub>) and the positive hypothesis (H<sub>1</sub>) was accepted that sanitary facilities significantly affect girl child education.

#### **5.4.2 Specific Objective Number Two:**

##### **To examine the effect of hygiene education on girl child education in primary schools in Vurra County, Arua District**

The study concluded positive relationship between hygiene education and girl child education in Uganda. The finding of 0.689 means that there a positive strong effect of Hygiene education on girl child education. Since the result was less than the set level of significance at 0.05, it means that the correlation between Hygiene education and girl child education was strong and significant. Null hypothesis (HO) was accordingly rejected and the positive hypothesis (HI) was accepted that hygiene education strongly affect girl child education.

#### **5.4.3 Specific Objective Number Three:**

##### **To assess the moderating effect of cultural practices on the relationship between sanitation and girl child education in primary schools in Vurra County, Arua District**

This study concluded that cultural practices had a strong bearing on the relationship between school sanitation and girl child education in Uganda. The Pearson correlation coefficient (r) was found to be 0.426 at a significance level of 0.01 and p – Value of 0.007. The findingof 0.426 meant that, there was a moderating effect of cultural practices on the relationship between school sanitation and girl child education. This conclusion was particularly prominent and emphasized during interview and focus group discussion sessions.

#### **5.5 Recommendations**

The study therefore made the following recommendations and this is presented objective by objective as follows.

### **5.5.1 Specific Objective Number One:**

#### **To establish the effect of sanitary facilities on girl child education in primary schools in Vurra County, Arua District**

The study noted that sanitary facilities had a strong and significant effect on girl child education in primary schools in Vurra Sub-county. In this regard, the government of Uganda especially the Ministry of Education, Science, Technology, and Sports (MOESTS) and the Arua District Local Government should initiate programmes to improve sanitary facilities in schools. Sub-county local governments should pass a by-law that prohibit community members and church congregation from using school sanitary facilities since the community makes sanitary facilities not a safe environment for children. This will reduce the burden of maintaining sanitary facilities by girls on a daily basis.

### **5.5.2 Specific Objective Number Two:**

#### **To examine the effect of hygiene education on girl child education in primary schools in Vurra County, Arua District**

The study noted that hygiene education had a strong positive impact on girl child education by over 68.9%. The study recommended that there is need for the Ministry of Education, Science, Technology, and Sports (MOESTS) and Humanitarian organisations to increase effort and develop a strong hygiene education programme in schools such an example can be to scale up intervention of pads and education on menstruation management and hygiene. This will increase girls' access to knowledge and skills on making re-usable pads since this has shown good impact on ensuring girls remained in the primary education cycle. Ministry of Education, Sports,



Science and Technology (MOES) should introduce policies that empower women to teach in upper classes and have in place class mistresses in upper classes. This will provide an avenue that raise alternative perspectives or highlight the specific needs of girls such as menstruation and puberty.

### **5.5.3 Specific Objective Number Three:**

#### **To assess the moderating effect of cultural practices on the relationship between sanitation and girl child education in primary schools in Vurra County, Arua District**

The study also recommend that Humanitarian agencies, School Management Committees (S.M.C), Parents Teachers Association (P.T.A), and school administrations should educate the community on the importance of school sanitation and its impact on girl child education. Community education should focus on the role of parents in provision sanitary needs for girls. This will go a long way in reducing or eliminating bad cultural practices such as neglect.

### **5.6 Limitations of the study**

The study initially targeted class mistresses of upper classes to be the respondents. Unfortunately in all eight schools where the study was conducted, there were no class mistresses in upper classes starting from P.4 (Primary Four) and the study had to involve class masters. This is a limitation in that sanitation challenges are heavily experienced by girls in upper classes and class mistresses could understand best the challenges faced by girls in upper classes than the class masters and would provide more information to support this study.

At the time of data collection, schools were preparing for Primary Leaving Examinations and this made Key respondents like Head teachers, Head Girls and Deputy Head Girls not to participate in the study yet they could be able to communicate much more clearer on the challenges related to sanitation and girl child education.

Access to information materials for documentary review was a big challenge for example the District Health Department and schools could not avail minutes of the sector meetings. Most of the minutes are not filed and this makes it difficult to find them. NGO reports were equally difficult to access within the limited time of the study as accessing them requires a long line of recognition.

Geographically the study consisted of only respondents from 8 schools in Vurra County in Arua District. It is possible that the relationships observed in this investigation may not be generalized to other schools in the district, the region or in Uganda.

### **5.7 Contribution of the study**

The study clearly brought out the link between school sanitation and girl child education. It shows that inadequate sanitation will result poor in girl child educational outcomes and vice versa. The study therefore expects to add to the wealth of knowledge in the academia given the opportunity for critical evaluation and review so as to come with a better understanding into the subject matter. It could be added to the existing literature.

Policy makers are expected to use this study to formulate appropriate policies to address the vice detected by this study. Humanitarian agencies, school administrations and District Local Governments can use the practical recommendations from this study to improve girl child education in primary schools.

The study also expects to stimulate debate or related studies to establish the effect of class mistresses in upper classes on girl child education and how sanitary facilities affect hygiene education in primary schools.

### **5.8 Areas recommended for future research**

The study recommends that further research in this area could maintain the variables and the same methodology but larger samples and a broader geographical area preferably from all the four regions of Uganda.

The study recommends research into how hygiene education affects girl child education in Universal Primary Education schools.

The study also recommends that further research in this area could maintain the variables and the same methodology but use of another study population and target girls out of school as the respondents.

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P.O.BOX 20131, KAMPALA,  
Tel: +256-782560017/+256-792688542,  
Email: abiccuha@yahoo.com  
Date: 21<sup>st</sup>/October/2014.

Dear Respondent,

I am a student of Uganda Management Institute (Kampala) currently pursuing a Master's Degree in Management Studies [Project Planning and Management]. I am now undertaking a study [Research] to investigate the effects of Sanitation on girl child education in Arua District. My topic of study is **“SANITATION AND GIRL CHILD EDUCATION IN PRIMARY SCHOOLS IN VURRA COUNTY, ARUA DISTRICT”**.

This questionnaire is designed to collect information purely for academic purposes and will enable me to assess the effects of sanitation on girl child education in universal primary schools in Arua District so as to inform policy as to what should be done to better the situation.

As an important stakeholder in Education, I believe you are best placed to give information on the subject. It is for this reason that you have been carefully identified and selected to provide relevant information to achieve the objective of the study. All information given here will be treated with utmost confidentiality including your identity.

Thank you in advance for accepting to participate in this study and for your valuable time.

Yours sincerely,

**ABIC Johnson Ochan,**  
**Research Student.**



**Appendix 1 Questionnaire: For Teachers**

**SANITATION AND GIRL CHILD EDUCATION IN SELECTED UNIVERSAL PRIMARY EDUCATION SCHOOLS IN VURRA COUNTY, ARUA DISTRICT-UGANDA**

*Dear respondent, kindly fill in the questionnaire using the guidelines. Your views will remain confidential and your school will not be mentioned. I thank you in advance.*

**SECTION A**

**PERSONAL DATA**

Please tick the appropriate response

1. Sex
  1. Female
  2. Male
2. Position In The School
  1. Deputy head teacher
  2. Teacher in charge of health
  3. Class mistress
  4. Deputy senior woman teacher
  5. Class teacher
3. Duration served at your current position.
  1. Below 6 Months
  2. 6-11 Months
  3. 1-2 Year (s)
  4. 3 to 4 years
  5. 5 to 6 years
  6. 7 years +
4. Age Group.
  1. Below 20 years
  2. 20 to 29 years
  3. 30 to 39 years
  4. 40 to 49 years
  5. 50 Years +

**SECTION B:** *For each statement in this section, tick inside the box corresponding to the digit (ranging between 1 - 5) indicating your level of agreement with the statements.*

**KEY:** 1=STRONGLY DISAGREE; 2=DISAGREE; 3=NOT SURE; 4=AGREE; 5=STRONGLY AGREE.

<b>A SANITARY FACILITIES</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Toilet</b>					

5	The school has sufficient toilet facilities for girls					
6	A learning environment should have separate toilets for male and females					
7	Separate toilets for girls and boys encourage girls to stay in school					
8	Separate toilets for boys and girls motivate older girls to stay in school					
9	The girls toilet is always clean					
10	Girls feel comfortable in our school because of the toilet facilities					
	<b>Bathroom facilities</b>					
11	Our school has bathrooms that are used by girls in case they experience menstrual periods					
12	Girls do not come to school because of lack of bathroom facilities					
	<b>Personal hygiene effects</b>					
13	Our school provides girls with buckets for bathing during menstruation					
14	Our school provides Sanitarytowelsfor girls					
	<b>Safe water facilities</b>					
15	The girls can easily access our water sources.					
16	Provision of safe drinking water allows girls stay in school					
17	inadequate water facilities discourage girls from participating school activities					
<b>B HYGIENE EDUCATION</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Life skills education</b>					
18	Our school equip girls with sanitary towel making skills					
19	We equip girls with menstrual management skills					
20	The menstrual management skills makes girls organized in school					
21	Hygiene life skills empower girls as change agents					
	<b>Counseling and guidance</b>					
22	Counseling and guidance by senior women teachers creates a good environment for girls in school					
23	Guidance and counseling allows for girl to stay in school					
24	We regularly provide counseling and guidance to girls					
25	Girls change their behaviour because of counseling and					

	guidance					
	<b>Information Education and Communication</b>					
26	Availing girls with Information Education Communication (IEC) Materials on menstrual promotes awareness					
27	We use Information education materials to disseminate messages on hygiene education					
28	Contents of our Information education materials includes sanitation and hygiene promotion which are very good for girls					
29	Our school regularly provide information education materials to girls especially older one					
<b>Girl Child education</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Class attendance</b>					
30	Girls attend classes regularly					
31	We register high class attendance for girls					
32	Some girls do not come to school regularly					
	<b>Completion rate</b>					
33	Most girls always complete primary education/P.7					
34	Many girls drop out of school before completing primary seven					
35	There are fewer girls in upper classes compared to lower classes					
	<b>Academic performance</b>					
36	Academic performance of girls in our school is good					
37	Girls perform better than boys in upper primary					
38	Girls performance is affected in upper classes by menstrual challenges					
<b>C. CULTURAL PRACTICES AND SCHOOL SANITATION</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Cultural value for girls</b>					
39	Cultural preference for boys over girls affects the provision of sanitary facilities for girls in school					
40	Parents always provide personal hygiene effects for girls when they come to school					
	<b>Personal privacy</b>					
41	senior women teachers help girls understand sanitation					
42	Girls and boys sharing latrine affects personal privacy					
43	Culturally girls do not share personal problems with male teachers					

**Thank you for filling this questionnaire**

**Appendix 2 Interview Guide**

**FOR THE HEADTEACHERS AND SENIOR WOMEN TEACHERS ABOUT GIRL CHILD EDUCATION IN VURRA COUNTY**

A. SEX

Male

Female

B. Position of respondent in school:.....

**C. SANITARY FACILITIES AND GIRL CHILD EDUCATION**

1. What types of sanitation facilities do you have in your school?
2. In what conditions are they in terms of operation and maintenance?
3. Does the school have separate latrine facilities for girls?
4. How have these facilities been in terms of retention of pupils in school especially for the girls?
5. What challenges does the school face in terms of provision sanitation facilities for girls?
6. What comments do you have regarding School sanitation?
7. What are some of the impact/effects of school sanitation on the girl child education

**D. HYGIENE EDUCATION AND GIRL CHILD EDUCATION**

1. How do you disseminate hygiene messages to pupils?
2. What hygiene messages are disseminated to children at school?
3. What do you think has been the impact of hygiene education on the girl child education general?

**E. CULTURAL PRACTICES AND GIRL CHILD EDUCATION**

1. What cultural practices affect school sanitation facilities and their usage?
2. What are the community perceptions on provision of sanitation for the girls?
3. What are some of the impact of such cultural practices on the girl child education?

**Appendix 3 Interview Guide**

**FOR THE DISTRICT EDUCATION OFFICER, DISTRICT INSPECTOR OF SCHOOLS  
AND THE DISTRICT HEALTH INSPECTOR**

A. SEX

Male

Female

**Position of respondent in District:**.....

1. What is the general situation of school sanitation in the district?
2. What is the pupil: stance ratio for the girls?
3. What challenges does your office face in terms of provision of sanitary facilities and hygiene education to enhance promotion of girl child education?
4. What is the impact of these facilities on the education of the girls?
5. What cultural practices are in the community and schools that affect the school sanitation?
6. What has been the impact of these cultural practices on the education of the girls?

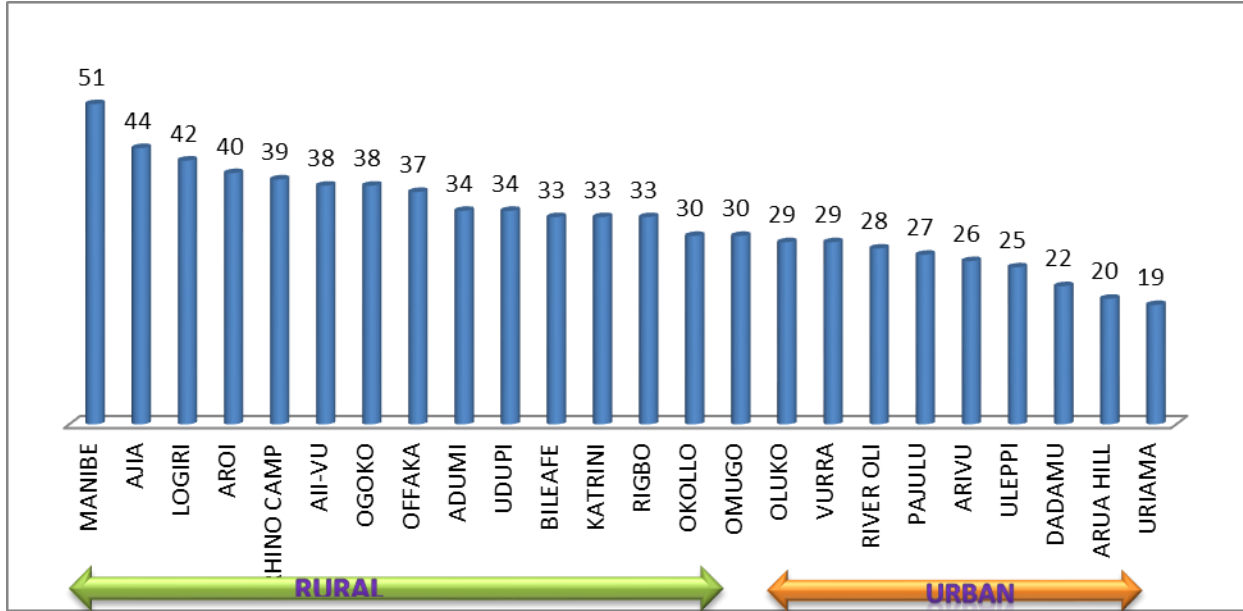
#### **Appendix 4. *Documentary Review Checklist***

The Researcher reviewed literature that can shed information regarding research dimensions, which are sanitary facilities, hygiene education and cultural practices and general information regarding the girl child education. The literature reviewed is expected yield more information on the indicators of the dimensions mentioned above. The sources of information for Literature Review shall include:

1. School records
2. District education reports/records/Minutes
3. District Health reports/records/Minutes
4. Non-Governmental Organization reports
5. Local newspaper articles on girl child education
6. Journals on girl child education.
7. Research Proposals and Dissertations on girl child education.
8. Training materials.

**Appendix 5 Drop-out rate in Arua**

Drop-Out Rate in Percentage of Girls in Arua by Sub-County as of 2012



Source: Harmonized Data Base-Arua (HDB): C:\DevInfo\DevInfo 6.0\DistrictInfo 6.0\Data\DistrictInfo 10-2013 ARUA.mdb retrieved on July 9, 2014

Statistics also show that dropout rate in urban and peri-urban areas are low compared to rural areas. Area with the lowest dropout rates like Arua Hill division, Pajulu, River Oil are the highest populated areas with high enrolment rates yet low dropout rate are registered as shown on the table above. This could be due to high innovations in the urban centers

**Appendix 6 PLE Performance**

**DIRECTORATE OF EDUCATION  
AND SPORTS ARUA DISTRICT  
ANALYSIS OF OF 2012, 2014, 2014  
PLE RESULT**

YEAR	DIV I		DIV II		DIV III		DIV IV		DIV U		DIV X	
	B	G	B	G	B	G	B	G	B	G	B	G
<b>2012</b>	147	29	2604	1207	1126	862	622	490	359	274	180	130
<b>2013</b>	103	18	2406	1010	1330	1081	730	493	351	350	192	167
<b>2014</b>	35	1	798	244	430	320	356	157	106	92	52	30
<b>TOTAL</b>	285	48	5808	2461	2886	2263	1708	1140	816	716	424	327
<b>% of performance for 3 yrs</b>	86%	14%	70%	30%	57%	43%	60%	40%	53%	47%	56%	44%

Source: Directorate of Education and Sports Arua District, 2015



**Appendix 7Krejcie and Morgan table**

TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
<b>30</b>	<b>28</b>	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: “N” is population size

“S” is sample size.

Krejcie, Robert V., Morgan, Daryle W., “Determining Sample Size for Research Activities”, Educational and Psychological Measurement, 1970.



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Your Ref:

Our Ref: G/35

08 October 2014

## TO WHOM IT MAY CONCERN

### MASTERS IN MANAGEMENT STUDIES DEGREE RESEARCH

Mr. Johnson Ochan Abic is a student of the Masters Degree in Management Studies of Uganda Management Institute 32<sup>nd</sup> Intake 2013/2014 specializing in Project Planning and Management, **Reg. Number 13/MMSPPM/32/072.**

The purpose of this letter is to formally request you to allow this participant to access any information in your custody/organisation, which is relevant to his research.

His Research Topic is: ***"School Sanitation and Girl Child Education in Selected Universal Primary Schools in Vurra County, Arua District - Uganda"***

Stella Kyohairwe (PhD)  
Ag. Head, Department of Political and Administrative Science

**ABIC JOHNSON OCHAN.**  
UGANDA MANAGEMENT INSTITUTE (UMI),  
P.O.BOX 20131, KAMPALA,  
Tel: +256-782560017/+256-792688542,  
Email: abiccuha@yahoo.com  
Date: 20/10/2014.

THE DISTRICT EDUCATION OFFICER,  
ARUA DISTRICT.

*No objection*  
*Abic*  
*20/10/2014*

DISTRICT EDUCATION OFFICER  
20 OCT 2014  
ARUA DISTRICT LOCAL GOVERNMENT

**SUBJECT: REQUEST TO CONDUCT RESEARCH IN SCHOOLS**

I am a student of Uganda Management Institute (Kampala) currently pursuing a Masters Degree in Management Studies [Project Planning and Management]. I am now undertaking a study [Research] to investigate the effects of School Sanitation on the girl child education in Arua District. My topic of study is **"SCHOOL SANITATION AND THE GIRL CHILD EDUCATION IN SELECTED UNIVERSAL PRIMARY SCHOOLS IN VURRA COUNTY, ARUA DISTRICT"**.

The intended research schools are;

1. Vurra Sub-county – Ekarakafe and Ave P/S
2. Ajia Sub-county- Ocoke and Awalio P/S
3. Logiri sub-county- Ketskeie and Okavu P/S
4. Arivu Sub-county- Arivu and Okazara P/S

The purpose of this letter is to seek your approval to have access to the above schools and collect the data for the research work.

In-here attached is the letter from **Ag. Head, Department of Political and Administrative science**

Thank you in advance for your usual cooperation.

Yours sincerely,

*JO*

**Johnson Ochan Abic,**  
Research Student.

*No objection*  
*Abic*  
*20/10/2014*

CHIEF ADMINISTRATIVE OFFICER  
20 OCT 2014  
ARUA DISTRICT LOCAL GOVERNMENT