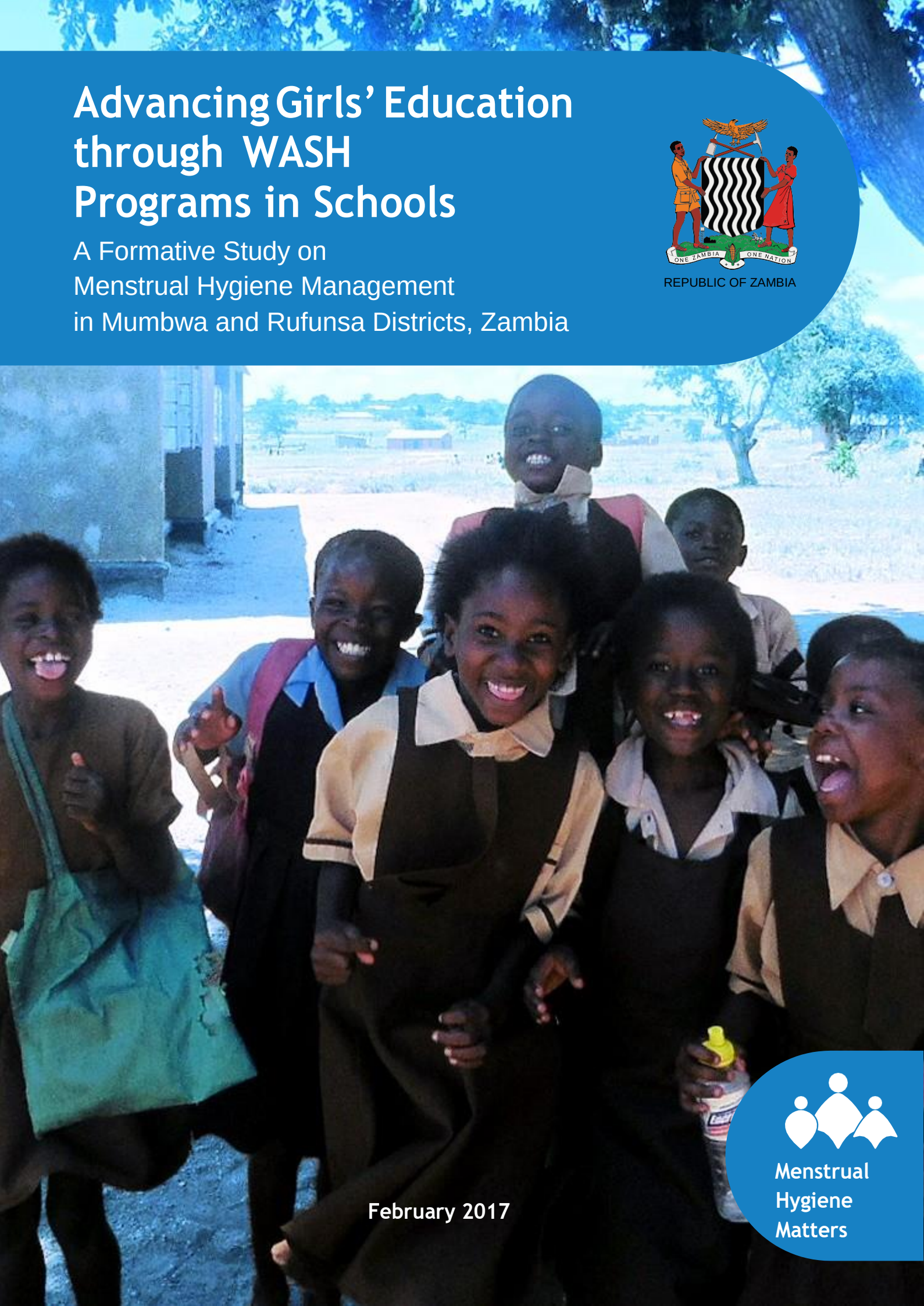
Advancing Girls' Education through WASH Programs in Schools

A Formative Study on Menstrual Hygiene Management in Mumbwa and Rufunsa Districts, Zambia

REPUBLIC OF ZAMBIA



February 2017

Menstrual Hygiene Matters

Acknowledgements

This study highlights the challenges school girls face when managing menstruation in school in Rufunsa and Mumbwa Districts, Zambia. This study was funded by Global Affairs Canada and conducted as part of UNICEF's Water Sanitation and Hygiene in Schools for Girls (WinS4Girls) programme in Fourteen Developing Countries including Zambia. The programme aimed at advocacy and capacity building for Menstrual Hygiene Management through Water Sanitation and Hygiene in Schools.

Rollins School of Public Health, Emory University, through a partnership with UNICEF New York Office, provided technical expertise and capacity building of the Zambia MHM technical team. This team was comprised of the Ministry of General Education, Ministry of Local Government and Housing, UNICEF WASH in Schools Team including the Education and Child Protection Sections, the Centre for Infectious Disease Research in Zambia (CIDRZ) and the University of Zambia: Department of Gender Studies.

CIDRZ, in collaboration with the University of Zambia, conducted the study in partnership with UNICEF Zambia. The Ministry of General Education commissioned the study and assumed leadership for selection of schools for the research and coordinating the activities of the MHM Technical Working Group involving other line Ministries and Civil Society Organisations working in the WASH in Schools sector. Gauthami Penakalapati, a technical lead and advisor from Emory University, provided support with tool development for data collection, assisted with training research assistants, guidance on qualitative and quantitative data analysis, and editorial and content support during the report writing process.

This report was developed through consented efforts of many people. Thanks to all who were involved: the Ministry of General Education through Dr Faith Nchito and Ennie Muchelemba for facilitating all processes; the UNICEF Zambia WASH in Schools Team including Lavuun Verstraete and Charity Sikamo; the CIDRZ Team led by Dr Roma Chilengi, Cheryl Rudd, Jenala Chipungu, Joyce Chinyama Chilekwa and Mercy Mwale; the University of Zambia Department of Gender Studies for the technical support through Dr Thankaian Kusanthan, and a big thank you to Gauthami Penakalapati for tirelessly reviewing and providing technical guidance and comments on the report . The cover design was done by Swathi Manchikanti of UNICEF WASH Section.

Special thanks are extended to the six schools in Mumbwa and Rufunsa Districts including their surrounding communities for providing insight into existing menstrual hygiene practices. Thanks to the teaching staff, traditional leadership, parents and pupils whose consent and contributions made this study possible. We sincerely hope their stories and experiences will contribute greatly in creating a supportive school environment where girls are safe to learn.

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Acronyms

CIDRZ	Centre for Infectious Disease Research in Zambia
CLTS	Community Led Total Sanitation
DEBS	District Education Board Secretary
MHM	Menstrual Hygiene Management
MoE	Ministry of Education
MOH	Ministry of Health
MLGH	Ministry of Local Government and Housing
MOGE	Ministry of Education General Education
O&M	Operations and Maintenance
PPP	Public Private Partnership
PTA	Parent Teacher Association
RWSSP	Rural Water Supply and Sanitation Programme
SLTS	School Led Total Sanitation
UNICEF	United Nations Children's Fund
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WASH	Water Sanitation and Hygiene
WHO	World Health Organisation
WinS	Water Sanitation and Hygiene in Schools
FGD/s	Focus Group Discussion/s
KII/s	Key Informant interview/s
IDI/s	In-depth Interview/s

EXECUTIVE SUMMARY

Menstruation is one of the most important and inevitable changes that occur in girls during their adolescent years. However, its onset comes with numerous challenges that affect the wellbeing of girls especially when it comes to managing their menstruation in the school environment. The Ministry of General Education commissioned a formative qualitative research study to understand the different factors that affect Menstrual Hygiene Management (MHM) in schools and the reasons behind them. This report presents the research results obtained from rural schools in Rufunsa and Mumbwa districts of Zambia. The study findings informed the development of the MHM basic package comprising of national guidelines and toolkit.

Methodology

The study utilised qualitative methods using focus group discussions (FGD) with girls and boys, in-depth interviews (IDI) with girls and key informant interviews (KII) with school administrators, teachers, traditional leaders and mothers to collect data. Data were collected in six schools located in rural areas in Mumbwa and Rufunsa districts. The selection criteria included schools with and those without sanitation facilities in order to investigate the different challenges faced by girls. Structured observation forms were used to conduct the School Water, Sanitation and Hygiene (WASH) assessment.

Findings

The study revealed limited knowledge levels and misconceptions on the biological process of menstruation among boys and girls who participated in the study. Girls consistently reported that they did not know anything about menstruation before menarche (first menstruation) and only received informal education on MHM when they attained menarche. KII with teachers revealed inadequacies in the curriculum on MHM, thus the teachers, especially the male ones, required support and tools in order to deliver the teaching effectively. The girls' IDIs revealed several negative feelings and emotions associated with menarche including fear, disappointment, shame, rejection and worry. The FGDs showed deep-seated traditional practices and beliefs surrounding the onset of menarche. The common types of sanitary materials used was cotton wool and cloth material. Girls prefer to stay home during menstruation for fear of staining their dresses, interacting with and being teased by boys. The girls also reported that the toilets at school were usually unclean and lacked privacy. Therefore, they chose not to use the toilets to manage their menstruation while at school. All the schools reported not to have any emergency sanitary materials for girls. The School WASH assessment revealed that World Health Organisation (WHO) standards were not fully met hence compromising adequate MHM practices at schools.

Conclusion and Recommendation

This study reveals that girls in rural areas have significant challenges in adequately managing their menstruation while in school. There is an urgent need to address MHM at the national, provincial, district, school and community level in order to create MHM friendly environments for girls in school.

1 INTRODUCTION

1.1 Assessment Background

Menstruation is part of the female reproductive cycle that takes place during the transformation into adolescence at the time of puberty.[1] It is a natural process signifying physiological development of an adolescent girl.[2] On average, girls reach menarche at thirteen (13) years but ranging between the ages of nine (9) and sixteen (16) years. The menstruation period usually lasts for an average of five days, but may vary from three to over seven days.[3]

MHM entails, "women and adolescent girls use a clean material to absorb or collect menstrual blood, and this material can be changed in privacy as often as necessary for the duration of menstruation. MHM also includes using soap and water for washing the body as required, and having access to facilities to dispose of used menstrual management materials."[3] The definition emphasises the use of clean and adequate material, privacy, the use of soap and water and access to disposal facilities. All these elements are required to be present for proper MHM.

The management of menstruation is often specific to the context of a particular country and is dependent on cultural, social, educational and economic status.[4] Young girls in developing countries often receive minimal education on MHM. This may be because menstruation is seen as taboo in many communities, making it difficult for adolescent girls to acquire necessary information and support from parents and teachers.[4]

MHM programming is relatively new in Zambia and hence very little research has been conducted around menstruation. However, in 2013 the MOGE working with the MHM thematic working group conducted a quantitative study to understand the effects of MHM on girls' school attendance.[5] The main findings from this study revealed that girls missed up to 36 school days per year due to menstrual-related challenges. The study also showed that WASH facilities were inadequate for purposes of menstrual hygiene management.

In Zambia, Issues around menstruation are rarely discussed openly and therefore, remain a secret. There are many myths and taboos still hovering around menstruation that lead to negative attitudes toward this biological phenomenon.[6] At menarche, girls in Zambia undergo initiation ceremonies to mark the rite of passage and this is different from tribe to tribe. For example in the Bemba tribe, the initiation ceremony is known as ichisungu.[7] Elderly women who teach girls on their adult roles as women conduct this ceremony. The ceremony lasts for a period of 6 weeks to 3 months in which girls are in seclusion and are not allowed to attend school. This has adverse effects on their school attendance, performance and academic advancement.

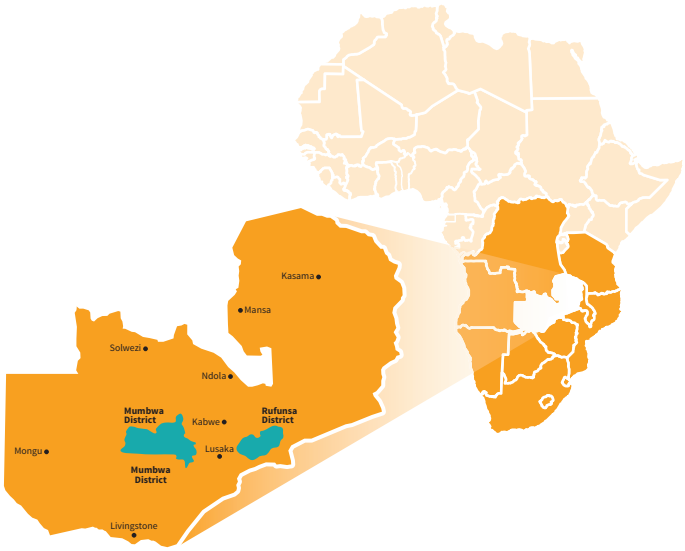
The purpose of this research was to investigate factors that influence the management of menstruation amongst schoolgirls in rural settings. This report presents the study findings that bring to light various challenges and determinants girls' MHM practices. The reader will also find interesting the girls' voiced

1 McNeely, C. and and Blanchard, J. 2009. The Teen Years Explained: A Guide to Healthy Adolescent Development. Center for Adolenscent Health. John Hopkins, Bloomberg School of Public Health.
2 WaterAid. 2012. *Menstrual Hygiene Matters: A Resource for Improving Menstrual Hygiene Management Around the World.* WaterAid, United Kingdom.
3 WHO-UNICEF (2013). "Progress on Sanitation and Drinking Water-2013 Update." New York, UNICEF.
4 Guya et.al "Menstrual Hygiene Management in Secondary Schools in Tanzania, International Journal of Science and Technology, 3 (1), 2014.
5 MoE. 2013. Management of Menstrual Hygiene among Girls in Primary Schools and Its Effects on Attendance of Lessons in Zambia Pilot Study. Ministry of Education.
6 United Nations, educational, scientific and cultural organization (UNESCO) (2014) Puberty education and menstrual hygiene management, UNESCO, France.
7 Countries and the their Cultures [Online] Accessed from: (google Rites of passage)

impacts on the challenges they face. Lastly, it discusses the practical steps that should be taken to ensure appropriate MHM interventions are promoted in schools.

Country Context

Zambia has a population of approximately 13,459,000[8] and is located in the Southern African Region. It is divided into ten provinces and further sub-divided into one hundred and five districts (105) with each district having an administrative centre. All administrative offices including the District Education Board Secretary are located in the administrative centre. The administrative centre is also characterised by small businesses where people access goods and services. The study was conducted in two districts of Mumbwa and Rufunsa located in the Central and Lusaka Provinces respectively. Lusaka is the capital city of Zambia.



Mumbwa District

Mumbwa district is small town with an estimated population of 218,328,7 located 150km west of Lusaka city. The population depends on agriculture including a cotton ginnery and maize growing for subsistence. The district is divided into villages headed by traditional Chiefs and Headmen. They are a total number of 148 schools including primary schools (grade 1-7) and secondary schools (grade 8-12) in the entire district. Most schools are located in the rural areas and pupils have to walk long distances to get to school. With respect to water and sanitation, a study conducted in Mumbwa by Concern Worldwide in 2015 found that 97.7% of the population used unimproved sanitation, (open pit, no facility and the bush).[9] According to the EdAssit 2015 data,[10] in Mumbwa District, forty-nine (49) schools out of the fifty-seven (57) basic schools have borehole pump as the major source of water. Of these, three schools also have borehole piped systems while another three schools have unprotected wells as additional water sources. Of the remaining eight (8) schools, five have protected wells while three have piped water supply. Water coverage in Mumbwa District is estimated at 99%. EdAssist does not, however, provide information on functionality of these water sources which distorts water coverage as the actual figure might be lower than stated.

Rufunsa District

Rufunsa has a population of 49,337 and is located 150km east of Lusaka city. The area is predominantly rural. Like Mumbwa district, Rufunsa is divided into villages headed by traditional Chiefs and Headmen. The main form of economic activity is subsistence farming. The District has 25 schools with a combination of primary and secondary schools. Similar to Mumbwa, the majority of the population in Rufunsa have no access to improved sanitation. According to EdAssist 2015 data,9 for the eighteen (18) basic schools in Rufunsa District, only one (1) school has an unprotected well as a water source. Of the remaining seventeen (17) schools, only one has piped water supply while sixteen have borehole pump with one of these having both borehole pump and borehole piped. Water coverage at schools in Rufunsa District is estimated at 95%.

8 Republic of Zambia Central Statistical Office, (2011). *2010 Census of Population and Housing*. Republic of Zambia.
9 Concern Worldwide LLC,. Baseline Survey Report. 2015, http://groundworkhealth.org/wp-content/uploads/2015/12/RAIN+-Baseline-Survey-Report_151026_FINAL.pdf.
10 2015 EdAssist, Ministry of General Education, Zambia

Education Initiatives and Dropout Rates:

Zambia has an estimated 9,500 Primary and Secondary Schools.[11] The education system is divided into seven years of primary education and five years of secondary education. The Government of Zambia through the Ministry of General Education has a mandate to provide education to all Zambian children.

In 1996, the Ministry of Education developed a policy, 'Educating our future' that guides the implementation of the education system in Zambia.[12] The policy upholds the principle that every individual has an equal right to educational opportunity. This means that each child, regardless of personal circumstances or capacity, has a right of access to, and participation in, the education system.[11] In addition to the enabling policy, the MoGE has put in place other pronouncements to support advancement of girls' education including ensuring girl-friendly school environment by providing gender segregated sanitation facilities and instituting rules that protect girls from gender-based violence.[11]

According to the 2013 Millennium Development Goals (MDG) progress report,[13] Zambia has made significant progress on primary school enrolment. The country recorded an increase of up to 93.7% in 2010, with the girls' enrolment being higher than that of boys (Table 1). The primary school completion rates for girls equally improved from 64% in 1990 to 90.9% in 2010. Secondary school completion rate has also been improving steadily.

Table 1: Zambia Primary School Net Enrolment Percentage

1990	2000	2001	2002	2003	2004	2005	2006	2009	2010
Total	80	71.1	76.6	77.7	85.1	95.6	97	102*	93.7
Girls	69	69.6	75.3	76.4	84.6	95.8	98	104.6*	93.9
Boys	71	72.7	77.8	78.8	85.6	95.3	96	103.6*	93.1

**Enrolment rates cannot exceed 100 percent, however these figures are based on demographic data, which does not include factors such as migration within Zambia, and enrolment rates for 2010 are based on actual size of the population according to the 2010 census.*

Source: *2013 MDG progress report*[12]

In supporting the Government of Zambia to attain universal primary education, the current UNICEF country programme (2011-2015) focuses on capacity and systems strengthening for improvement of quality of education, equity in participation and progression from pre-primary to primary and lower secondary education, particularly for girls, rural children, and other excluded groups.[14]

WASH statistics for Zambia show urban sanitation decreasing from 59% in 1990 to 56% in 2015, (Appendix 1). Rural regions, however, showed an improvement in both water and sanitation coverage for the same period from 29% to 36% in 1990 and 2015, respectively. This could be attributed to various efforts by the Ministry of Local Government and Housing (MLGH) to improve access to safe water in rural areas such as the Rural Water Supply and Sanitation Programme (RWSSP) supported by the African Development Bank.[15] Other government initiatives also include the UNICEF supported Community Led

11 Ministry of Education, (2010), Educational Statistical Bulletin, Republic of Zambia, Lusaka
12 Ministry of Education, (1996), Educating Our Future: National Policy on Education, Republic of Zambia.
13 Buus, H, C, (2013), Millennium Development Goals Progress Report, United Nations Development Programme Publications, New Horizon Printing, Lusaka, Zambia
14 UNICEF,. *Zambia Country Programme Document 2011-2015*. UNICEF, 2011, http://www.unicef.org/about/execboard/files/Zambia_final_approved_CPD_11_Feb2011.pdf.
15 Ministry of Local Government and Housing, Sanitation and Hygiene Component of the National Rural Water Supply and Sanitation Programme 2006-2015, Government of Zambia.

Total Sanitation (CLTS).

1.2 WASH in the School Environment

Access to sustainable water supply and sanitation remains a major challenge in schools in Zambia.[16] Indicators from the annual Education Management Information System (EMIS) show that water coverage at schools is higher than that of sanitation, while no data existed in the EMIS on hygiene practices prior to 2015. Very few schools in rural areas have piped water supply. Consequently, pit latrines are the common designs for rural schools and are usually characterised by high pupil-toilet ratios of up to 1:124 pupils in some schools.[17] This is despite the Standards and Evaluation Guidelines' (2015) recommended pupil-toilet ratio of 1:25 for girls and 1:40 for boys.[18] The situation poses a dire need for more efforts to be exerted towards improving the number of toilets in schools. Due to escalating ratios (refer to figure 2 below) and low sanitation coverage, MOGE validated the use of the interim standard[19] that set the ratio at 1:50 for both boys and girls thereby promoting easy scale-up of the sanitation coverage.

Figure 1: Existing School Water Coverage

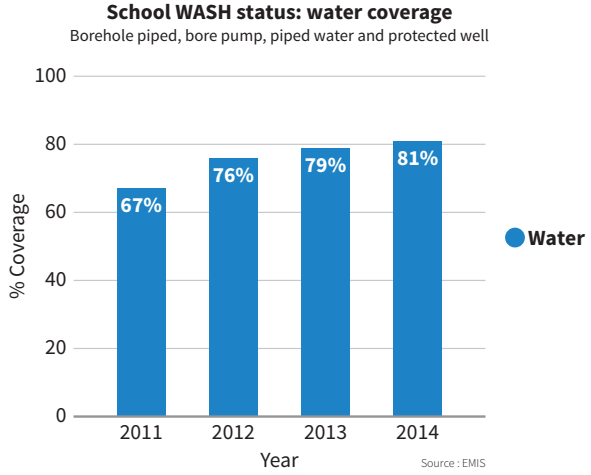
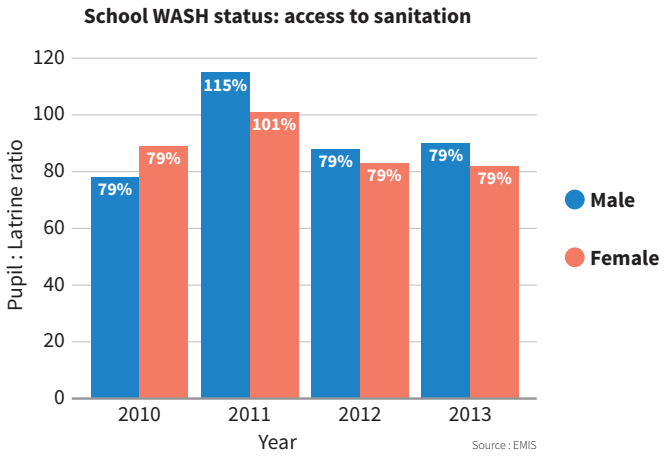


Figure 2: Existing Pupil-Toilet Ratio



16 MoE. 2013. Management of Menstrual Hygiene among Girls in Primary Schools and Its Effects on Attendance of Lessons in Zambia Pilot Study. Ministry of Education.
17 Unicef (n.d) http://www.unicef.org/zambia/5109_8460.html (Accessed June 2016).
18 Ministry of Education, 2015, Standard and Evaluation Guidelines.
19 WASH in Schools Interim Standards, 2013, Ministry of Education & UNICEF.

In 2012, MOGE supported by UNICEF carried out a bottleneck analysis of WASH in Schools (WinS) with an aim to review sector progress and identify the barriers to effective WinS programming in Zambia.[20] The table below shows findings on barriers around the school environment, development and implementation, and sustainability of WASH in Schools.

Table 2: Barriers to Effective WinS Programming in Zambia

Enabling environment	Development and implementation	Sustainability of Infrastructure and behaviours
• Inadequate WinS buget and human resource • WASH in general was not prioritized in Zambia • Unclear policies and not WinS specific	• Inadequate WinS infrastructure • Marginalized remote schools and students with special needs • Insufficient EMIS data on WinS coverage and sustainability	• Centralization of resources & decisions • Unavailability of spare parts and supplies, especially in remote areas • Weak system, planning and coordination for O&M

Government with support from cooperating partners, UN Agencies and Non-Governmental Organisations has made strides in addressing some of the barriers identified in the bottleneck analysis.

Current Work on WASH in Schools

MOGE is the key Ministry for WASH in schools and works with other line Ministries including Ministry of Local Government and Housing (MLGH) and Ministry of Health (MOH).[21] The MOGE has put in place the School Infrastructure Unit (SIU) whose responsibilities includes WASH infrastructure designs and construction and the SHN unit responsible for Hygiene Education and WASH behaviour improvements. The MoH has responsibilities for School Health Services including strengthening of Hygiene Education, monitoring of water quality and ensuring WinS facilities are safe and hygienic. The MLGH is responsible for ensuring safe water supply and maintenance of water points at schools; they also regulate the WASH standards through re-enforcements of the Public Health (Drainage and Latrine) Regulations.

UNICEF WASH in Schools Programme

Since 2012, UNICEF with funding support from the UK Government through the Department for International Development (DFID) and the Netherlands Government through the Department of Foreign Development Cooperation (DGIS) and working with other WinS Partners has also assisted the MOGE in the planning and implementation of WinS.

UNICEF supports the MOGE in more than 48 districts nationwide to construct MHM friendly WASH facilities. UNICEF also supports capacity enhancement initiatives and systems strengthening including development of standards and cost effective designs.

20 Chatterley, C and Thomas, A, 2012,Analysis and Planning for WASH in Schools in Zambia
21 GRZ, Sanitation and Hygiene Component, National RWSSP, 2006-2015

UNICEF has supported the WASH in Schools Technical Advisor, the establishment of a WinS Technical Working Group and the MHM Thematic Working Group. The technical groups involve other line Ministries, NGOs and Civil Society Organisations including CIDRZ, GIZ, PLAN, SNV, USAID, WaterAid and World Vision.

2 METHODS

The study was both exploratory and explanatory and employed qualitative methods of data collection. The study took place between 20th July and 31st July 2015. Rural schools of Mumbwa and Rufunsa were selected for the study, as this is where cultural influence is most pronounced. Furthermore, as described in the WASH situation analysis above, rural schools have more limited access to adequate WASH facilities than urban schools.

2.1 School Selection

The research team developed criteria by which schools were purposively sampled. The criteria included the following characteristics (refer to table 3):

- Primary/ Secondary schools – schools having primary and secondary grades were selected to identify girls of menstruating age typically in upper primary and secondary grades.
- Distance from District Education Board Secretary (DEBS) –Schools included those located in remote areas and those closer to the DEBS.
- School Led Total Sanitation (SLTS) – Schools having SLTS interventions and those without SLTS interventions were included in the sample.

Table 3 presents the list of schools that were included in the sample.

Table 3: Key Characteristics of Selected Schools

District	Selected School	Primary/ Secondary	SLTS	Basic Sanitation Facilities*	Co-Education/All Girls	Distance from DEBS
Rufunsa	School 1	Primary	Yes	Yes	Co-Ed	30km
	School 2	Primary	No	Yes	Co-Ed	123km
	School 3	Primary	Yes	Yes	Co-Ed	18km
Mumbwa	School 4	Secondary	No	Yes	Co-Ed	1km
	School 5	Primary	No	Yes	Co-Ed	28km
	School 6	Primary	No	Yes	Co-Ed	50km

**Basic Sanitation Facilities refer to those schools that have a toilet/latrine with water available for toilet use. This basic toilet may not necessarily meet the standard toilet requirement.*

2.2 Data Collection Activities

Ethical Considerations

This study was authorised at four levels. The MOGE commissioned the study after which the research team developed the research protocol. An independent ethics committee called the Excellence in Research Ethics and Science (ERES) committee reviewed and approved the research protocol. The MOH gave further approval to conduct the study with human subjects. Lastly, both Mumbwa and Rufunsa DEBS gave approval to work with the schools. Appropriate written informed consents/assents were obtained from key informants, government officials, pupils as well as their parents.

Sampling and Recruitment of Study Participants

In consideration of the cultural sensitivity surrounding menstruation, parents in each school were informed about this study through community meetings led by representatives from the District Education office, the PTA and the school. The research team held meetings prior to the recruitment and data collection. They recruited pupils (both boys and girls) with the help from female teachers who screened pupils for eligibility. The girls had to have attained menarche and be aged between 14 and 18 years; the same age range applied for boys. Once the team identified the pupils, they contacted their parents, (either male or female) and asked them to attend a meeting at the school where they described the details of the research. Pupils under the age of 18 years whose parents provided the written consent at the meeting were then administered an assent form before they could take part in the study.

The research assistants identified a guidance and counselling teacher at each school and asked them to participate in the study. The headmaster contacted the Headman/woman and arranged for a date and time for an interview with the research assistants. The team approached the District Education Board Secretary at the district education office for an interview. Lastly, a member of the MHM TWG identified and contacted an official at the Ministry of Education headquarters and arranged for an interview with the research assistants

Overall Aim of the Study

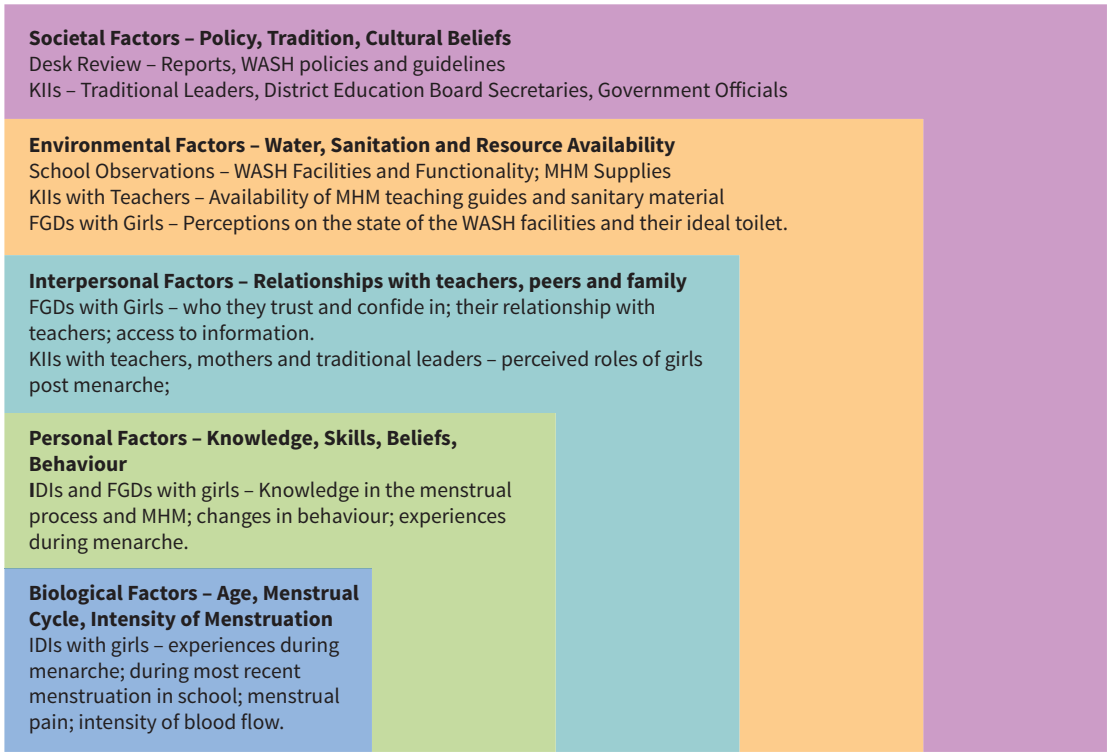
The overall aim of this study was to gain an understanding of challenges and determinants affecting menstruating girl pupils in rural areas of Mumbwa and Rufunsa Districts.

Qualitative Data Collection

Trained research assistants collected data using various interview guides for both in-depth-interviews and focus group discussions. In addition to these methods, a structured observation form was used to assess WASH characteristics around the school. All tools except the structured observation form were translated into Nyanja from English. Nyanja is the commonly spoken language in both the Mumbwa and Rufunsa districts.

The theoretical socio-ecological model (below) guided the research. The theory allows for an investigation of factors including environmental, interpersonal, personal and biological that affect management of menstruation.

Figure 3: Ecological Framework for Research Activities and Themes



Source: *Emory University MHM Training Materials*

Focus Group Discussions

Focus group discussions were applied to understand collective thoughts on how management of menses is affected by: the availability/non-availability of sanitary facilities and materials, school attendance, and the presence of boys. The FGDs were also used to establish acceptability and practicality of potential MHM interventions. FGDs were gender segregated and held with boys and girls separately. All participants were aged between14 and 18 years (see Table 5). The objectives of the FGDs were:

1. To determine the attitude of boys in schools towards menstruation;

2. To explore whether MHM practices are related to adolescent girls' school attendance;

3. To understand how adolescent girls are affected by the availability of water supply and sanitary facilities and materials (such as toilets, hand washing devices, sanitary pads, materials and soap) during menstruation; and

4. To determine acceptable and feasible implementation strategies promoting healthy MHM practices

A focus group discussion with boys in one of the schools in Rufunsa district

In-Depth Interviews

In-depth interviews were undertaken with the aim of obtaining personal views on knowledge and experiences around MHM, as well as an individualistic view of how social and economic factors affect MHM practices. In-depth interviews were carried out with female pupils aged between 14 and 18 years who had started menstruation. The objectives for the in-depth interviews were:

1. To learn on various factors (social/demographic, economic, and cultural/traditional) that affect adolescent girls in relation to MHM.

2. To understand experiences as well as current knowledge and attitudes of adolescent girls towards MHM both at home and in schools.

3. To determine how adolescent girls are affected by boys' attitudes towards menstruation;

4. To understand if and how menstruation impacted school attendance; and

5. To investigate the challenges girls have with managing their menses both at home and at school.

Key Informant interviews

Key informants interviews took place with female parents, traditional leaders and government officials to understand how these key leaders understood MHM. The objectives for all the key informant interviews were:

1. To determine how acceptable and feasible strategies promoting healthy MHM practices can be implemented in schools; and

2. To establish the experiences, current knowledge and attitude of adolescent girls towards MHM both at home and in schools

School Assessment (Observations)

The school assessment was conducted using a structured observation form that was completed at each school to assess key parameters. These included number and functionality of toilets; cleanliness of toilets; number of users; availability of inside locks with the toilets; availability of dust bins for physical waste disposal inside the toilets; hand washing facilities and availability of water; availability of soap at hand washing stations; and type and location of hand washing stations, (Emory University, 2015).

2.3 Training

The training for twelve (12) research assistants lasted for seven days. It provided the research assistants with a broad understanding of WASH and menstruation, methods and techniques in qualitative data collection, and research ethics. The training modules were adapted from the Emory-UNICEF WinS for Girls online course. The training also included sub-training in ethics with a presentation adapted from the FHI 360 Research Ethics Training Curriculum. This component included a pre and post-test for all participants. The training team comprised of facilitators from Emory University (TA), CIDRZ, UNICEF – WASH Section and University of Zambia.

The piloting of tools and data collection practicum was done for a further two weeks following the theoretical part of the training. The research assistants piloted the translated tools in settings similar to the target areas and adapted the tools for consistency and understanding. The practicum included refining interviewing skills, rapport, effective listening and probing.

Table 4: Summary of the Study Population and Inclusion Criteria

Tool	Population	No. of activities completed	No. of participants	Inclusion Criteria	Key Themes
Focus group discussion	Girls in school	6	48	14 – 18years who have reached menarche	1. *Effect of the availability or non-availability of water and sanitation on MHM* 2. *Menstruation and school attendance* 3. *Feasible and acceptable MHM strategies* 4. *Attitude of male pupils towards menstruation*
	Boys in school	2	16	14 – 18years	
In-depth interview	Girls in school	12	12	14 – 18years who have reached menarche	1. *Social, cultural and economic factors related to MHM* 2. *Knowledge and experiences on MHM at school and at home* 3. *Effect of boy's attitude on management of menstruation*
Key informant interview	Teachers	7	7	Guidance and Counseling Teacher	1. *Social, cultural and economic factors related to MHM* 2. *Feasible and acceptable MHM strategies* 3. *Perceptions and school activities in favour of good MHM practice*
	Parents	7	7	Parents of children that have attained menarche	
	Traditional Leaders	11	11	Head women	
	District Education Board Secretary	2	2	District Education Board Secretary	
School WASH Facility Observation	Schools	6	-	Distance from DBS office, SLTS interventions and primary or secondary	functionality of toilets; cleanliness of toilets; number of users; availability of inside locks with the toilets; availability of dust bins for physical waste disposal inside the toilets; hand washing facilities and availability of water; availability of soap at hand washing stations; and type and location of hand washing stations
	Totals	53	103		

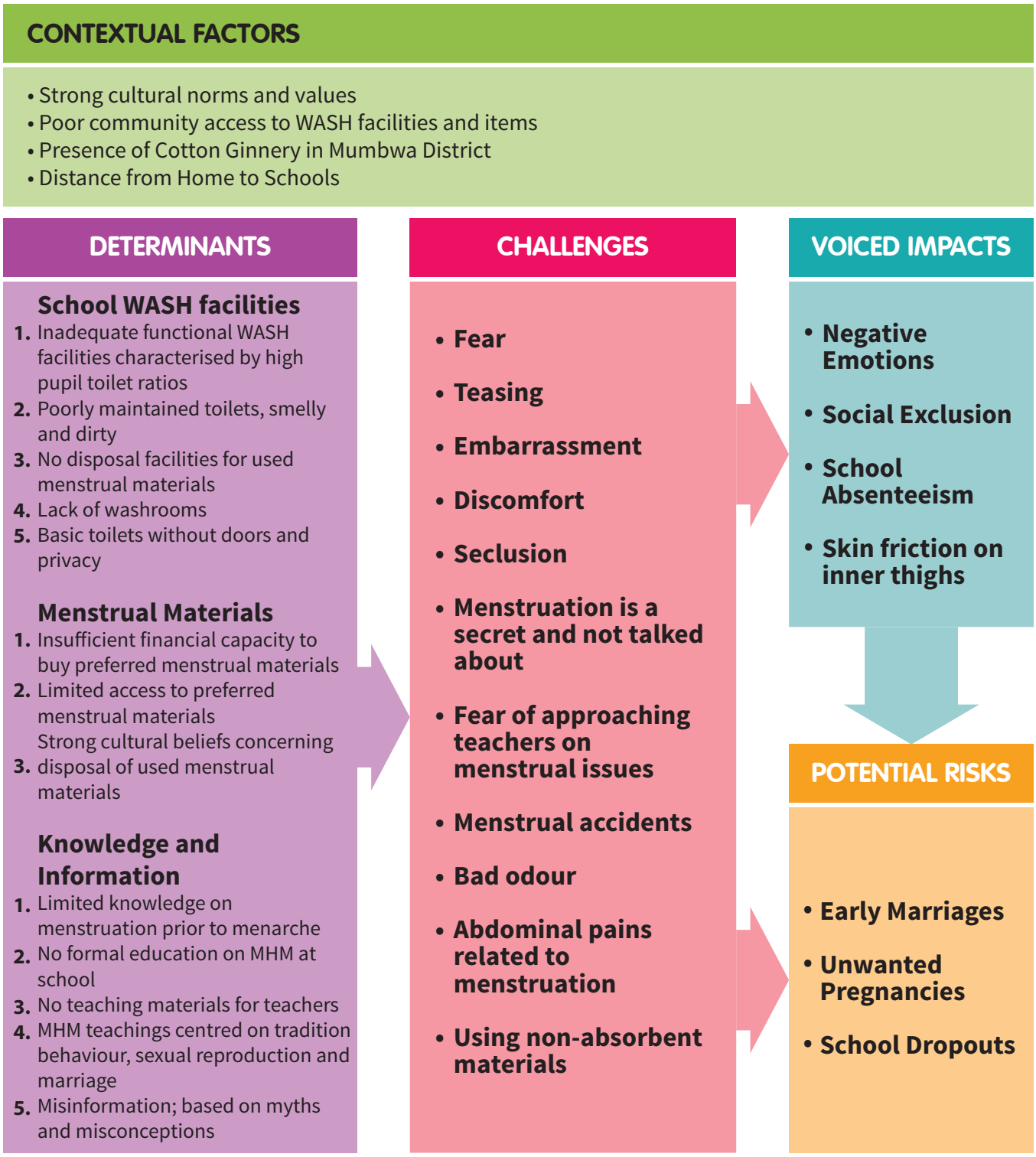
3 STUDY FINDINGS

The study findings are organised into five interlinked key categories. These include:

- **Contextual Factors** – ***these are social and environment factors that may influence a girl'' MHM experience.***
- **Challenges** – ***these are difficulties that girls experience whilst menstruating in school***
- **Determinants** – ***these are attributes that contribute to the difficulties girls face whilst menstruating in school.***
- **Voiced Impacts** – ***these refer to negative effects on girls' health and education as told by themselves and/or other participants in the study.***
- **Potential Risks** – ***these are issues identified by the researcher that are likely to arise as a result of the challenges, determinants and voiced impacts.***

The figure on the following page shows the findings presented in each of the specific categories highlighted above.

Figure 4: Diagrammatic Presentation of Research Findings - Zambia



3.1 Social and Environmental Context

The context that a girl lives in may have some effects on her ability to manage her menstruation. In understanding how a girl manages her menstruation it is important to identify the context that she lives in. Interactions with participants brought out various contextual factors that may influence the way a girl handled her menstruation in school and at home

Contextual Factor 1:
Strong Cultural Norms and Values

Mumbwa and Rufunsa districts are headed by Village Chiefs and Headmen/women who act as the gate keepers of the communities. All administrative offices in the district recognize this hierarchy and they worked in close collaboration with the traditional leaders. Chiefs are the main custodians of cultural norms and values, as such, all programmes introduced in the district must go through them. The Chiefs had the authority to either accept or dismiss the programme in their village. District and school administration staff emphasized the need for Chiefs to be aware if the MHM programme had to be introduced.

Contextual Factor 2:
Distance from Home to Schools

Pupils attending school in remote places reported having to walk very long distances, as schools were located very far from the villages. Some rural schools were located 123Km away from the villages and the pupils' only mode of transport was to walk for long periods of time. . Girls near the administrative centres lived in a more urbanised setup and did not need to walk very long distances; they also reported having easy access to disposable menstrual materials like pads. Girls from remote rural schools reported to never have used disposable sanitary pads.

Contextual Factor 3:
Poor Community Access to WASH Facilities

The majority of schools in both districts did not have access to acceptable WASH facilities. Instead, they were characterised by a huge presence of pit latrines for both pupils and teachers. The presence of pit latrines was also pronounced in villages. Therefore, pupils could not appreciate the use of a flush toilet as it was not a common design in the toilets. Another aspect of WASH that was not common in schools were wash room and incinerators. It was not a norm for girls to bath/wash themselves in schools unless it was a boarding school. The lack of incinerators in schools made disposal of sanitary material a challenge.

Contextual Factor 4:
Presence of Cotton Ginnery in Mumbwa District

One of the main economic activities in Mumbwa District was the production of cotton. This was considered as an advantage for the management of menses because the product was readily available for use as menstrual material.

3.2 Challenges faced by the Girls during Menstruation

The findings bring out various challenges girls faced during menstruation in the school context. Challenges are simply difficulties that make it hard for girls to be comfortable or be in school whilst menstruating. Girls were asked what they experienced and how they felt about menstruating while attending classes. They reported feelings of fear, embarrassment, discomfort and seclusion while on menstruation. The reasons given for these negative feelings were:

- Menstruation is secret and no one should know (especially males) that you are menstruating.
- Male teachers cannot be approached for help if a girl needs to go home
- Boys tease girls when they know that they are menstruating or they stain their dresses/skirts.
- Menstrual material used is not absorbent and feels wet leading to feelings of discomfort.

- Bad odour.

Boys were asked how they know that a girl is menstruating; they responded that a girl smells when she is menstruating. This served as a confirmation that girls may release bad odour when menstruating. Bad odour is determined by the sanitary material a girl uses and is also dependent on how long the girl has been wearing the cloth; the longer the duration, the more likely it is to smell bad.

Another challenge reported by the girls was abdominal pain during menstruation. Girls who experienced menstrual pain chose to stay at home and not go to school. Others that felt pain while in school would simply leave class without permission, as they fear that the teacher will know that they are menstruating.

3.3 Determinants of Menstrual Related Challenges

They are various factors called 'determinants' that cause challenges that girls experienced. In many instances, these determinants can be avoided. Participants identified these determinants as the reasons they experience challenges. The list of determinants revealed by the participants were as follows:

School WASH Facilities and Management of Menstruation

- Inadequate functional WASH facilities characterised by high pupil toilet ratios
- Poorly maintained toilets, smelly and dirty
- No disposal facilities for used menstrual materials
- Lack of washrooms
- Basic toilets without doors and privacy

Menstrual Materials

- Insufficient financial capacity to buy preferred menstrual materials
- Limited access to preferred menstrual materials
- Strong cultural beliefs concerning disposal of used menstrual materials
- Use of non-absorbent materials such as cloth, cotton wool and tissues

Knowledge and Information

- Limited knowledge on menstruation prior to menarche
- No formal education on MHM at school
- Teachers have no teaching materials
- MHM teachings centred on tradition behaviour, sexual reproduction and marriage
- Misinformation, based on myths and misconceptions

DETERMINANT 1:
School Water Sanitation and Hygiene Facilities

Investigations of Water Sanitation and Hygiene facilities and their relationship with menstruation were carried out at school level.

Characteristics of WASH facilities for participating schools

On average, all the selected schools had pit latrines. Two schools however had latrines that did not meet the functionality criteria. On the other hand, only Rufunsa district schools qualified as all the toilets were clean and the latrines were segregated by gender. None of the schools in Mumbwa had a girl's latrine with a functional lock inside compared to Rufunsa were one school had one. Results further showed that none of the schools had trash bins inside the girls' latrines. Table 5 below presents a summary of the infrastructural key findings.

Table 5: Facilities available at the schools

Rural School Sanitation Observations	Mumbwa District (n=3)	Rufunsa District (n=3)	Total (n=6)
No. of schools with latrines	3	3	6
No. of schools with ***at least some*** latrines specifically for use by girls only	3	3	6
No. of schools with ***at least some*** partially functional[a] latrines for girls	1	2	3
No. of schools with ***at least some*** somewhat clean[b] latrines for girls	0	2	2
No. of schools with ***at least some*** light in latrines for girls	2	3	5
No. of schools with ***some*** functional locks in latrines for girls	2	3	5
No. of schools with ***some*** functional locks outside girls' latrines	1	2	3
No. of schools with ***some*** trash bins for girls	0	0	0
No. of schools with anal cleansing materials	0	0	0
No. of schools with space or pits used for burning used sanitary materials	0	0	0
No. of schools with incinerators for burning used sanitary materials	0	0	0
No. of schools with latrines that are: exclusively for girls, at least some partially functional and at least some somewhat clean	1	2	3
No of schools with latrines that are: exclusively for girls, at least some partially functional, at least some somewhat clean, and some functional locks inside latrine	2	2	4

Water Observations			
No. of schools with functional water source on school grounds at time of visit [d]	3	3	6
Hygiene Observations			
No. of schools with handwashing facilities available [e]	3	3	6
No. of schools with handwashing facilities with soap or ash available (availability of soap/ash in at least one facility at a school)[f]	0	0	0
No. of schools with handwashing facilities with water available	3	3	6
No. of schools with handwashing facilities with soap or ash and water available [g]	0	0	0

[a]Latrine functionality defied as in the UNICEF WASH in Schools Monitroing Package (2011). Not functional latrines are toilets that exist, but are so badly damaged or deteriorated that they are no longer reasonably possible to use them (ex. Squatting plate broken, door missing, roof has holes)

[b]Latrine functionality defied as in the UNICEF WASH in Schools Monitroing Package (2011). Not clean latrines defined by strong smell and/or presence of fecal matter and/or a significant fly problem and/or a large amount of litter

[c]Unable to conduct WASH facilities observation in one school. Missing school not included in calculations.

[d] B1.3 Is the MAIN water source functional now?

[e] E1. Does the school have hand-washing facilities?

[f] E5. Soap or ash available currently?

[g] E4 (water available currently) and E5 (soap or ash available currently)

Mean pupil-to-latrine ratios among the six participating schools

The pupil latrine ratio is an important indicator of access and availability of facilities. Below summarizes the findings from the schools with the various levels of latrine functional classifications.

Table 6: Mean pupil to facility ratios at the schools

	Mumbwa	Rufunsa	Total
Mean pupil-to-latrine ratio in participating schools	145:1	110:1	128:1
Girl pupil-to-latrine ratio	165:1	111:1	138:1
Boy pupil-to-latrine ratio	196:1	111:1	153:1
Mean pupil-to-latrine ratio for latrines considered at least ***partially functioning*** only	980:1	312:1	646:1
Girl pupil-to-latrine ratio	1015:1	299:1	657:1
Boy pupil-to-latrine ratio	784:1	328:1	556:1
Mean pupil-to-latrine ratio for latrines considered at least ***somewhat clean*** only	1008:1	117:1	562:1
Girl pupil-to-latrine ratio	1348:1	111:1	730:1
Boy pupil-to-latrine ratio	1160:1	123:1	642:1
Mean pupil-to-latrine ratio for latrines considered at have ***at least some light***	725:1	110:1	418:1
Mean girl pupil-to-girls latrine ratio	714:1	111:1	412:1
Mean boy pupil-to-boys latrine ratio	940:1	111:1	526:1
Mean pupil-to-latrine ratio for latrines with ***functional locks***	765:1	191:1	478:1
Mean girl pupil-to-girls latrine ratio	714:1	111:1	412:1
Mean boy pupil-to-boys latrine ratio	1581:1	352:1	967:1

The findings show that the availability and functionality of a toilet does have an impact on a girl's ability to manage her menstruation. When asked what facilities girls use at school to manage their menstruation, some girls said they used the school latrines while others said they chose to use the latrines from home. When probed further on why they do not use the latrines in school some girls said the latrines had no privacy.

Figure5: Basic toilet with no privacy

Figure 6: Dirty Basic Toilet

Interviewer: *P6, you said there is no privacy would you explain more?*

Participant: *Because it's too small.*

Interviewer: Can someone see you when you are in the toilet?

Participant: *No but when somebody passes the other side, they can see you.*

FGD Girls Mumbwa

Participant: *When I come to school, I don't use the toilet because they really have a bad smell, they stink and sometimes you even find faeces on the floor*

Interviewer: *Where do you change from?*

Participant: *I ask for permission then go home*

FGD Girls Mumbwa

Privacy: Girls were afraid that others who were passing by the toilets would see them because the toilets were either too small; had no doors/doors with no locks; or had no walls. The images in figures 5 and 6 above show some basic toilets that had no privacy, small and dirty.

Cleanliness: Cleanliness is important for comfort while using a toilet. Another reason that girls reported not to use the toilets was that they were visibly dirty and smelly. This affected the management of menstruation whilst at school and forced girls not to change their menstrual material until they left from school.

School Led Total Sanitation Interventions and MHM

As some selected schools benefited from the School Led Total Sanitation (SLTS) interventions, they had MHM friendly toilets. The toilets were spacious, had privacy walls, lockable doors, soap and water. Girls at schools with SLTS interventions felt that the toilets were in good condition and they could use them. Girls also felt safe using the toilets because they were located away from the classrooms and had locks inside. They felt comfortable that no one could see them going to the toilet. Below is what one of the girls said.

"Our toilets are private because they are doors and there is a lock inside, so you can just lock it and no one can disturb you…They are even far from the classrooms in that you can make a plan like you are going to the teachers compound but you are going to the toilet."

Figure 7: Block of Toilets Provided through SLTS Programme

Figure 8: Poorly Maintained Toilets

This was in contrast with girls from schools without the SLTS programme who only had basic sanitation facilities and as such, they felt unsafe. Girls expressed fear of going to the toilet alone without a friend to escort them and ensure no one walked in on them because the toilets lacked privacy. Due to lack of privacy, the girls found it difficult to use the toilets to change their menstrual material while at school. Below is a quote from one of the girls when asked about how she managed her menstruation in such a situation.

Disposal Facilities for Used Menstrual Materials

No schools made provision for disposal facilities for used menstrual material in schools. Some girls reported that they disposed of their menstrual material in the pit latrines, while others disposed of them at home. *There is a myth that witches use menstrual blood to cast spells on a person.* Therefore, some girls do not dispose of their menstrual material at school for fear of the same. Because of the fear of being bewitched, girls found it safe to throw their used menstrual materials in pit latrines.

> *"The reason why I have never thrown a pad in school is because your pad can be picked by a witch and they bewitch you…"*

> *"When you want to change, you first remove the pad you are wearing and throw it in the latrine and put on a new one but others just throw them anyhow."*

> ***Interviewer**: Ok, so how about when you are at school, how do you manage your periods?*
>
> ***Participant**: I go to ask from the nearby neighbors around the school to use their toilets.*

During the school assessment of sanitation facilities, it was found that not all the girls' toilets had trash bins for disposal of sanitary materials. When the girls were asked what they would like to have in an ideal toilet during the FGDs, they did not mention any need for trash bins and maintained that they would prefer to use pit latrines to dispose of used materials.

The District Planning Officer in Mumbwa also echoed the influence of culture on the disposal of menstrual materials during a KII, *"A lot needs to be done to overcome the cultural barriers to accept initiatives aimed at improving MHM."* He explained that he witnessed communities in the district rejecting projects working on MHM and his office was accused of collecting girls' menstrual blood after the girls disposed in the bins to use it for 'Satanism'.

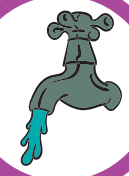
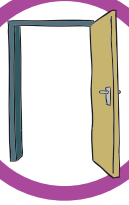
Due to environmental issues of disposing of non-biodegradable materials in pit latrines, the use of incinerators for burning of disposable menstrual pads is recommended. However, given the strong cultural restrictions, it is unlikely that parents and the girls would be willing to have the pads burnt at school. Such a recommendation would need a lot of awareness and education, especially for rural

schools.

Girls Description of an Ideal Toilet

Girls were asked to describe what they thought an ideal toilet should look like. The table below lists the key elements of an ideal toilet as expressed by the girls during the FGD:

Figure 9: Description of an Ideal Toilet during a FGD with Girls

Tissue	Girls explaned that tissue is important to help clean themselves. it would also be used as material in the absence of pads.
 **Water**	Water was a necessity to help girls rinse the blood off. It was also considered useful for bathing.
Soap	Soap was required to effectively wash themselves during menstruation.
Pads	Pads were recommended in an event that girls began their menstruation while at school.
Bathroom + Sink	These were seen as essential in enabling washing of soiled clothes and the body.
Mirror	Girls wanted a mirror to see whether they had stained themselves or not when they were having menses.
 **Doors**	Doors were considered essential for privacy

DETERMINANT 2:
Menstrual Materials

Types of Menstrual Materials Used

Girls used cotton wool, disposable pads, cloth, tissue and multiple underwear to absorb their menstrual blood. The KIIs with parents and the IDIs with girls revealed that girls were formally taught on what to wear and how to use cloth, disposable pads or cotton wool. Below are some quotes from girls:

When my mother came, she told me that now you have grown so you should not be playing with boys then she showed me how to wear a pad.

Female Pupil, Mumbwa

"…my grandmother tore the cloth material for me and said that when you are on your period you get one and put it on and wear something inside to support your pant.

Female Pupil, Mumbwa

"She said I can use cotton wool or a cloth in case they are no pads…"

Female Pupil, Rufunsa

Access to Menstrual Materials

During days of menstruation, girls had more access to cloth material made from used/old material. They interchanged materials between disposable pads/cotton wool and cloth, depending on availability. Pads were considered the most expensive option ranging from Zambian Kwacha (K) 8 to K10 for a pack of 10 pads. Their mother or female guardian but never their father or a male guardian, typically provided pads to the girls. Girls stated that they purchased cotton wool from the market at K3 or obtained from the Health clinic free. In Mumbwa District, cotton wool is widely grown as a cash crop. Therefore, in one FGD conducted in Mumbwa, they said that they could get cotton wool from the fields free. Participants were also asked about whether they knew or had used re-usable pads before and none of the participants reported knowing or using re-usable pads.

Female pupils near the administrative town were aware of pads and had used them before, unlike those coming from remote areas of about 20Km and beyond. Girls from these remote areas denied ever using disposal pads. This could be attributed to the distribution of shops and gainful economic ventures. In comparison, more shops stocked menstrual pads around the administrative towns than in rural areas. In addition, people around administrative towns engaged in some form of employment or trade unlike their rural counterparts who were predominantly peasant farmers.

***Interviewer**: How do girls access these materials at school?*

***Participant**: You just carry from home.*

***Interviewer**: Can you find these at school?*

***Participant**: No, you can't find them.*

FGD Girls Mumbwa

The availability of menstrual materials in schools was a challenge. Ideally, schools should stock emergency menstrual materials for girls who start their menstruation in school and have no material to use. Out of all the six schools, only one school stocked disposable pads for use by girls. All teachers interviewed reported that their schools did not provide menstrual pads for girls who would start their menstruation in school. The main reason given for this was that, the school did not have enough funds to afford this. This finding was consistent with what girls said when asked whether they access menstrual material from school. The quotes below relate to access and availability of menstrual materials.

Interviewer: *So what materials are available at school?*

Participant 1: *Pads.*

Interviewer: So, where are these materials found?

Participant 3: *The head's office.*

FGD Girls Rufunsa

Interviewer: *What materials do you use at school?*

Participant: *At school we do not have the materials*

FGD Girls Mumbwa

Preferred Menstrual Materials

Given a choice, the girls would always use disposable pads to manage their menstrual flow, especially when they are at school because disposable pads have more advantages over the other available options. According to the girls, the pads have the ability to absorb menstrual blood for the longest time. They feel dry, comfortable and secure when using them and they do not cause friction between the thighs like the cloth and are easily disposed of. Girls said that pads are the preferred option but they used cloth because it was more readily available. Additionally, a mother said that girls could use either pads or cotton wool depending on whether she has the money to buy them. Even though cloth is commonly used, it had more disadvantages including; having less absorption capacity for fluids, smells quickly and causes friction between the thighs.

Table 7: Advantages and Disadvantages of Different Menstrual Materials

Material	Advantages	Disadvantages
Pads	• *Absorbs fluid for the longest time* • *Feels comfortable and secure* • *Feel dry* • *Does not burn* • *Easily disposed*	• *Costly*
Cotton Wool	• *Absorbs fluid for some time*	• *Reduces in size after absorbing menstrual blood* • *Feels wet*
Cloth	• *Readily available and accessible*	• *Absorbs fluid too quickly* • *Easily moves about (not secure)* • *Easily smells* • *Burns inner thigh area* • *Has to be washed after every use*

Care and Disposal Methods of Menstrual Materials

Girls expressed different ways of care and disposal for their used menstrual materials. Those who used disposable pads believed that you could either throw the used pad in a pit latrine or burn it. A pit latrine is a deep pit where used material could not be reached. This was ideal for the girls because no one could reach their used material for evil practices. For those that used cotton wool, they also disposed of cotton wool in the pit latrine. Lastly, those that used cloth mentioned two ways of disposal. They could either throw it in the pit latrine or burn it. Both these ways were considered safe as no one could reach the used pads.

Table 8 below details the methods used or care and disposal.

Table 8: Care and Disposal of Commonly Used Menstrual Materials

Material	Care and Disposal Methods
Disposable Pads	"These pads are disposable so you will just throw it in the pit latrine and then you get another one"
	"My mum told me that once they are used you shouldn't use them again you have to throw them and then if you are using a pit latrine you throw them into the latrine if you are using a flushing toilet you have to dry them up and then burn them."
Cotton Wool	"You throw cotton wool in the toilet"
Cloth	"You need to wash it. You need to have two, when you wash one, you use the other one and when you wash it, you dry it at a place where people cannot see, then you change and put on a clean one."
	"You can just throw cloth material in the pit latrine or you can just burn it"
	"I use soap to wash my material and if there is no soap I use water alone."

DETERMINANT 3:
Knowledge and Information on Menstruation

The IDIs reveal that the female participants are unaware of the reasons for menstruation. All twelve female pupils participating in the IDIs said they do not know why girls menstruate while others gave their beliefs. They believed that girls menstruated because they need to cleanse their stomach from disease; to grow up; and to determine whether one is pregnant or not.

***Interviewer**: Why do women and girls menstruate?*

***Participant**: There are diseases that are found in the body and they are gotten rid of as the blood comes out.*

School 2, District 2

***Interviewer:** Ok, thank you, why do women and girls menstruate…what causes us women and girls to menstruate?*

***Participants:** So that we can grow up*

School 3,District 1

Growing up often signifies the transition from being a girl to becoming a woman. It is marked by the onset of menarche, which is a very important time in a girls' life. Teachings around menstruation are

usually based on marriage and childbirth. It is in this regard that girls would identify menstruation as growing up.

Menstruation was also seen as a process of cleaning up the stomach. This finding indicates that there is little known about where menstrual blood comes from. This was also compounded by the fact that *there is no local translation for the term uterus.* In the local language anywhere around the belly areas is referred to as ***'mu mala'*** translated stomach. *The quotes above indicate limited knowledge by the girls on the purpose of menstruation.*

Most girls said they were scared when they first had their period because they did not know why they were bleeding. When asked why she was scared, one girl said, *"I was scared because I did not know where the blood was coming from."* There was need for girls to be aware of their body function and the biological purpose of menstruation so that they are able to deal with it when they attain menarche.

Interviewer: *Ok, what do you understand by the term menstruation?*

Participant 3: *I think this is the period when girls start losing waste blood from her vagina. Participant 6: Menstruation period is shedding of the uterus in form of blood.*

School 1, District 1, Boys FGD

This research revealed that boys had a better understanding of menstruation than the girls did as seen from the quote. This quote was from the boys' FGD. They defined menstruation as blood coming out of the vagina. In only one of the four FGDs with boys, participants explained that the blood comes out of the uterus. There was no explanation of why girls menstruate.

Participant*: When I first started menstruating, I did not tell my mother I went to tell a friend*

Interviewer*:: why did you not tell your mother?*

Participant*: I was scared*

Interviewer*:: why were you scared?*

Participant*: Because she might tell that, I am from sleeping with a man*

IDI School 2, Rufunsa District

Sources of Knowledge

Elderly women were responsible for teaching girls about menstruation. Findings from this study showed that girls were only formally taught about menstruation when they attained menarche. Girls were taught about menstruation after approaching either their mother, grandmother, sister or aunt. The reasons for their choice of who to tell first varied. One girl told her friend first because she was afraid that her mother would think she was sleeping with a man. This fear stems from the fact that girls lack knowledge around the biological process of menstruation.

Those that chose to tell their grandmother or mother first said they did so because they share a close relationship with them. This shows that girls reveal their first debut with those they share a close relationship with and those in which they are comfortable to confide.

Interviewer: *When are they taught?*

Participant: *When they start menstruating because you cannot talk to a girl who has not started menstruation because you can just disturb her thinking.*

KII, Parent, Mumbwa

Most girls learned about menstruation only when they reached menarche. This finding is consistent with findings from a majority of the mothers who also believed that girls should only learn about menstruation when they start menstruating. Mothers therefore, know that their daughters do not know anything before menarche. Mothers also said their daughters hide their first menstruation from them. Usually, mothers would accidentally

find a soiled underwear or clothing or be informed by another member of the family. It is then at this point that they would talk to their daughters about menstruation. Mothers believe that if they taught their daughters before they started menstruation then their thinking will be corrupted. Based on the above findings, it is important for mothers to build a close confiding relationship with their daughters.

Despite the school being regarded as a place for obtaining comprehensive knowledge and information on menstruation for girls, both teachers and pupils interviewed did not report any structured learning on menstruation at school. Female teachers held discussions on health issues but did not discuss menstruation in detail due to cultural teachings that emphasized secrecy around menstruation. Female teachers also stated that it would be especially worse for male teachers to discuss menstruation even though they have received professional training in Science and Biology. This was also attributed to cultural restrictions attached to menstruation. The following was a key informant interview with one of the teachers in Mumbwa.

Interviewer: *Ok! So what menstrual hygiene management education do you receive here at school?*

Participant: *Menstrual? ...*

Interviewer: *Yes! …*

Participant: *Am sure the guidance and counseling are doing their parts.*

Interviewer: *Hmm (agreeing)*

Participant: *Where they are teaching learners how they can conduct themselves when they are…having their menses….*

Interviewer: *Hmmm…so when is this taught?*

Participant: *Normally they do it on Wednesdays when they are having Club day.*

Interviewer: *Is that all?*

Participant*: Yes*

KII Teacher, Mumbwa District

From the interviews with the Teachers, it was clear that there was no structured learning programme (specific lessons at a given time) on MHM in school. Furthermore, social clubs or informal discussions focused more on sexual reproductive health and not MHM. Individual education on how to manage menstruation was said to be given mostly at a point when a girl experienced an accident and was not discussed in an organised group setting. However, teachers reported that they had informal talks on menstruation before lessons though they could not give exact details of the content. Teachers did not have any materials or guides on the fundamentals of MHM.

Existing Myths and Misconceptions

The findings further revealed that they were myths and misconceptions that existed around menstruation. Most of the myths and misconceptions identified stem from old traditions. Girls learn about the myths and misconceptions at menarche from their female guardians and peers. However, there are some myths and misconceptions that could have negative impacts on girls. For example, girls stated that whilst menstruating they should not move up and down because it may cause them to bleed a lot. Furthermore, they could not visit a newborn baby at a home because they may cause that child to become ill. Such misconceptions indicate that a girl is unclean and therefore should remain at home. Participants also mentioned that the downside to disposable pads was that they caused cancer. They reported hearing this from a medical doctor. In rural communities, doctors were regarded highly for the positions they hold in society. Therefore, pupils would most likely believe such a misconception because it was coming from a doctor. Below is a table listing the common myths and misconceptions from the research.

Table 9: Myths and Misconceptions

Myths and Misconceptions	Quotes	Consequences
Do not put salt in the food when you are cooking.	**Interviewer:** Okay. Why they don't put salt in the food when they are menstruating? **Participant 2:** Because you can let your friend get a cough.	Causes chronic cough in people eating the food.
Do not move around during menstruation.	"Moving up and down any how especially in the afternoon causes you to bleed a lot, you just have to sit in one place…and when you reach or go into people's homes you shouldn't touch things anyhow	Girls would get excessive bleeding
Do not visit a new-born baby when menstruating.	"When you are menstruating and then maybe someone has given birth to a child, you don't have to go and visit that child because you can affect the child."	Causes illness in a new born baby
Pads or menstrual material should not be thrown away.	"Those things they are not supposed to be left just like that because if people sees or get them then the owner of those things cannot give birth."	Witches or Satanists could use the menstrual blood from the pad to bewitch the girl Menstrual blood will be used to

The myths highlighted in Table 9 above were common amongst girls, female parents and traditional leaders. The most common myth appearing in the data was around food preparation, where a girl who is menstruating is not supposed to add salt to the food. In the boys FGD, it was mentioned that, boys could refuse to eat the food if they knew or suspected that their sister was having her menses and cooking.

"This time because of the Bible and the Church many traditions have been stopped."

KII Traditional Leader, Mumbwa

"It is just an old belief that we follow, but these days, now that we go to church, we noticed there isn't anything that even happens even though you don't give her medicine it is just an old belief we follow."

KII Parent, Rufunsa

Interestingly, some mothers and traditional leaders did not believe some of the myths and misconceptions and dubbed them as out-dated. This was attributed to the changes overtime in their religious beliefs and doctrines. Christianity is the most prominent religion in Zambia and has had a lot of influence in changing some tradition beliefs. One of the head women interviewed was an elder in a church and believed that religion overruled tradition. Therefore, because these myths and misconceptions stem from traditions, those associated with Christianity may not believe in them.

Cultural and Tradition Teachings

The findings show that they are traditional practices associated with menstruation that were done upon attainment of menarche. Many of these traditional practices around menstruation are linked to sexual reproduction and marriage. Elders mark menarche as a time when a girl should be taught how to prepare herself for marriage and how she should behave towards the opposite sex. On marriage, girls are taught how to behave towards their future husband when she is menstruating and how she should care for him. These teachings were meant to prepare the girl and ensure that when she meets a man she conducts herself according to the teachings. Teachings on reproduction on the other hand often involve ingesting pumpkin seeds and sniffing a chicken feather. These practices are done to ensure that she is able to conceive in the future.

Traditional teachings also evolved around personal hygiene, girls were taught how to keep themselves clean and to bathe with soap and water before going to school and after they come back from school. They emphasize the washing of hands with soap after changing their menstrual material. Informal conversations with parents revealed that restrictions against cooking during menstruation were due to the fear of contamination with menstrual blood. As part of the traditional teaching, they were also taught how to use and wear their menstrual material. Using more than one piece of cloth for the collection of blood was advised to prevent leakage and stains.

Traditional Practices Affecting Behaviour

During this special time of menarche, girls were also taught on how to behave during menstruation as a woman, especially with regard to interactions with the opposite sex. Girls were taught not to have any close friendships with male peers after menarche because they could become pregnant. Parents were concerned about their children becoming pregnant after they had attained menarche. Thus, the teachings restricted close interactions with boys.

With regard to close interactions with the opposite sex, one of the mothers said in this quote:

> *"You cannot leave groundnuts with a rat and expect to find them the way you left them. If girls hung out with boys a lot, they should not be too close they can joke around at school and it ends there, but the problem is that they don't let it end there, until they end up sleeping together and getting pregnant. It hurts me very much. That is the challenge that I have right now, she would have been in grade 11".*
>
> ***KII- Mother***

Girls were also told that no one especially males should know that they were menstruating. This altered their usual behaviour in class as they try hard to hide the fact that they are menstruating from the boys. The findings show that girls become quiet in class and do not play with the boys during break time. The boys themselves identified this and noticed that a girl was menstruating because she changed her behaviour.

3.4 Voiced Impacts

All the determinants discussed above contribute to the challenges that girls face whilst menstruating in school. Whilst discussing the various determinants, participants mentioned negative impacts that affected girls' education and health.

VOICED IMPACT 1:
Negative Emotional Impact

In all the IDIs conducted, girls reported that they have negative feelings towards their experience of

menarche. These feelings were as a result of thinking they had done something wrong that caused them to bleed. The image below shows the different ways girls felt upon attainment of menarche.

Figure 10: Girls' Experiences at Menarche

VOICED IMPACT 2:
Social Exclusion

Girls felt comfortable being alone when they were menstruating. They feared others would know they were menstruating and felt better excluding themselves from active games and participation in class. Boys confirmed this when they explained that girls became quiet and would not play in the playground when they are menstruating.

> *"When she is at school, she only wears the uniform but if she is at home she can put the cloth material, wear a part skit and also a chitenge material. Now if she is at school she is going to wear a uniform and when she sit on the desk she can even mess up herself because some girls they have heavy flows so those are the problems that they have."*

VOICED IMPACT 3:
School Absenteeism

Some girls reported missing school. The most common reason for missing school was that they were afraid of staining their dress and being laughed at or teased by boys. One girl reported that boys laugh at girls when they stain themselves and many girls consequently stay home for up to a week. Some parents also supported the decision for a girl to stay home because of fear that she would mess herself up.

Another reason they missed school was that they experienced abdominal pain, in which case they chose to stay home. One of the traditional leaders preferred that girls stayed home because the schools did not have any wash facilities to clean themselves when they stained their dresses.

VOICED IMPACT 4:
Burning of the Skin (Friction on the Inner Thighs)

One participant who uses cloth material for menstruation reported that it burns the thighs because it is hard. Girls walk long distances to and from school; hence the friction between the cloth and skin may exacerbate the burning.

Interviewer: *How comfortable are these pads?*

Participant: *…because they are thick so even when you wear them, blood won't move on to the pant.*

Interviewer: *Is there anything else?*

Participant: *they are soft so even when you are walking you don't get burns like when you're wearing cloth.*

3.5 POTENTIAL RISKS

Further analysis reveals the potential risks that may arise as a result of particular practices, behaviours and challenges. Learning of these potential risks is important to understand the potential extent of various practices, behaviours and challenges may have on girls.

POTENTIAL RISK 1:
Early Marriages

Ceremonious teachings around marriage preparation and childbearing activities mentioned in the findings have the potential to promote early marriages. Girls reaching menstruation, regardless of age, are taught how to please a man during menstruation ceremonies. Participants did not reveal the exact details of what is taught around marriage. Some parents and traditional leaders believe that these teachings are necessary for marriage preparation. When asked what she expected of the girl once she had attained menarche one traditional leader said, *"Now we are waiting for her to get married because we now know that she has grown up. So any man who will come to marry her will marry her because she has grown up now."* This is clear evidence of the potential risk of early marriages.

POTENTIAL RISK 2:
Unwanted Pregnancies

"Sometimes, you tend to find that you go to your girlfriend and you want to have sex with her, then she turns you down and tell you that she is on her periods, that how we know."

FGD Boys

The findings reveal that some adolescents participating in the study already engaged in sexual intercourse. Boys stated that one of the ways they know a girl is menstruating is when they want to have sex with her and she refuses saying she is menstruating. This is a clear indication that some pupils between the age of 14 and 18 years already engaged in sexual relations. There is therefore a risk of unwanted pregnancies, as there is limited knowledge on menstruation and its cycle. One mother expressed a fear of their daughters becoming pregnant once they start menstruating. She said, *"we get scared when our daughters start menstruating. We are scared that she will have a boyfriend and start meeting him. So we are not free because we are always thinking that maybe she will become pregnant."*

POTENTIAL RISK 3:

School Dropouts

The risk of unwanted pregnancies and early marriages further poses a risk of school dropouts. In many cases when girls become pregnant or marry early, they stop school and focus on caring for their children/family. Furthermore, pupils gave experiences of girls that did not return to school because they had been laughed at and teased when they stained their uniforms.

Experience of a Menstrual Accident

"Like for me when I was in grade 10 last year. That girl was just quite in class, she was just seated before break time. By break time when she wanted to stand up, we just saw blood on the desk. Now us we didn't know and her friend surrounded the desk. So us boys we wanted to see what was happening. At this school we are a lot of boys, so we just looked at her and others started saying that monthly period has come out. Boys started laughing even some girls. It's like she had girls who were enemies, so they also laughed at her. The girl just moved out and she was afraid. After that accident, they usually laugh at her. So they made her mop and told her to go home. She used to abscond from school before but after that incident, she never came back to school."

FGD Boys

3.6 STUDY LIMITATIONS

Generalizability

The study was purely qualitative in nature. While this type of research is valuable in providing insight into how things are and why they are this way, it does not allow findings to be generalized. This means that these findings do not represent schools and communities across Zambia. Furthermore, we do not know what proportion of pupils are affected by poor MHM. There is need for a larger quantitative study to be conducted to understand the extent of the MHM problem.

Area of Investigation

This study was restricted to rural areas and therefore we do not know how people in urban areas view and behave with respects to MHM. There is a need for this study to be replicated in urban areas as well to ensure guidelines and proposed activities are related to the respective setting.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusion

The study reveals various determinants and challenges affecting girls' management of menstruation. Poor WASH facilities compromise a girl's ability to manage her menstruation properly. Privacy, space, cleanliness and the presence of water and soap are important aspects of WASH facilities that the girls need to clean themselves whilst menstruating. The absence of these aspects has shown to be a reason why girls prefer to change their menstrual material from home. It is important that girls understand the menstrual process before they attain menarche in order to prepare themselves mentally and emotionally before it happens. This will help avoid menstrual accidents at menarche and in the future. Soft absorbent materials with an adequate surface area are necessary for a girl's comfort during menstruation. Girls feel uncomfortable wearing cloth material during menstruation because it leaks, smells and burns. This has negative effects on her participation in class as she always fears staining her dress and being teased by her fellow pupils especially boys. Girls dispose of used menstrual materials in different ways. Methods of disposal are highly influenced by the belief that menstrual blood can be used for evil practices. Hence they either burn used material or throw them in pit latrines. They also wash and dry cloth material. Cultural and traditional practices and beliefs promote hygiene during menstruation. However, they are some practices and teachings that around marriage and childbirth. These may have a potential risk of promoting early marriages and unwanted pregnancies.

In order to create an MHM friendly environment in schools, determinants need to be tackled in order to prevent girls from experiencing the challenges they currently face. This in turn will help mitigate any potential risks foreseen. A holistic approach is required to promote MHM in schools. At the national level, the provision of guidelines with suggested activities on MHM for schools to enact is critical. The Provincial and District levels must take the role of training and orienting schools in MHM and thereafter monitor the schools' efforts in implementing MHM. At the school level, challenges being faced by girls during menstruation must be tracked and action plans to ensure challenges are mitigated should be developed. Additionally, schools should include MHM in their budgets to ensure adequate funding is available. The community should be aware of the challenges faced by girls in school during menstruation and play a supportive role in MHM. These efforts are necessary for Zambia to attain Sustainable Development Goal (SDG) 4 and 6 – focusing on ensuring lifelong learn learning opportunities for all and clean water and sanitation respectively.

4.2 Recommendations

Key Recommendation 1: WASH Facilities and Means of Disposal

Government should construct MHM friendly WASH infrastructure in all schools.

The MHM friendly WASH infrastructure will enable girls manage their menses effectively, reduce staining and the associated embarrassment, and increase comfort levels and enhance participation. To achieve this it is recommended that:

1. Government and stakeholders Improve and construct gender and girl-user friendly latrines with doors and locks for privacy with consideration of the ideal toilet as mentioned by the girls themselves.

2. Effect hygiene programmes that should include provision of hygiene and cleaning materials in latrines such as:

    a. Tissue for anal cleaning

    b. Soap/ash for hand washing and pit disinfection

c. Brooms/ buckets for cleaning purposes

d. Water provision

e. Construction of incinerators and/or preferred facilities for disposal of used sanitary materials

Key Recommendation 2: Menstrual Materials

- Provision of sanitary materials to girls in schools, especially during emergencies when one has an 'accident,' to encourage girls to stay in school.

- Further research may be required to explore more sustainable approaches such as making reusable pads to cater especially for those that cannot afford purchasing sanitary pads.

Key Recommendation 3: Knowledge and Information

Strengthening the MHM component in reproductive health education to empower girls with knowledge

1. Include detailed MHM information in the school curriculum on sexual reproductive and health education topics so that girls, boys and teachers are well informed and girls are able to practice MHM effectively including being able to attend and participate in school activities.

2. It is recommended that teachers receive the right information and training on MHM to increase their knowledge on MHM and that this training is accompanied by provision of appropriate reference and teaching materials to conduct MHM Education with both boys and girls.

Key Recommendation 4: Management of Menstrual Pain

- Schools to work closely with health workers so that they give health talks to pupils and advise on the best way of managing menstrual related illnesses.

- Schools to have sick bays and pain relieving medications to assist girls who experience menstrual pain; work closely with health centres to refer girls who might need special medical attention in relation to menstruation.

Key Recommendation 5: Community Support

- Communities to be actively engaged in supporting MHM, especially in changing attitudes, practices and dispelling myths and misconceptions that contribute to poor MHM practices among girls through awareness programmes. Girls need support from their families to access sanitary materials and be able to attend school therefore families need to be aware of the challenges that girls face and the need for their involvement. For instance, engaging mothers in making re-usable pads, parents contributing funds for MHM activities, etc.

- Schools and community leaders to work in close collaboration to ensure MHM is prioritised in school-community based development activities, for instance, in Parents Teachers Association (PTA) programmes.

5 APPENDICES

5.1 Appendix 1: Number of latrines per school

School	Girls-only Latrines	Boys-only Latrines	Total Pupil Latrines
1	8	8	16
2	4	4	10
3	4	2	8
4	6	6	12
5	2	2	4
6	6	8	14

5.2 Appendix 2: Pupil-latrine Ratios

School	Pupils: Latrines	Girls : Girl-only Latrines	Boys : Boy-only Latrines
1	130 : 1	130 : 1	130 : 1
2	178 : 1	235 : 1	211 : 1
3	126 : 1	129 : 1	247 : 1
4	63 : 1	59 : 1	68 : 1
5	186 : 1	178 : 1	195 : 1
6	82 : 1	96: 1	71 : 1

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This document has been developed with contribution of:

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Ministry of General Education

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