



**UNIVERZITA
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**The Introduction of Reusable Pads to Adolescent Girls: A study of MHM and WASH in
selected schools - Chipata, Eastern Province, Zambia**

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**A thesis submitted in fulfillment of the requirements of an
International Development Master's Degree**

**Palacký University Olomouc
Science Faculty**

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Declaration

I, Monde Ndana confirm that this master's thesis, *The Introduction of Reusable Pads to Adolescent Girls: A study of MHM and WASH in selected schools - Chipata, Eastern Province, Zambia* is my own work and I have documented all sources and materials utilized.

In Olomouc May 7, 2018

Signature:

A handwritten signature in cursive script, appearing to read 'M. Ndana', written in black ink.

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Abstract

Over the past few years there has been a lack of empirical evidence on menstrual hygiene management (MHM) and the introduction of MHM Toolkits in schools to improve the health, environment, and education challenges of adolescent girls in Zambia. To explore the extent to which the introduction of reusable sanitary materials has addressed knowledge gaps, hygiene, mental, social and physical health as well as the education outcomes for adolescent girls in Eastern province, Zambia, I conducted a study in the context of two complimentary programs introduced in schools located in Chipata (Eastern province) that sought to address the challenges related to water, sanitation, and hygiene (WASH), health, education and environmental management. The research also pursued to uncover the health implications, gaps and challenges adolescent girls were facing with the introduction and use of reusable pads.

KEY WORDS: Adolescent, Menstruation, Menstrual Hygiene Management, Reusable pads, Reproductive Health, Water Sanitation and Hygiene

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Abbreviations and Acronyms

AIDS	Acquired Immune Deficiency Syndrome
CSO	Central Statistics Office
DEBS	District Education Board Secretary
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Virus
MDGs	Millennium Development Goal
MHM	Menstrual Hygiene Management
MOCTA	Ministry of Chiefs and Traditional Affairs
MoE	Ministry of Education
MoH	Ministry of Health
MLGH	Ministry of Local Government and Housing
NGO	Non-Governmental Organization
NRWSSP	National Rural Water Supply and Sanitation Programme
RTI	Reproductive Tract Infection
SHE	Sustainable Health Enterprises
STI	Sexual Transmitted infections
UNICEF	United Nations children Emergency Fund
UTI	Urinary Tract Infection
TCA	Thematic Content Analysis
WASHE	Water Supply, Sanitation and Hygiene Education
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
ZDHS	Zambia Demographic and Health Survey

CHAPTER 1:

INTRODUCTION

As part of the female reproductive growth, menstruation is considered widely as an indicator of maturation and puberty. Though this is a natural progression in any female, there are physical health, social and economic factors that have contributed to the variations in the observations of menstrual cycles, disorders such as urogenital infections, characteristics and management in women and young girls¹. According to a 2012 United Nations report on adolescents and youth, Adolescence is the period of transition between childhood and adulthood, where a girl or boy is with puberty, a process of physical, psychological and emotional development; In girls, a key marker of puberty is menarche (first menstruation).²

“Worldwide, 52% of the female population is of reproductive age, meaning approximately 1.9 billion women and adolescent girls menstruate each month for between two and seven days³.“

“Menstrual hygiene, which refers to the effective management of menstrual bleeding by women and girls, is an important aspect of reproductive health, which if not handled appropriately can cause infections of the urinary tract, pelvic inflammatory diseases and vaginal thrush, as well as unpleasant odor, soiled garments and ultimately shame, leading to infringement on the girls’ dignity⁴“.

For young girls, hitting menarche is a critical time and can be marred with confusion, lack of knowledge and tools in addressing this milestone in one’s life. Many young girls are thus not prepared for the physical, emotional and societal changes that come with adolescence.

¹ Menstruation in girls and adolescents: using the menstrual cycle as a vital sign. Committee Opinion No. 651. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2015;126:e143–6

² United Nations, 2012. *World Population Monitoring: Adolescents and Youth, A Concise Report*.

³ SuSanA, 2016. *Menstrual Hygiene Management: An Overview of a Neglected Issue*.

⁴ Mutunda, A. 2013. *Factors impacting on the menstrual hygiene among school going adolescent girls in Mongu District, Zambia*

“Adolescence in girls has been recognized as a special period which signifies the transition from girlhood to womanhood “⁵, otherwise known as experiencing their first menarche.

In the Sustainable Development Agenda, the concept of Leave No-One Behind under equity has emerged and highlights the need for inclusivity which endeavors to reach ‘the furthest behind first’ and proclaims that the goals cannot be met unless every group in society is included. This includes addressing the plights of women and girls, to meet their essential needs. Therefore, for a progressive and sustainable future it is crucial to the development of a region as well as the whole country, that women rights and health is part and parcel of policy and both health and education systems. MHM and the introduction of sanitary products is what aids women in their sexual reproductive health needs and allows for the dignity of women in addition to gender equity as it provides a platform for equal opportunities in school.

The goal of the thesis is to evaluate the impact of the use of reusable pads in promoting gender equity, self-esteem, empowerment, health safety, reduced economic burden and environmentally safe waste disposal in menstrual hygiene management (MHM) in adolescent girls. The central question of this thesis asks: to what extent, in what ways have reusable menstrual products improved the lives and status of adolescent girls in schools.

BACKGROUND

In some regions of Africa, poor management of menstruation has been recorded to account for absenteeism at school in adolescent girls, though not considered a high contributing factor; it has been recorded that 30% of children drop out before they complete their primary school education⁶. Though there has been some debate on the results of poor menstrual health in young girls, inadequate Menstrual Hygiene Management has been attributed to long-term poor health, fertility issues and poor educational and development outcomes such as human rights, the environmental impact and economic implications. Other research results also showed that factors common that hindered adolescent girls from routine day to day functions such as attending school varied from traditional taboos, knowledge, availability of utilities at schools to access to materials and menstrual products⁷.

⁵ Dharampal G. Dambhare, Sanjay V. Wagh and Jayesh Y. Dudhe, 2012. Age at Menarche and Menstrual Cycle Pattern among School Adolescent Girls in Central India

⁶ Lee, S and Kerner, B. 2013. What Do Menstruating Girls Need in School? Save the Children.

⁷ WSSCC and UN Women 2015. Menstrual Hygiene Management: Behaviour and Practices in the Louga Region, Senegal. WSSCC/UN Women publication.

Menstrual hygiene management also looks at body hygiene, taking care of surrounding environments when disposing of sanitary materials; it also addresses the inclusion of good nutrition and physical health, access to water, toilet facilities-latrines, handwashing with soap and disposal of biological and synthetic materials. One of the notable innovations to be created to address accessible and low cost sanitary products is the reusable pad. But in rural areas of South Asia, and Sub Saharan Africa, many families of low to middle income status simply do not have the knowledge and cannot afford or access the adequate materials to provide for their daughter's needs. A high factor is the traditional beliefs and taboos and women's roles in such communities. "In many parts of the world, social and cultural taboos and restrictions exist for women during their menstrual period. Women in very rural areas of Nepal are often restricted to separate huts or cow sheds during menstruation."⁸

Over the recent years, the term Menstrual Hygiene Management has been identified as an important health issue with respect to reproductive and sexual health. Its inclusion in the sustainable development goals has been gaining ground in the health development sector for women and young girls⁹. Menstrual hygiene management is about realizing the dignity of women and in that way paving a way for improved sexual reproductive health, reduced school absences, gender equity and empowerment, economic and social barriers as well as promoting environmentally friendly waste disposal methods; most recently it has been included in achieving the Sustainable Development Goals – SDGs¹⁰.

To address adolescents' sexual and reproductive health, the introduction of comprehensive, multifaceted programs is believed to counter the negative effects of poor menstrual hygiene and the knowledge gaps to people and communities of low income households. One of the first frameworks to be used looked at health, hygiene, skills training, education, and nutrition. This has been the basis for subsequent frameworks worldwide.

⁸ Emily Oster, and Rebecca Thornton, Menstruation and Education in Nepal.

⁹ Geeta Nanda, Justin Lupele, and Jenae Tharaldson. 2016. Menstrual Hygiene Management among Schoolgirls in Eastern Province of Zambia: Qualitative Research Final Report. Washington DC, USA, USAID/WASHplus Project.

¹⁰ WASH united, 2016. MHM and SDGs

Essential SHN Program Elements	Examples in the MHM Program
Ensure equitable health-related school policies and support	<ul style="list-style-type: none"> • Creation of policies supporting girl's right to education • Creation of code of conduct among teachers, parents and children to ensure safe schooling • Positive Gender Norm training for all school and community members to change gender stereotypes
Promote life-long healthy behaviors through skills-based and child-focused health (including HIV) education	<ul style="list-style-type: none"> • Key Life Skills e.g. analytical thinking and decision-making are learned and practiced in safe settings • Knowledge, attitudes, values and skills are developed through key themes: nutrition, general health, hygiene, HIV/AIDS prevention, reproductive health • Interactive teaching methods such as Child-to-Child
Increase access to safe and hygienic learning environment	<ul style="list-style-type: none"> • Latrines that are private as defined by the girls, with access to water and soap • Waste disposal including disposal of menstrual pads • Fencing/barriers to make the school safe if necessary
Increase access to health and nutrition services for school-age children	<ul style="list-style-type: none"> • Provision of HPV vaccination, deworming and malaria treatment, micronutrient (esp. iron) supplementation • Provision of sanitary napkins or other means of menstrual management • Getting to know health service providers/centers • Provision of First Aid Kits with painkillers and/or training of pain mitigation methods.

Figure 1. The four essential elements of the Menstrual Hygiene Management (MHM) program that fit with the School Health and Nutrition (SHN) framework¹¹

Hygiene promotion efforts in Zambia have recently initiated a focus on this area of introducing reusable menstrual products as well as materials to address the barriers and constraints of education attendance, work efficiency, economic cost, empowerment and promotion of girl child confidence, gender, and social equity¹².

“Many girls in rural areas of Zambia have little or no access to, or cannot afford, disposable sanitary wear and use cloths, tissues and leaves instead. We found that because of these many girls who have reached puberty may miss up to a week of school in every four - that's 25% of their education - and that can add up to 18 months of lessons between grade 5 and completion of school. This can have obvious consequences regarding success with education and the final exams. To help address this issue we are developing washable, reusable sanitary pad kits.”¹³

¹¹ Lee, S and Kerner, B. 2013. What Do Menstruating Girls Need in School? Save the Children.

¹² Lusaka Times, 2016. Govt praised for its plan to provide free sanitary napkins to rural girls.

¹³ Project Luangwa, 2011. Menstrual Hygiene Management. Luangwa, Zambia.

Managing menstrual hygiene is a problem for many women around the world, especially in developing countries and various articles have highlighted that in Sub-Saharan Africa girls in low-income settings have a low usage of sanitary pads¹⁴. In a "A Review of Menstruation Hygiene Management among School girls in Sub-Saharan Africa", inadequate sanitary products were cited as a reason for girls missing classes and went on to explain that access and the types of sanitary materials used was because of socio-economic status though, traditional materials tended to be less hygienic than commercial sanitary pads¹⁵. Results in Nigeria showed that cloths, tissue and other unsanitary garments were used by a significant percentage of girls in south eastern Nigeria which is a risk factor for infection and noted that majority of the girls were from a poor socio-economic background, though not only witnessed in Nigeria but Egypt as well¹⁶. The need for sanitary products was identified to be a priority among girls and shown to be a needed intervention that required for cheap and affordable products¹⁷. Various similar reviews of such papers have pointed to the former need for cheap and affordable to be the reason for the introduction of menstrual cups and re-usable pads¹⁸.

Important aspects of reproductive health services, which include information dissemination, guidance, and support, are challenging responsibilities for the health care and education systems were included in the Health plan for Zambia¹⁹. This included the partnership of CARE International Zambia, FHI360 with UNICEF through SPLASH and WASH programmes supported in 616 schools in the Eastern province²⁰. Through this programme improvements have been made in pad provision, local reusable pad production in schools and distribution (Ibid). Similar approaches have utilized the process of distribution through the education system as an effective way to address the gaps of access to sanitary products²¹.

¹⁴Wilson, E et al. 2012. "Pilot study: evaluating the acceptability and short term effect of teaching Kenyan school girls to make reusable sanitary towels on absenteeism and other daily activities: A partial preference parallel group, cluster randomised control trial." School of Health and Related Research (SchHARR), University of Sheffield.

¹⁵ Vaughn, J. 2013. A Review of Menstruation Hygiene Management among Schoolgirls in Sub-Saharan Africa. University of North Carolina, Chapel Hill.

¹⁶ Adinma, E and Adinma, J. 2008. "Perceptions and practices on menstruation amongst Nigerian Secondary School girls." African Journal of Reproductive Health 12, no. 1: 74-83

¹⁷ Wilson, E et al. 2012. "Pilot study: evaluating the acceptability and short term effect of teaching Kenyan school girls to make reusable sanitary towels on absenteeism and other daily activities: A partial preference parallel group, cluster randomised control trial." School of Health and Related Research (SchHARR), University of Sheffield.

¹⁸ Vaughn, J. 2013. A Review of Menstruation Hygiene Management among Schoolgirls in Sub-Saharan Africa. University of North Carolina, Chapel Hill.

¹⁹ Ministry of Health (MoH), 2000. Reproductive Health Policy. Reproductive Health Unit, Lusaka. Zambia.

²⁰ Fry, S. et al. n.d Mainstreaming MHM in the Ministry of Education System in Zambia. SPLASH and FHI360

²¹ Wilson, E et al. 2012. "Pilot study: evaluating the acceptability and short term effect of teaching Kenyan school girls to make reusable sanitary towels on absenteeism and other daily activities: A partial preference parallel group, cluster randomised control trial." School of Health and Related Research (SchHARR), University of Sheffield.

“UNESCO recommends that puberty education begin in primary school so that girls understand what is happening to their bodies and know what to expect before menarche.”²²

In Zambia, various programs spearheaded by the SPLASH (Schools Promoting Learning Achievement through Sanitation and Hygiene) initiative have seen the introduction of MHM projects in schools and most notable the Eastern province²³. SPLASH has is implemented through the WASHplus project, the training and education of adolescent girls and boys on menstrual hygiene, sanitation and specifically the education of girls on the options of menstrual products and how to make homemade re-usable pads²⁴. The Objectives of WASHplus were to (a) Reduce diarrheal disease and acute respiratory infections (b) Integrate WASH into existing education syllabus and nutrition programs (c) Build strong in-country partnerships to increase impact (d) Promote innovation in the WASH sector²⁵.

SPLASH specifically works with the Ministry of Education, Science, Vocational Training and Early Education, as well as other ministries and stakeholders such as FHI360 Zambia²⁶ The importance of government and civil society contribution is a huge part of the awareness and education of women and girls within the community.

The objectives of SPLASH were to (a) Increase pupils’ access to safe water and adequate sanitation (b) Improve pupils’ health, learning and performance (c) Strengthen capacity of Parent Teacher Associations (PTA) (d) Effectively operate and maintain water and sanitation facilities (e) Organize financial participation from schools and local catchment areas to cover WASH costs.²⁷

The above objectives often can be looked at to co-exist with the SHN framework. Primarily implemented to address environmental health issues such as access and supply of water, household pollution practices and hygiene. It looked to target behavior change focused on hygiene and healthy habits. However, in promoting education in hygiene practices in primary schools, there was a need to address the health and hygiene issues surrounding reproductive

²² PSI, 2016. Menstrual Hygiene Management: A Review of the Evidence

²³ Geeta Nanda, Justin Lupele, and Jenae Tharaldson. 2016. Menstrual Hygiene Management among Schoolgirls in Eastern Province of Zambia: Qualitative Research Final Report. Washington DC, USA, USAID/WASHplus Project.

²⁴ WASHplus, 2015. Final Report of the SPLASH Project in Zambia. Washington D.C., USA. USAID/WASHplus Project.

²⁵ Ibid

²⁶ FHI360, 2016. Schools Promoting Learning Achievement through Sanitation and Hygiene (SPLASH).

²⁷ WASHplus, 2015. Final Report of the SPLASH Project in Zambia. Washington D.C., USA. USAID/WASHplus Project.

health which included menstruation. SPLASH worked to improve toilet-latrines facilities and introduced activities such as the WASH club and encourage school going champions. Both male and female children joined in training sessions to bring up peer educators and support fellow students in menstruation. SPLASH advocated to address the educational, infrastructural and health gaps attributed to poor hygiene practices at the community level.

Though the program has ended, it has continued to support and advocate the projects in the schools as well as the public private partnerships started to aid in the supply of sanitary products. These activities were designed to complement the Ministry of Health's (MOH) implementation of the Health Plan.

STATEMENT OF THE PROBLEM

Nature and magnitude of the problem

- “It has also been established by studies conducted in Zambia that girls miss at least 36 days of classes per year; with 81% of girls interviewed indicating that they missed classes for the entire period of menstruation”²⁸
- Illness (including menstruation pains) or needing to work to support the family contribute to higher rates of pupils’ absenteeism. Due to menstrual pains, cramps and related discomforts, girls miss a lot of school or drop out. Factors range from inadequate private or safe water and toilet facilities for them to use. In 2013, a Menstrual Hygiene Management (MHM) pilot study was conducted by the Ministry of General Education with support from UNICEF, SNV, WaterAid and other members of the MHM Thematic Working Group to look at management of menstrual hygiene among girls in primary schools and its effects on attendance of lessons in Zambia²⁹. This was carried out in five districts of Eastern, Central, Northern and Luapula Provinces. Despite menstruation being a natural biological process, which occurs in females who have become adults, the study showed that most girls do not know how to handle menstruation and sometimes even drop out of school.³⁰
- The levels of access and availability of sanitary products, both disposable and reusable vary significantly across Zambia. It appears that areas that are better off (i.e. more

²⁸ Zambia Ministry of Education, 2016. Menstrual Hygiene Management National Guidelines

²⁹ Ibid

³⁰ Ibid

urbanized areas) show more use and knowledge in menstrual hygiene, however, the gap is not as significant though more pronounced in rural areas. There is a lack of greater understanding among peers, teachers and/or family members.

- The sexual and reproductive implications of poor reproductive health and hygiene at a young age such as opportunistic infections, infertility, school drop-out rates and unplanned pregnancies in Zambia has shown little change over the past 10 years.
- The self-esteem of adolescent girls is fragile and critical at the time of puberty and are made to feel ashamed about their menstruation cycles due to traditional beliefs, taboos, and poor understanding of the nature of menstruation. It affects the dignity, confidence, health, education, and subsequent prospects.
- Access and use of sanitary products and reproductive health materials for adolescent girls in Zambia is at a low or unaffordable. In addition, lack of water and toilet facilities deters young girls during their menstrual cycles to attend school.

Attempted solutions

- a. School Health and Nutrition framework programs: Initiatives implemented into school programs or curriculums to improve knowledge and help school children to be equipped to handle issues of puberty, sexual and reproductive health, as well as water, sanitation and hygiene in the hopes of addressing knowledge gaps, absenteeism and poor adolescent health.
- b. Public Private Partnerships: Domestic initiatives to distribute free sanitary products in schools and subsidize products on the market.

PURPOSE OF STUDY

The study will endeavor to summarize perceptions, satisfactions, and dislikes of the use of reusable menstrual hygiene products among adolescent girls as well as the challenges and successes by teachers, key NGO stakeholders and Government District Health officials on the relationship between the introduction of reusable sanitary products and adolescent girls.

SIGNIFICANCE OF THE STUDY

Although a few researchers have explored the introduction of reusable menstrual products in other Asian, East African, and Latin American countries, no study has yet examined these

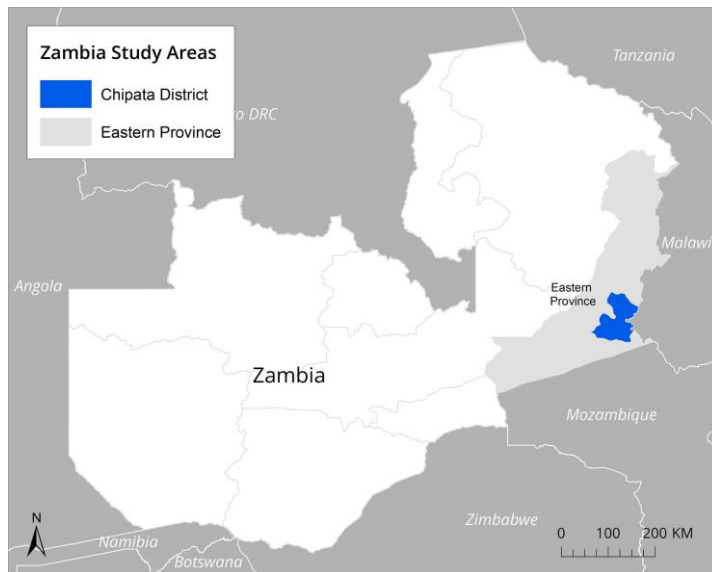
products and strategy amongst primary going schoolchildren in Zambia to address MHM, where MHM is still relatively still being implemented in schools and the national health plan. From the theoretical point of view, I hope that this research will add to the public and private resource and bring attention to the introduction of reusable sanitary products in schools, their implications and effects on school going adolescent girls. It is also my hope that the research will have the potential to make a significant contribution to the theoretical model in SHN.

On the empirical level, I believe that this research will help extend the current knowledge on the effectiveness of reusable sanitary products in addressing school absenteeism, sexual reproductive health and water sanitation and hygiene in adolescent girls in Zambia. This was done through trying to establish whether the project has effectively been implemented in the residential areas to achieve the intended goals. This is to say if all the houses have been included in the intended radius. It is my anticipation that the findings of this research will benefit various stakeholders which included government departments such as the Ministry of Health and the local communities at large. Further, I expect that the findings will help the similar programs following the SHN framework to correct the current models if there are disparities between the project's objectives and what is patterning on ground.

THE SCOPE OF THE STUDY

The study was limited to 6 basic, secondary, and primary schools in located in Chipata, Eastern province of Zambia where the SPLASH and WASHplus programs were introduced in 2011. It is situated 550 kilometers to the east of the capital of Zambia (Lusaka). Chipata district covers an area of 6,693 square kilometers, in addition the district has a population of over 450,000 people³¹. The area was chosen due to the model of the program that included the introduction of an MHM toolkit (reusable sanitary towels) and WASH component into the school curricula. In addition to the above reason, the nature of the project was too wide to be captured by the research timeline and financial restrictions as the project was implemented in up to 400 schools in Eastern province. The 6 schools identified are set in rural and peri-urban areas and were chosen purposively to provide a sample close to the actual characteristics of all the schools involved in the SPLASH initiative, however generalization could not be made.

³¹ Gwillim, L. 2012. Districts of Zambia. Retrieved from <http://www.statoids.com/yzm.html>



*Figure 2. Map of study area*³²

a. Sampling Scope

The research will be confined to rural and peri-urban populated areas of Chipata.

b. Conceptual Scope

The study will be confined to the social-economic explanations of good menstrual hygiene management.

Limitations

There were a lot of transportation challenges when it came to collection of data, as most of the schools were in different areas of Chipata and were in hard to reach locations. Follow up of questionnaires and interviews were also marred by conflicting schedules with teachers and educators who were on assignment or trainings during the time.

Delimitations

The research was only conducted in 6 selected schools in the district and this meant that, generalization of the findings to the other schools could not reflect an ideal situation, since the school cultures and characteristics in these schools varied to different extents from each other.

³² E3/Land, 2018. Impact Evaluation of the Tenure & Global Climate Change Project in Zambia Retrieved from <https://www.land-links.org/2018/03/impact-evaluation-tenure-global-climate-change-project-zambia/>

HYPOTHESIS

The following are the hypothesis that the research has come up with:

- The existence of reusable sanitary products initiative improves health and education outcomes in adolescent girls.
- Adolescent girls from lower income and rural households have greater chances of poor health and education outcomes.
- The levels of absenteeism in adolescent girls is greater where there is inadequate WASH facilities and products.
- The higher the access to sanitary products available, the less incidence rates of drop-outs and absenteeism in adolescent girls.
- The lower the literacy rates on MHM, the greater the chances of urogenital infections.

Variables

The following are the variables and their conceptual definitions:

Adolescent: Transitional stage of physical and psychological human development from puberty to adulthood.

Reusable pads: These are cloth pads made from absorbent fabrics that are worn by females during menstruation. These types of pads are washable, so they can be used repeatedly.

Menstrual Hygiene management: The mechanism through which women and adolescent girls use clean menstrual management material to absorb or collect menstrual blood. This material should be changed in privacy, as often as necessary for the duration of the menstruation period. Soap and water should be available for washing the body as required, and facilities to dispose of used menstrual management materials must be accessible³³.

Menstruation: Normal vaginal bleeding or discharge of blood mucosal tissue from the uterus and vagina that occurs as part of a woman's monthly cycle.

Diet: the customary amount and kind of food and drink taken by a person from day to day

³³ WHO/UNICEF, 2012. Joint Monitoring Programme. Meeting Report of the JMP Post-2015 Global Monitoring Working Group on Hygiene. Washington, DC

Good health: A state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.

Literacy rates: The amount of people in a country with the ability to read and write at a specified age.

Income: Income refers to consumption opportunity gained by an entity within a specified period, which is generally expressed in monetary terms.

THEORETICAL FRAMEWORK

The theoretical perspective guiding our research will be emergent - norm theory by Ralph Turner and Lewis Kallian. According to Thomas, Ralph Turner argues that the emergent norm theory looks at people in crowd often are faced with a situation or a problem in which traditional norms of behavior do not apply³⁴. These people in effect find themselves with no clear standard for their behavior to solve the problem. Gradually through interaction, however, new norms emerge when one or more leaders initiate new behavior. The new norm then provides a common action for the rest of the members of the group.

In this study the assumption is that, adolescent girls have been facing the problem of poor menstrual hygiene for a long time in which the old norm could not help them solve the emotional, physical, and psychological challenges that they faced during their time of puberty. The SPLASH initiatives thus introduced and came up with new norms like teaching Teachers and care givers how to take care of body hygiene in pubescent children and new ways of creating sanitary products for adolescent girls who then shared this knowledge with their fellow educator, pupils (both male and female), as well as community leaders. Hygiene practices (sometimes included in caring practices): Body, food and environmental hygiene play a vital role in keeping a young adult healthy and preventing different sexual and reproductive diseases and urogenital infections. One single hygienic practice, washing hands with soap before eating, after changing ones' sanitary towels and after defecating, is a major focus of the WASH campaign to reduce the incidence of diarrheal diseases and other opportunistic infections.

³⁴ Openstax College. Introduction to Sociology – 1st Canadian Edition Retrieved from <https://openstaxbc.ca/introductiontosociology/chapter/chapter21-social-movements-and-social-change/>

Systems theory is interdisciplinary theory about the nature of complex systems in nature, society, and science. More specifically, it is a framework by which one can investigate and/or describe any group of objects that work in concert to produce some result. This could be a single organism, any organization or society, or any electro-mechanical or informational artifact³⁵.

It was recognized that organizations are complex social systems; reducing the parts from the whole reduces the overall effectiveness of organizations³⁶. This research acknowledges that adolescent girls and young women form part of society's system and when women and girls are unable to contribute to the system or are ailing (not developing), society suffers, and underdevelopment becomes an ever-existing problem.

In sociology, social development theory attempts to explain qualitative changes in the structure and framework of society that help the society to better realize its aims and objectives³⁷. Social development can be summarily described as the process of organizing human energies and activities at higher levels to achieve greater results. Development increases the utilization of human potential. One of the core aspects of the SPLASH approach is to foster the capabilities and potential of adolescent girls by ensuring that they are no longer ailing due to preventable health and environmental challenges, that can easily affect their education outcomes and future contributions to the Zambian society.

Social development consists of two interrelated aspects – learning and application. Society discovers better ways to fulfill its aspirations and it develops organizational mechanisms to express that knowledge to achieve its social and economic goals. The process of discovery expands human consciousness. The process of application enhances social organization³⁸.

Development can be broadly defined in a manner applicable to all societies at all historical periods as an upward ascending movement featuring greater levels of energy, efficiency, quality, productivity, complexity, comprehension, creativity, mastery, enjoyment and accomplishment³⁹.

³⁵ Friedman, B. & Neuman Allen., K. (2011). Systems theory. In J. Brandell (Ed.), Theory and practice of clinical social work (3-18). New York: The Free Press.

³⁶ Ibid

³⁷ Jacobs, Garry and Asokan N., 1999. Towards a Comprehensive Theory of Social Development. In: Human Choice, World Academy of Art & Science, USA, p. 152.

³⁸ Ibid

³⁹ Jacobs, Garry and Asokan N., 1999. Towards a Comprehensive Theory of Social Development. In: Human Choice, World Academy of Art & Science, USA, p. 152.

The basic mechanism driving social change is increasing awareness leading to better organization. The introduction of reusable pads through the SPLASH initiative tries to realize this through sensitizing educators, pupils and community leaders by educating them and organizing them to be proactive and to address the menstrual hygiene management not as a taboo or female only problem, but as one that needs open dialogue and participation as it has a resultant effect on the community. Education is utilized as a tool to equip the young girls in an open space to break down barriers and issues of self-esteem to face the opportunities and challenges of the future with the knowledge imparted from materials such as the WASHplus toolkit and guidelines. Society's developmental journey is marked by three stages which can be called physical, vital, and mental. These are not clear-cut stages but overlapping ones. Menstruation in young girls is seen to affect the physical stage of growth and development, which in turn affects the vital and mental stages of growth.

THESIS OUTLINE

This paper is arranged into five chapters. Chapter one describes the background, the problem statement, and the rationale for the research topic which provide the context, motivations and scope of the study. It Furthermore explains how important knowledge and adequate reusable sanitary and sanitation facilities are in relation to menstrual hygiene locally and globally. This introductory chapter also delves into the theoretical framework that the research has put basis behind. Chapter two looks at the literature, which also forms the theoretical background regarding central issues of the topic. Providing an overview of menstrual hygiene, factors impacting on menstrual hygiene and reusable sanitary products in a global and local context. It explores the research problem and examines some of the necessary themes relevant to answering the research questions of this study. Chapter three describes the methodology which includes research aims and objectives, study design, sampling procedures, data collection methods, data analysis and ethical considerations. Chapter four presents a discussion of the findings of the study and the interpretations gathered from data and review of documentation. Chapter five provides the conclusion and recommendations.

CHAPTER 2:

LITERATURE REVIEW

Historically and traditionally, women's reproductive health and rights have not been easily accessible or provided. The look into menstrual hygiene issues, has shown that due to the taboos and shame connotated with menstruation there has been a severe lack of knowledge, education, facilities, products, and awareness on what menstruation is, how to manage the process as well as how to keep young girls and women healthy.

In the last 20 years however, there has been an inclusion of menstrual issues in reproductive health and WASH frameworks. A lot of debate on trying to understand the complex issues and implications of menstrual hygiene management has contributed to the conversations and research that have identified that during period cycles young girls have tendency to miss school days (even though the data has varied from community, region and schools) and the lack of proper and safe sanitary facilities, including sanitary towels, has led to girls dropping out of school due to the inability to manage their menstruation in a safe, dignified and healthy manner.

“However, while there is plenty of evidence that girls tend to miss school during or after the onset of menstruation, there is a lack of research linking menstruation directly to school absenteeism; similarly, no evidence could be found that directly associated MHM with a decrease in labor productivity in later years.”⁴⁰

The Global Health Agenda has identified the importance of WASH as a detrimental initiative to reduce opportunistic infections, cross infections and the spread of deadly diseases such as cholera and diarrheal diseases. In 2014, MHM was globally identified as an important health issue in women and young girls. The United Nations designated 28th May as Menstrual Hygiene Day. The day is dedicated to raising a call to action on menstruation by adopting related themes annually to promote awareness and advocacy.

This literature review presents semi sequential development of MHM and the introduction on reusable sanitary products, starting off with the state of MHM in relation to the Sustainable Development Goals (SDGs), the WASH outline and its presence in schools moving towards the introduction and utilization of reusable pads and looking at the health, environmental, societal and gender implications of MHM and reusable pads.

⁴⁰ World Bank, 2017. Providing Sustainable Sanitation Services for All in WASH Interventions through a Menstrual Hygiene Management Approach.

MHM and the Sustainable Development Goals

Agenda 2030 is a plan of action for people, planet and prosperity. It also seeks to strengthen universal peace in larger freedom. We recognize that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development. All countries and all stakeholders, acting in collaborative partnership, will implement this plan.⁴¹ As part of the agenda, in 2000, the Sustainable Development Goals were built from the Millennium Development Goals (MDGs) to further address poverty, hunger, education as well as health.

While there is no specific goal or indicator for MHM, menstruation issues have been identified and linked to the following goals that can express the importance of MHM;



Figure 3. Sustainable Development Goals related to MHM (Source: Menstrual Hygiene Day)

Goal 3⁴² of the SDGs is essential to sustainable development as it addresses many different persistent and emerging health issues, to ensure inclusive and equitable quality education and promote lifelong learning opportunities, well-being for all ages. One persistent health obstacle is poor MHM in girls, contributing to poor health, education and livelihood outcomes. Goal 4⁴³ looks to increase access to education and enrolment rates in schools primarily for women and girls. The goal believes that gaining quality education for all, will provide the foundation to improving people's lives and sustainable development to ensure inclusive and quality education for all and promote lifelong learning. The MHM framework, advocates to reduce school absenteeism in school going girls by improving hygiene practices and access to products to ensure and support achieving Goal 4. With the slow strides towards gender

⁴¹ United Nations, 2015 Transforming our World: The 2030 Agenda for Sustainable Development.

⁴² World Bank, 2017. Providing Sustainable Sanitation Services for All in WASH Interventions through a Menstrual Hygiene Management Approach.

⁴³ Ibid

equality and women suffering discrimination and violence, Goal 5⁴⁴ aims to address and providing women and girls with equal access to education (including equal access to primary education between girls and boys), health, and representation in political, social and economic decision-making processes. In adolescent girls, going to school and feeling safe and secure is a determining factor. When a girl reaches menarche, the confusing time and changes in the body have psychological effects which relate to self-esteem, freedom, and security. Having little knowledge, facilities, or support within the school system may force school going girls to miss classes or be pressured into dropping out due to a hostile environment. Breaking gender barriers in MHM is a strategy that has been implemented in many programs globally. Goal 6⁴⁵ of the SDGs advocates for the availability and sustainable management of water and sanitation for all. This means Clean, accessible water for all is an essential part daily life. In MHM WASH is a key component for realizing good hygiene and dignity. “International conventions and action plans elaborate on women’s sexual and reproductive rights but stop short of explicitly mentioning menstruation. If health education is provided in a community or school, the chapter on reproductive health is often skipped due to these taboos. Even development sectors such as water, sanitation, and hygiene (WASH) ignore girl’s and women’s need for safe spaces to manage menstrual hygiene and mechanisms for safe disposal of materials used to absorb menstrual blood — despite routinely dealing with infrastructure and taboo topics such as excreta. SDG target 6.2 puts a focus on ensuring sanitation and hygiene for everyone, everywhere, all of the time”⁴⁶. Goal 8⁴⁷ of the SDGs pushes for action towards promoting inclusive and sustainable economic growth, employment and decent work for all. The position that MHM takes to addressing this goal, is through self-empowerment of the adolescent girls and women by imparting sewing and entrepreneurial skills in creating reusable sanitary pads not only for personal use but for distribution in income generating activities. Goal 12⁴⁸ is broad and at a glance may seem to not have any close connection to MHM, however the goal addresses the achievement of overall development plans, reducing future economic, environmental and social costs, strengthen economic competitiveness and reduce poverty. Research and studies into MHM have reported that it can address challenges in waste disposal of sanitary products, promote low environment cost by using reusable and

⁴⁴ World Bank, 2017. Providing Sustainable Sanitation Services for All in WASH Interventions through a Menstrual Hygiene Management Approach.

⁴⁵ Ibid

⁴⁶ iTech Mission, 2017. UN SDG 6.2 cannot be achieved without safe Menstrual Hygiene Management for all women and girls

⁴⁷ World Bank, 2017. Providing Sustainable Sanitation Services for All in WASH Interventions through a Menstrual Hygiene Management Approach.

⁴⁸ Ibid

eco-friendly materials and in turn reducing economic burdens and social costs, then it provides an avenue to assist in achieving goal 6.

Nevertheless, as sited, it cannot be forgotten that MHM does not have its own specific goal within the SDGs. In an article written to highlight the state of MHM and the sustainable development goals in Macedonia, the author looks at the regional and local adoption and commitment of the agenda to press for a change in the health and education sector and ensure that by 2030 women and young girls must have the chance to achieve safe, dignified, and private menstrual hygiene.⁴⁹

Further, research and talks in the Global sphere with lead organizations such as the United Nations to recognize how poor MHM can be a barrier to the education prospects of girls and that it is associated with empowering adolescent girls and women by breaking gender norms in realizing gender equity, by improving the participation of girls in the community and addressing the sexual and reproductive challenges they face on a day to day basis. This Global call to action has motivated civil society organizations, governments, NGOs and partnerships on Water and Sanitation to work towards ensuring menstrual hygiene management (MHM) in education and working settings.⁵⁰

MHM in Schools

“A growing body of evidence has demonstrated that there are many challenges menstruating girls face in school environments. These include a lack of adequate, clean, safe, private toilets with water and disposal mechanisms for used menstrual materials, a lack of information, guidance and support on their changing bodies and new menstrual management needs, and insufficient materials for managing monthly menstrual flow. Increasing interest has led to a large range of actors engaging on the issue of menstrual hygiene management (MHM) in schools around the world, suggesting the need to identify a common vision and set of priorities to transform the school environment for menstruating girls and female teachers.”⁵¹

Providing early awareness and education has seen to produce significant changes in behavior and overall attitudes towards target communities especially in the early stages of growth and

⁴⁹ Dokovska N, 2017. Menstrual Hygiene Management in Macedonia

⁵⁰ WECF International, 2015. Why WASH in Schools and Menstrual Hygiene Management needs to be in the SDG sanitation indicators

⁵¹ UNICEF, 2016. MHM in Ten: Advancing the MHM Agenda in Schools.

puberty. Implementing schools initiatives is a strategic agenda that many international organizations and governments have employed.

“Interventions that target younger adolescents, before these risky behaviors and norms are fully engrained, are more effective at mitigating the behaviors and negative health and education outcomes that ensue. At this critical and extended juncture in their development, we can empower adolescent boys and girls, support girls’ transition into secondary school and increase girls’ opportunities to learn and thrive into adulthood. Formative research across the world has shown that girls in low-resource settings face many challenges managing menstruation in school. These challenges have numerous causes but can include inadequate water and sanitation facilities at school, limited access to effective, hygienic materials for menstrual management and inaccurate information about menstruation and the biology of puberty.”⁵²

According to an MHM in Ten guideline, to implement a school strategy catered to MHM, there should be 5 key priority areas that comprehensively address MHM in schools⁵³. They touch on key issues and can be compared to some of the components of the SHN framework.

PRIORITY	DESCRIPTION
PRIORITY 1	Build a strong cross-sectoral evidence base for MHM in schools for prioritization of policies, resource allocation and programming at scale ⁵⁴
PRIORITY 2	Develop and disseminate global guidelines for MHM in schools with minimum standards, indicators and illustrative strategies for adaptation, adoption and implementation at national and sub-national levels ⁵⁵
PRIORITY 3	Advance the MHM in school’s movement through a comprehensive, evidence-based advocacy platform that generates policies, funding and action across sectors and at all levels of government ⁵⁶
PRIORITY 4	Allocate responsibility to designated governments for the provision of MHM in schools (including adequate budget and M&E) and reporting to global channels and constituents. ⁵⁷

⁵² Save the Children. Menstrual Hygiene Management Operational Guidelines
⁵³ UNICEF, 2016. MHM in Ten: Advancing the MHM Agenda in Schools.
⁵⁴ Ibid
⁵⁵ Ibid
⁵⁶ Ibid
⁵⁷ UNICEF, 2016. MHM in Ten: Advancing the MHM Agenda in Schools.

PRIORITY 5	Integrate MHM, and the capacity and resources to deliver inclusive MHM, into the education system. ⁵⁸
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Table 1. MHM Ten priority areas

A study also reflected that girls in developing countries miss up to 5 days of school per month while they experience their monthly menstruation cycle. In a study from Nepal 41% girls reported missing school during their menstruation.⁵⁹ This has led to policy and guidelines being established in Public school education system, to stem the adverse effects of poor MHM and WASH. In Zambia another study set in Rufunsa, reported on governments approach and decision. A senior ministerial official said, “Menstrual hygiene is top on the agenda for the Ministry of General Education because we prioritize girls’ education. That is why we are doing everything possible to ensure the girl child remains in school and we are looking to work with any private partners in ensuring that our girls are in school during that difficult time of menstruation,”⁶⁰

MHM in schools has been primarily driven through WASH initiatives and is a complementary programmes to address the provision of adequate MHM facilities, that is water, private toilets, disposal facilities and sanitary products. From a baseline survey conducted in the aims of providing data for the newly published national guidelines in Zambia it was found that Water and sanitation facilities in rural primary and basic schools were generally poor⁶¹. The MoGE in 2013, estimated that the percentage of schools with permanent toilets was around 58.5 %, whilst 89.8 % had sufficient water supply, nonetheless, a UNICEF study held in 2012, showed that 35 % of the WASH facilities in Zambian schools were not functional⁶². To circumvent this problem, the MoGE recommended the double-vault Ventilated Improved Pit (VIP) latrine as the standard latrine for rural schools in Zambia, but according to the baseline survey, the design lacked washroom areas and regular water supply that would provide the environment for effective MHM⁶³. In addition, the data reported that there was high pupil to toilet ratios in most of schools, such proportions fostered poor facilities and dissuaded proper management of the toilets and pupils were found to utilize their surroundings instead of the toilet facilities built. In addition to that, the document estimated that only 29 % of schools in

⁵⁸ Ibid

⁵⁹ Menstrual Hygiene Day, 2016. MHM Infographic.

⁶⁰ Prudence Phiri, 2017. In Zambia, a Costly Choice Between Managing Menstruation and Missing School.

⁶¹ Zambia Ministry of Education, 2016. Menstrual Hygiene Management National Guidelines

⁶² Ibid

⁶³ Zambia Ministry of Education, 2016. Menstrual Hygiene Management National Guidelines

Zambia met the World Health Organization's (WHO) recommended pupil – toilet ratio of 25 boys per toilet, and only 9 % meeting the recommended ratio of 20 girls per toilet.

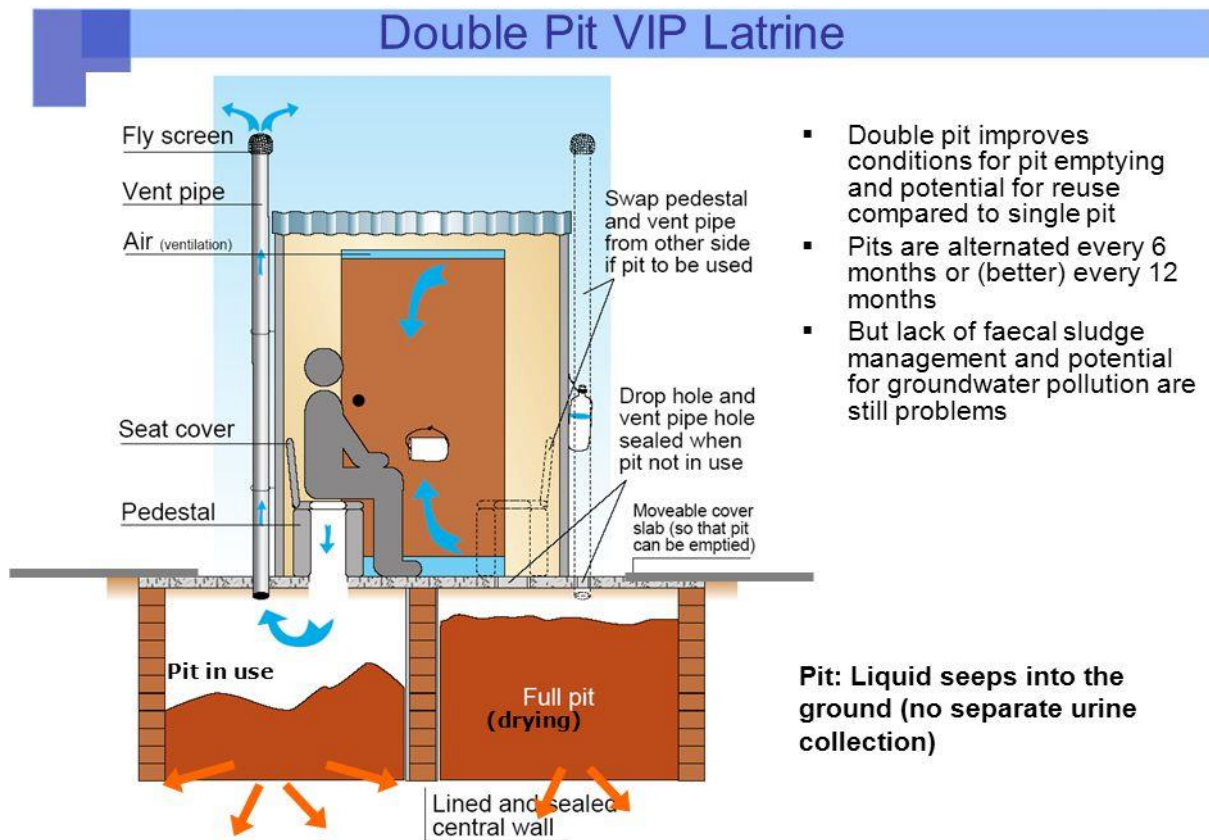


Image 1. Double-vault Ventilated Improved Pit (VIP) latrine⁶⁴

⁶⁴ Mariska, Ronteltap. Conventional on-site sanitation.



Image 2. ZWASH project constructed VIP Latrine⁶⁵

Considering the situational and baseline analysis that was done in Zambia, the Ministry of Education, supported by UNICEF with various funding and implementing to put into action an MHM Advocacy and Capacity Building Project for school girls⁶⁶.

Implemented in 2010, SPLASH was one of the first projects that was introduced in schools to provide a WASH comprehensive framework that enabled for MHM component. To help students, educators and the community understand MHM issues, SPLASH looked to foster an environment that would allow MHM to thrive and this included looking at ways to have toilet facilities meeting the needs of pupils, especially girls, ensure soap and water availability, access to sanitary materials and disposal facilities, as well as reproductive and sexual health education for teachers, boys, girls, and the community.⁶⁷

SPLASHs' overarching activities looked at 3 key indicators in ensuring a comprehensive education initiative in Chipata. The first addressed knowledge and education in schools. Activities were broken down into the training of educators and other school staff within the schools; It also held school-community meetings on MHM as well as student WASH clubs. In addition, MHM-themed events that coincided with important dates such as Menstrual

⁶⁵ WaterAfrica, 2012. Walk4Water5 Youth: WASH Club Youth

⁶⁶ *ibid*

⁶⁷ Zambia Ministry of Education, 2016. Menstrual Hygiene Management National Guidelines

Hygiene Management Day, Global Handwashing Day and World Water Day were introduced to provide yearly and continuous information that related to MHM. Other activities outlined under the SPLASH in schools were to issue and place MHM materials, activities and games in district resource centres.⁶⁸

The second indicator addressed the WASH facilities and the MHM needs in schools. This required an initial assessment of the latrines that were primarily used in schools and then cross referencing the latrines with the minimum requirements of an adequate latrine-toilet. This resulted in the construction on new latrines under SPLASH to include washrooms for girls as many schools were lacking in them. Schools were responsible for making sure water and soap were available in addition to providing school girls with reusable pads. In some schools, the board and teachers organized menstrual pads, soap and other supplies to be bought by the PTA, while in others, they were included into the school budget.⁶⁹

The last key indicator looked at the availability and accessibility of absorbent materials (reusable sanitary towels). To address this, SPLASH introduced the WASHplus Toolkit that provided tutorials on making reusable pads in WASH clubs, teacher training, PTA meetings and other venues. The patterns for locally sewn pads were adapted and refined to over 4 different styles and SPLASH went into a partnership with YASH pharmaceuticals a local pharmaceutical company that developed a reusable eco-pad for distribution to SPLASH schools as a micro-enterprise for the local women.⁷⁰

Other research and frameworks that prioritized MHM in schools and that have been proposed to address these challenges include interventions such as the Focusing Resources on Effective School Health (FRESH) framework. The FRESH framework was created to be an intersectoral partnership that provides the setting for an effective health and education policy. It is purported to promote good health and non-discriminatory, safe and secure physical and psychosocial environment, which are attributed to safe water and sanitation. In addition to this, it is a policy that promotes skills-based health education like the creation of reusable sanitary pads, as well as the provision of good health and other service. Apart from the mentioned FRESH is a policy that seeks to enable an environment where effective referrals to

⁶⁸ UNICEF, 2012. WASH in schools empowers girls education: Proceedings of the Menstrual Hygiene Management in school's virtual conference

⁶⁹ Ibid

⁷⁰ Ibid

external health service providers and links with the community are available. This framework entails positioning four key components to be available in schools. The core components of the FRESH framework are (a) partnerships between school and community organizations to support strategies involving health and nutrition (SHN). The Four core components are;

- having health policies integrated into the schools. policies
- Ensuring safe water and sanitation
- Providing boys and girls a skills-based education related to health and hygiene
- Providing access to adequate information and services on health and nutrition .

In addition, the FRESH framework takes on the following core strategies (a) Partnerships between education and health (b) Community partnerships (c) Pupil awareness and participation

Additional recommendations from numerous studies, have been the Water, Sanitation, and Hygiene (WASH) in Schools (WinS) programmes. The Zambian Ministry of Education Policy on Educating Our Future (EOF) recognized the fact that good health and nutrition was an essential pre-requisite for effective learning in the community. The SHN policy was therefore, an expansion of the chapter on school specific and environmental health. It was therefore a general objective of the integrated SHN policy to improve and provide equitable services in learning institutions, through health and nutrition interventions.

News research and project reviews showed that Water Africa which follows the World Vision's WASH work in southern province of Zambia, implemented the ZWASH project that aimed to provide leadership and resources for the construction of six Ventilation Improved Pit Latrines (VIP) and hand washing facilities at Misamfu Basic School catering to over 1013 students⁷¹. To make sure the message of good hygiene becomes a part of the children's daily life, World Vision ZWASH assisted the school to set up a WASH club, where student were tutored into learning about being WASH champions and peer educators, who in turn were given the opportunity to teach their friends and fellow students on WASH components such as the importance of drinking clean, safe water from the school borehole, and also consistent hand washing before eating.

In Kenya, the Maji na Ufanisi (MnU) implemented a Wash in Schools (WinS) program in public primary schools to address the challenges of in water and sanitation by putting the

⁷¹ WaterAfrica, 2012. Walk4Water5 Youth: WASH Club Youth

health of the pupils a priority⁷². This was because it was found that poor WASH affected the school retention together with the students' academic works. The WinS was implemented in Nairobi county and sought to provide safe drinking water, improve access to clean water and sanitation facilities, as well as promote the lifelong health prospects for the pupils. The programme was achieved through the strategy to improve or build new toilet, water stations and storage infrastructure, promote hygiene in the students, teachers, and parents through training in behavior and knowledge on handwashing, disposal of waste, MHM and grooming. The training coincided with the establishment of WASH clubs in the schools where members became peer educators.

MHM and the reusable pad (sanitary towel)

One of the most consistent data retrieved in relation to MHM and the use of materials during women and young girls experiencing their menstrual cycle is that when they are unable to afford or access store bought disposable pads, girls and women in rural and urban areas often resort to using unhygienic substitutions such as cloth strips, pieces of foam, leaves or tissue paper, or inadvertently putting them at risk for infections and the potential for missing days of school or work missed.⁷³

One of the many new low-cost reusable innovations has been the Afripad from Uganda. Reusable pads are broadly characterized as cloth-based products used during menstruation⁷⁴. Afripads are produced locally from sewn materials that are created to be washed and reused and are sold directly to schoolgirls and NGOs as well as distributed in Malawi and Kenya⁷⁵. In line with their values of small doable actions, SPLASH and UNICEF provided a toolkit that included the instructions and start up materials for teachers as an aid in imparting to young girls the skills to make and care for reusable pads⁷⁶ this is to supplement the actions of government and local organizations through private public partnerships to distribute low cost commercial reusable pads like that of Afripads⁷⁷. In 2009, a study was published on the feasibility of introducing the Duet menstrual protection in Zimbabwe as a product that also

⁷² Results 4 Development. Wash in Schools (WinS)

⁷³ Pillitteri, S.2011. School menstrual hygiene management in Malawi: More than toilets. Master of Science project for Cranfield University, UK.

⁷⁴ Wood, L. 2015. A menstrual cup? Is that what is sounds like? Gross

⁷⁵ Afripad Ltd, 2016. Reusable Sanitary Pads.

⁷⁶ WASHplus, 2015. Final Report of the SPLASH Project in Zambia. Washington D.C., USA. USAID/WASHplus Project.

⁷⁷ Fry, S. et al. n.d Mainstreaming MHM in the Ministry of Education System in Zambia. SPLASH and FHI360

was designed for contraception and Sexually Transmitted Infections prevention, the study in its conclusion found that the Duet menstrual cup was indeed a feasible product⁷⁸.

Reusable sanitary pads are produced to be, as well as hygienic. Therefore, maintenance must be done correctly to avoid breeding for bacteria and infections. Proper care of sanitary pad shows that they mitigate the risk of urogenital infections. Proper care involves the washing and drying of the sanitary towels in dry heat/sunlight with having them stored in clean dry areas for reuse to avoid contamination. Research has shown that the sun's heat is a sterilizer and drying the cloths/cloth pads under it sterilizes them for future use.

SAFIPADS an innovation created in East Africa to address concerns in the rural areas where many girls were found to make the decision to stay home during their monthly menstruation cycle due to the inability afford disposable sanitary pads. Safi Pads provide a low-cost alternative to expensive disposable pads and to unhygienic rags available in rural East Africa. The pads enable girls to attend school during their periods, improving their school performance and as a result, their long-term economic outcomes.

Inserted products such as the menstrual cup and tampons are highly unlikely to be utilized in rural and low-income school going children as an intervention due to the taboos and traditional perceptions of the community in relation to female roles, sexuality, and virginity. In Zambia, the conversation to introduce menstrual cups as an alternative to low cost and reusable sanitary products has been non-existent and there has not been any pilot or baseline studies that have set trials to introduce the use of tampons or menstrual cups for the reduction of menstrual related absenteeism or overall MHM. "A study in Nepal showed that menstrual cups were ineffective at reducing absenteeism from school. Furthermore, inserted products in Uganda were found to be culturally inappropriate. Girls said they would not use inserted products for fear they would get stuck, be difficult to insert or be painful as well as believing they could have negative effects on their fertility."⁷⁹

On the other hand, Governments, multinational organizations, and charities have begun the distribution of sanitary products to address the problem of accessibility and costs to girls' menstrual management. In Zambia, girls often miss school because of difficulty managing

⁷⁸ Averbach, S. et al. 2009. Duet for menstrual protection: a feasibility study in Zimbabwe. *Contraception* 79 (2009)

⁷⁹ House S, Mahon T, and Cavill S, 2012. *Menstrual Hygiene Matters; A Resource for Improving Menstrual Hygiene Management Around the World.*

menstrual periods without sanitary supplies and facilities. Girls are still waiting for the government to follow through on a 2016 promise to address the problem with free sanitary pads.⁸⁰

At the 2014 Menstrual Hygiene Management (MHM) Day celebrations in Zambia, YASH Pharmaceuticals collaborated with the WASHplus SPLASH (Schools Promoting Learning Achievement through Sanitation and Hygiene) project, funded by USAID/Zambia, to provide 150 Menstrual Hygiene Management (MHM) kits for girls at Kabulonga Girl's Secondary School in Lusaka. The popularity of the reusable pad-making demonstration at the event spurred YASH to undertake its own production of reusable pads.⁸¹ However, fully assessing if these products are achieving the intended outcomes with regards to MHM is varied and the data in Zambia is limited. The results of this initiative have yet to be explored and their impacts have not been measured to review the feasibility of such a policy being adopted nationwide.

MHM, infections and hygiene problems

The link between sexual health and MHM is complex but of the utmost importance⁸². Over a span of several countries, research conducted into sexual reproductive health in schoolgirls has revealed that to provide themselves with an extra income or products pressured through social standard, young girls resort to sexual activities. Further survey also found that certain perceptions of menstruation and menstrual pain could be relieved through having sex. Increasing the risks of unwanted early pregnancy, various health issues, and leaving school early.⁸³

Lacking access to affordable and hygienic menstrual products have illustrated that girls and women are forced to find alternatives such as rags or other unhygienic materials believed to be the cause of increased incidences of reproductive tract infections (RTIs). In the research paper *A Systematic Review of the Health and Social Effects of Menstrual Hygiene Management* by Colin Sumpter and Belen Torondel, results indicated that there are significant challenges for women in lower income settings on achieving MHM, however, the extent or effect of poor MHM still remained to be unclear. the effect of poor MHM however remains

⁸⁰ Prudence Phiri, 2017. In Zambia, a Costly Choice Between Managing Menstruation and Missing School.

⁸¹ WASHplus, 2015. Zambia—Public-Private Pad-Making Partnership

⁸² World Bank, 2017. Providing Sustainable Sanitation Services for All in WASH Interventions through a Menstrual Hygiene Management Approach.

⁸³ Ibid

unclear. Additional conclusions made, had however found that MHM could affect the reproductive tract but the specific infections, the strength of effect, and the route of transmission, continued to remain uncertain.⁸⁴

A study in India looking at the patterns of adolescent girls who have reached menarche and their experience with their menstrual cycles found evidence that firstly, menstrual disorders among female adolescents were common and sited that preventative measures that included a school health education on menstrual could help prevent serious infections and diseases. Whether the cause was from reusable sanitary towels, disposable menstrual products or unhygienic substitutes, the cause was unclear.

MHM and waste disposal

Part of the Global WASH campaign is to improve the surroundings and living spaces of people and the community at large. Proper disposal of sanitary waste can contribute to the greater environmental agenda. The reduction of unrecyclable materials, the reduction of open defecation incidences as well as hard to degrade materials and chemicals that can be found in disposable pads and unhygienic materials are all aspects that WASH and MHM are looking to addresses in many countries. This is because even today, disposal of used menstrual material is still lacking, various countries have techniques that have been developed to manage their fecal and urinary wastes but, because of lack of menstrual management practices in the world, most of the women dispose of their sanitary pads or other menstrual articles into domestic solid wastes or garbage bins that ultimately become a part of solid wastes.⁸⁵

In an MHM baseline study in Zambia to seek the promotion of sustainable Menstrual Hygiene Management and Sanitation for market women in Mtendere, Lusaka. It was found that the toilet facilities lacked adequate bins for the disposal of sanitary pads and hand washing facilities for menstruating women who worked in the market. to handle menstrual hygiene. In urban areas, where modern disposable menstrual products are used they dispose of them by flushing in toilets and throwing in dustbins or through solid waste management, but, in rural areas, there are many options for disposing menstrual waste such as by burying, burning, and throwing in garbage or in pit latrines. In rural areas, mostly women use reusable and non-commercial sanitary materials like reusable pads or cloths. Thus, they generate lesser amount

⁸⁴ Sumpter C, Torondel B, 2013. A Systematic Review of the Health and Social Effects of Menstrual Hygiene Management.

⁸⁵ Tamiru, S. et al, 2014. SNV: Girls in control- Compiled findings from studies on Menstrual Hygiene Management of schoolgirls (Ethiopia, South Sudan, Tanzania, Uganda and Zimbabwe).

of menstrual waste as compared to women in urban areas who rely on commercial disposable pads.

In a study in developing countries it was found that the situation in schools, revealed a lack of sanitary facilities, and the girls were inclined to throw their pads in the toilets. Other cases showed that girls simply threw away their used menstrual clothes without washing them. A lack of facilities resulted in girls leaving their soiled pads wrapped or unwrapped in toilet corners or thrown in the nearby surrounding areas in cases of rural schools. In rural areas, pit latrines once full they were covered with soil and new pit was dug but, it was found that some women and girls wrapped used menstrual cloths and pads in polythene bags before disposing in pit latrines which prevents them from decomposition.⁸⁶

The lack of adequate disposal facilities for menstrual materials, particularly in public places, leads women and girls to try to dispose of their menstrual waste in secret, often causing environmental harm.⁸⁷

Evidence has shown that up to 12 billion pads and 7 billion tampons used annually find themselves in landfills. Part of the sustainable agenda has led to the revaluation of production of sanitary products. The reusable pad is one innovation that has been introduced as an alternative to reduce the effects on the environment. By introducing reusable pads, the promise is to reduce future waste of the resources needed to produce and transport those pads, including paper products and petroleum and primarily to significantly reduce pressures on landfills.⁸⁸

It has widely been observed that developing countries lack appropriate waste management infrastructures and according to research conducted by Patkar and Bharadwaj the average woman will generate up to a total of 125 to 150 kg of tampons, pads, and other forms of applicators in her lifetime⁸⁹. These numbers indicate that menstruation matters with regards to its negative contribution towards environmental sustainability, when it comes to the disposal

⁸⁶ Singh, Medhavi. Disposal of Menstrual Waste: Trends, Laws and Solutions.

⁸⁷ WSSCC and UN Women 2015. Menstrual Hygiene Management: Behaviour and Practices in the Louga Region, Senegal. WSSCC/UN Women publication.

⁸⁸ Michelle Baumgartner, 2016. Innovations in Sanitation: The Challenge of Menstrual Waste Management.

⁸⁹ Patkar, A and Bharadwaj, S. 2004. Menstrual Hygiene and Management in Developing Countries: Taking Stock.

of menstrual sanitary waste. Consequently, it has been observed that schools do not consider the issue of providing environmentally friendly disposal of tampons, pads and applicators.⁹⁰

MHM and cultural norms

In many cultures around the world, it's taboo to talk about menstruation, although more than half of the world's population has menstruation. Almost all cultures have some form of beliefs, myths and taboos regarding menstruation. These include unwritten rules and social norms for managing menstruation and women with a cycle, women and girls are sometimes considered "unclean" during the menstrual cycle. The consequences for women and girls due to such restrictions are wide and can vary in their pattern, but mostly such unwritten norms inhibit women and girls, emotionally, physically and psychologically. Affecting their self-esteem, dignity, rights and equity in their families and the community.⁹¹

Data has shown that, 70.1 % of girls have had restrictions placed on them during their menstrual period; these behaviors or unspoken rules include being distanced from playing with males, not being able to cook as well as going to school in some instances⁹². It is unclear however, how much of the restrictions are women or male imposed. It is important to highlight that instances where women prefer to be confined or restrictions from public places such as churches, gardens, the market, school and travelling are not common due to facilities lack of products and not just due to perceived taboos.

To break the chain on women and girls being discriminated against, the Global agenda has sited education, human rights and health as core platforms to help assure women and girls into being more participatory in their communities and towards sustainable development. To combat harmful myths, cultural practices, and norms; behavioral change and knowledge must be shared with men and women.

⁹⁰ Mutunda, A. 2013. Factors impacting on the menstrual hygiene among school going adolescent girls in Mongu District, Zambia

⁹¹ Dokovska N, 2017. Menstrual Hygiene Management in Macedonia

⁹² Zambia Ministry of Education, 2016. Menstrual Hygiene Management National Guidelines

CHAPTER 3:

METHODOLOGY

The research conducted is a combined review of existing documentation and primary data collection in the field. The following chapter describes the methodology employed in this study. This chapter looked at the way information on the research topic was collected and how this data was combined, and the methods used to analyze the data. The research methodologies used were qualitative. It outlines the study's aim and objectives, its design and describes the research setting; it further defines the study population, as well as the sampling. Finally, it explains and discusses rigor and ethical considerations underlying the study.

Aim

This research aims to fill a gap in general literature by providing empirical analysis of the impact of reusable menstrual products on MHM in adolescent girls. It will highlight the current knowledge and education on reusable menstrual hygiene products in adolescent girls in the Eastern province of Zambia. It will examine whether reusable menstrual products and MHM education are in existence, accessible and affordable.

Objectives

- ❖ To explore the girls' understanding and knowledge of reusable pads
- ❖ To investigate the availability of reusable menstrual products and materials
- ❖ To identify the gaps and possible solutions with reusable menstrual products and materials
- ❖ To review the feasibility of reusable menstrual products
- ❖ To examine the MHM infrastructure and teaching in schools
- ❖ To describe the current menstrual hygiene practices in schools
- ❖ To observe the social-economical support and Interpersonal relationships

Research questions

General:

- To what extent and in what ways have reusable menstrual products affected adolescent girls in Zambia's Eastern province.

Specific:

- How has the experience of using reusable sanitary products affected the adolescent girls?
- What factors have enabled and hindered the use of reusable sanitary products?
- What are the major disadvantages and advantages in using reusable sanitary products?
- Is the information transmitted / distributed to the adolescent girls effectively?
- What type of educational mandate do the schools have towards MHM and how much information/skills do the adolescent girls receive?
- To what extent do the current NGOs promote MHM actions through reusable pads and menstrual cups?
- What role is government playing in keeping adolescent girls informed and how are they facilitating feedback between themselves, NGOs and schools regarding the use of menstrual cups and reusable pads processes such as creation of reusable pads?

Study Design

An explorative study design was used to investigate the perceptions, practices and experiences of girls associated with menstrual hygiene. This design was found most appropriate as it employs qualitative methods to gain an understanding and insight of the phenomenon of menstrual hygiene. The study took a qualitative approach to gather primary data. The selection of adolescent girls and schools was purposeful. The schools already had WASH facilities and MHM education being administered due to the SPLASH in school's program. The tools and procedure used are identified in the table below to illustrate the methods used in the field data collection.

Table 2. Study Design

TOOLS	SAMPLE	DESCRIPTION
Guideline for Focus Group Discussion with Girls	6 FGDs (one discussion in each school with 8-15 participants in each)	Information on girls' own knowledge, understanding, problems and solutions related to use of reusable menstrual products: management, economic support, guidance, availability

Interviews with relevant ministry officials (Education, DEBS)	2 district officials (1 per Ministry Office)	Background information on the education and MHM & WASH situation, policy environment & current material on MHM related issues, local production of reusable sanitary protection materials
Interviews with relevant NGO officials FHI360, CARE	2 key staff (1 per organization)	Current information on the implementation of MHM & WASH initiative, introduction of reusable menstrual products, reception & opinions, challenges and solutions
School Infrastructure and materials Observation Check List	6 schools	See Table 3
Interviews with relevant school staff (Head of school, teachers)	12 staff interviews (1 head and 1 teacher in each school)	Opinions on WASH infrastructure, MHM support, health education, guidance and recommendations.

Secondary data was employed and consisted of retrieving and going through a myriad of academic and project information that was available to provide contextual, qualitative, measurable, and other relevant information related to the research topic.

This research consequently makes use of the following methods illustrated below;

Qualitative data collection methods

Methods	Brief explanation
Observation	The researcher gets close enough to study subjects to observe (with/without participation) usually to understand whether people do what they say they do, and to access tacit knowledge of subjects
Interview	This involves asking questions, listening to and recording answers from an individual or group on a structured, semi-structured or unstructured format in an in-depth manner
Focus Group Discussion	Focused (guided by a set of questions) and interactive session with a group small enough for everyone to have chance to talk and large enough to provide diversity of opinions

*Figure 4. Qualitative data collection methods*⁹³

Study Populations and Sampling

The sampling criterion for this study is purposeful sampling, chosen to provide in-depth and rich information about experiences and implications of the reusable menstrual products. The criteria for the study population will comprise of girls aged between 12 and 19 who have reached menarche. The study participants were from 6 primary schools in Eastern province of Chipata district. The schools were Kanjala, Gondar, Madzi-a-tuwa, Nsanjika, Lutembwe and Katandala. The schools had WASH facilities and MHM education being administered through the SPLASH initiative. The exclusion criteria were girls who had not reached menarche. Recruitment of girls involve close pre-introductory meetings with the Heads of the school to explain the purpose and needs of the study for approval to identify adolescent girls between the ages of 12 and 19. Ms. Mapata from the DEBs office was my guide and district staff member who assisted in the coordination and identification of the schools and girls. The FGDs were originally split into age brackets, however with review and observation of the on-ground situation, the criteria were amended to have the girls in the FGDs be from grades instead. This allowed for the avoidance of marginalization by making girls comfortable with peers they were already acquainted with and could not feel intimidated to provide responses. The senior staff member and coordinator of the school WASH clubs coordinated the participation of respondents.

Staff respondents were identified due to their position as head teacher and senior teacher-coordinator of the WASH or youth clubs. The senior teachers were all trained under the

⁹³ SlideShare presentation. Qualitative Data Analysis

SPLASH initiative on guidelines, teaching materials and curriculum to integrate into their schools on hygiene and sexual reproductive health matters. All stakeholders (NGOs) identified for questioning were working with schools and directly or indirectly interacting with the girl child on the introduction of reusable menstrual products and overall WASH and MHM implementations under SPLASH.

Data Collection

Pilot testing of all the data collection instruments was done before the field visit, with the assistance of peers and colleagues to obtain feedback, refine the questions and make them the most understandable and practical as possible. Before study commenced and all interviews conducted consent and approval was obtained from relevant offices, educators and students who were provided with all aspects of the research and the responsibilities of the researcher. The researcher conducted Focus Group Discussions with 62 girls aged between 13-19 from the 7th, 6th, 9th and 8th respectively in all 6 schools. There was a total of 6 FGDs with girls making a total of between 8-12 in each discussion. The FGDs was primarily administered in local language of Nyanja and Bemba with the inclusion of English in certain instances. The interviews varied in each school and were conducted either outside or in empty classes taking a semi structured approach to getting to ease the girls discomfort through ice breakers and quizzes in between while using the interview guide to collect the responses from the participants. To prompt responses, and further comfort the girls, the researcher allowed free seating and ensured a round table setting for open interaction and remove exclusion. The girls were recorded on a digital a personal digital device in collaboration with note taking, interactions with participants and observations of their nonverbal cues. All interviews were conducted during school hours and premises. Later clean up and transcription of audio recordings were done on an on-going basis after each FGD was conducted.

Interviews of the staff members in the schools offered challenges and time constraints that resulted in not conducting in person interviews. Therefore, a hard copy of the interview questions to be completed at an arranged set time with the DEBs office was left with the head teacher and senior teacher to complete later. Selected key informants from CARE International and FHI360 were also emailed as only one pre-interview meeting was conducted in person. All interviews were semi-structured and allowed the respondent to provide and explain their responses. This strategy was employed to ascertain the views on the reusable

menstrual products intervention on MHM, challenges faced, gaps and possible linkages and lessons learnt from their experiences and results.

In addition, a study diary was used to record field activities throughout the research.

Data Analysis

Data was analyzed using thematic content analysis. The content analysis of the data was done through the creation of categorizing themes which were subject to editing and recategorizing until the most appropriate themes were chosen. The audio data was interpreted during transcription from local language to English. Observations were collected into a table format collect data on key indicators. A checklist (see Table 3) was further used to capture data on the existing menstrual hygiene facilities existing in the schools, furthermore, photos of the WASH facilities, training guides and materials were taken to provide greater context of the research. Lastly, a review of SPLASH project documents, DEBS reports, school attendance and WASH club reports were utilized to provide additional data.

In depth Literature review was done through the utilization of platforms such as SlideShare, Google search, Google books, BASE (Bielefeld Academic Search Engine). In addition, other data was collected from CARE International, FHI360, UNICEF and other international and local organizations resource libraries. The findings, reports and research were relevant to the critical analysis of the research.

Ethical concerns

Before entering the field and conducting any data collection, approval from the DEBs Director to conduct the research was warranted. An introductory letter from the Dr Loongo of CARE International (See appendix) to DEBS' Office was provided and in turn gave the researcher approval and instruction to the selected schools captured in the study sample to provide open assistance. The respondents selected accepted to participate in this study voluntarily and that they were free to withdraw any time, without any explaining or giving reasons and without repercussions. The participants were further informed that a recording device would be used for data collection and they were assured that the recording was entirely for verifying and clarifying and for ensuring that the information they provided was obtained accurately. The students (minors) were thus protected by not revealing names and were assured that the information they provided was purely for academic use and would be

confidential. Respondents could participate or not and were required to provide informed consent (see appendix). All interviews were thus coded and arranged systematically. Signatures utilized only initials, numbers or X.

Quality indicators

To establish the trustworthiness and validity to ensure that the findings and results are valid and credible the following strategies were implemented: triangulation, peer review and member checking⁹⁴.

Triangulation; Different methods like literature review, interviews and focus groups were used, and different sources or target groups were approached (Ministry personnel, members of school and education staff, as well as external informants in form of NGO implementing officers). Two types of triangulation were used in this study: The first type is data source triangulation, in which varied data was collected from six different schools, 2 of which were rural and 4 were situated peri-urban areas. Information learned during the FGDs within the six schools with adolescent girls is compared with the information that is collected from the interviews and observations with the teachers, the information was checked with a view to discover the similarities or differences in views of the pupils and the educators, as well as to discover the differences and similarities from the locations of the schools.

Peer review was requested from the personnel from the 2 NGOs in Lusaka, who have running or completed projects that are implementing initiatives related to MHM. Their feedback was considered to enhance the reliability on the findings and conclusions from the data collected in the field. In addition, the researcher employed by engaging her supervisor to reviewing the research documents and tools. Fellow students from the University provided feedback and insights on the research methodology. Post data collection, any differences or ambiguities found in the interpretations of data and transcripts, were given in consultation with the DRCC, Ms. Mapata which allowed for easy access to the field sites to re-collect data or provide clarifications.

Member checking looked at the conclusions and was tested by checking the data with the Ms. Mapata, the District Resource Center Coordinator (DRCC) Chipata. In the case of misunderstandings or doubts, I re-addressed the participants and Ms. Mapata to assist in validating the findings. When there was a query or further need for understanding, the data

⁹⁴ Creswell, J. W. 2007. *Qualitative inquiry and research design: Choosing among five approaches*. 2nd ed. Sage Publications, Inc., Thousand Oaks.

was repaired with the consultation Ms. Mapata and selected participants that were available were utilized in revision of the data and conclusions or interpretations made.

Feasibility

Duration: The study was undertaken for the length of 2 weeks to ensure enough time for collection of data and considered the delays of official approvals from the Ministry departments and the local school calendars.

Location: The study area was Chipata town of Eastern province in Chipata district. The researcher had knowledge of and had worked in Chipata allowing her to utilize the local transport system as well as customs and knowledge of the population.

Budget: Major costs attributed to the research were for transportation and allowances for miscellaneous costs, expenses on food and refreshments. Other administrative costs included accommodation and research materials, a camera, paper, pens, crayons, and other stationery used in the FGDs.

Team: The research team consisted of the lead researcher and Ms. Mapata of the District Resource Center Coordinator (DRCC) Chipata office as an assistant, coordinator and facilitator to support the data collection.

CHAPTER 4:

PRESENTATION AND DISCUSSION OF FINDINGS

Overview

This chapter presents the findings and interpretations in line with the research objectives as follows:

- ❖ To explore the girls' understanding and knowledge of reusable pads
- ❖ To investigate the availability of reusable menstrual products and materials
- ❖ To identify the gaps and possible solutions with reusable menstrual products and materials
- ❖ To review the feasibility of reusable menstrual products
- ❖ To examine the MHM infrastructure and teaching in schools
- ❖ To describe the current menstrual hygiene practices in schools
- ❖ To observe the social-economical support and Interpersonal relationships

This chapter further divides into distinct parts to allow clarity in presentation, in relation to the research questions. All categories reflect the views of respondents about the introduction of reusable pads as an MHM initiative for adolescent girls. The findings and information that emerged from the analysis of the FGDs and interviews are presented under topics, themes and sub-themes. To illustrate the findings, images, quotes and comments made by the participants are used. These quotes are taken from the transcriptions of the FGDs, as well as the responses from key respondent interviews which also. For each comment-quote the age and/or grade of the quoted girl is indicated (for example 15 (G8) means that the quote stems from a girl aged 15 in the eighth grade, (T) Teacher and (HT) Head Teacher indicates that the quote stems from school staff and KI, CARE illustrates responses from key informants from implementing organizations or Government office).

Findings

According to the 2010 Central Statistical Office (CSO) census, Chipata district has a general population of 455,783 people (230,849 females and 224,934 males) and a total of 116,029 persons aged between 10 and 19 years of age⁹⁵. There are just over 100 rural and urban

⁹⁵ Thomas Brinkhoff, 2017. City Population

schools in Chipata district. The study was conducted in 6 rural and peri-urban schools; The schools were Kanjala, Gondar, Madzi-a-tuwa, Nsanjika, Lutembwe and Katandala. Due to the sample size, the results cannot be generalized in terms of the schools, however, the general situation with regards to adolescent girls contains a pattern that can be widespread in Eastern province. The SPLASH project activities included the creation of WASH clubs that touched on the introduction of reusable pads and MHM. In these club's pupils' boys and girls alike are taught skills and information such as what reusable pads are, how to make them and learn about good hygiene and behavior in relation to sexual reproductive health. The pictures below show some of the activities pupils experience as well as how information is presented in the classrooms and at club activities. The field images were taken from two of the 6 schools.

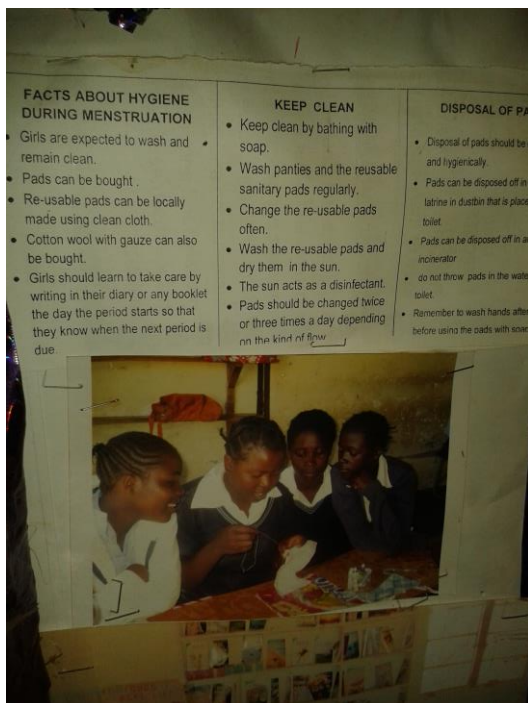


Image 3. (L): Girls learning to sow and make reusable pads as well as information on MHM, general hygiene and how to dispose of pads⁹⁶. **Image 4.** (R) WASH corner board showing students activities ranging from cleaning toilet facilities, pad making, peer education events and building of VIP toilets⁹⁷.

⁹⁶ Field images

⁹⁷ Ibid

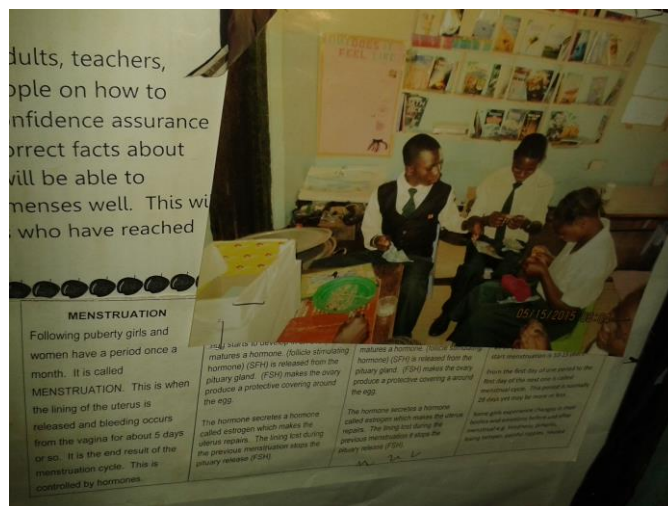


Image 5. Pad making exercise at the WASH corner with both male and female students⁹⁸

A total of 51 school girls were interviewed in FGDs; additionally, 4 of the 51 girls were interviewed individually. The FGDs comprised of girls in grades six to nine who were 13-18 years old. The individual interviews included girls who were in grades five to nine who were 11-17 years old.

Table 3. A summary of data of participants in FGDs.⁹⁹

SCHOOL	LANGUAGE	NUMBER OF RESPONDENTS	AGE DISTRIBUTION	GRADE DISTRIBUTION
Kanjala	English and Bemba	12	15 y.o * 3 17 y.o * 5 16 y.o * 4	Grade 9
Lutembwe	Bemba, Nyanja and English	9	15 y.o * 6 14 y.o * 1 16 y.o * 2	Grade 8 Grade 9
Katandala	English and Bemba	9	13 y.o * 3 15 y.o * 2 17 y.o * 4	Grade 6 Grade 8
Gondar	Nyanja and English	10	12 y.o * 6 11 y.o * 2 13 y.o * 2	Grade 6 Grade 7

⁹⁸ Field images

⁹⁹ Field data

Madzi-a-tuwa	Bemba, Nyanja and English	10	16 y.o * 1 17 y.o * 7 15 y.o * 2	Grade 8 Grade 7
Nsanjika	Nyanja and Bemba	11	15 y.o * 1 16 y.o * 1 14 y.o * 9	Grade 7 Grade 6

The key themes and topics that emerged from the analysis of the data were: knowledge, reusable sanitary products; facilities and services; health; physical, mental and social wellbeing, and school attendance.

Observation data reflected that adolescent girls in school spent up to a maximum of 6- 10 hours per day in school and therefore spend majority of their time being away from home. Therefore, girls who had reached menarche experienced more instances of their period cycles at school, than when at home and thus found it imperative that be addressed. Results presented in this chapter show the general circumstances of adolescent girls in school starting with the sanitary products and the sanitary facilities existing at the schools.

Table 4. Sanitary facilities and product checklist¹⁰⁰

KANJALA			
<i>Features</i>	<i>Available (Yes/No)</i>	<i>Condition</i>	<i>Comment</i>
Toilets	Yes	Good	
Locks/doors	Yes	Fair	
Buckets	Yes	Good	Had water in them
Toilet has a person who cleans it regularly	Yes	-	Students are also part of the duty Rota to maintain cleanliness
Hand washing area	Yes	Good	Had soap
Water supply	Yes	Fair	Was a distance from the toilets

¹⁰⁰ Field data

Bins	No	-	Did not see waste bins
Drying and changing area	No	-	-
MADZI-A-TUWA			
<i>Features</i>	<i>Available (Yes/No)</i>	<i>Condition</i>	<i>Comment</i>
Toilets	Yes	Poor	-
Locks/doors	No	-	Due to design
Buckets	Yes	Poor	-
Toilet has a person who cleans it regularly	No	Fair	Students and teachers have a Rota
Hand washing area	Yes	Fair	Bucket, with pitcher
Water supply	Yes	Good	-
Bins	No	-	No waste bin in area
Drying and changing area	No	-	Girls use the toilets
KATANDALA			
<i>Features</i>	<i>Available (Yes/No)</i>	<i>Condition</i>	<i>Comment</i>
Toilets	Yes	Fair	Broken taps and doors
Locks/doors	Yes	Fair	Need better privacy for girls
Buckets	Yes	Good	-
Toilet has a person who cleans it regularly	Yes	Poor	-
Hand washing area	No	Poor	Utilize general water tap points, no designated area, no soap or tissue
Water supply	Yes	Fair	-
Bins	No	-	-
Drying and changing area	No	-	-
NSANJIKA			
<i>Features</i>	<i>Available</i>	<i>Condition</i>	<i>Comment</i>

	<i>(Yes/No)</i>		
Toilets	Yes	Good	Have school water points and borehole
Locks/doors	Yes	Fair	-
Buckets	Yes	Good	-
Toilet has a person who cleans it regularly	Yes	Good	-
Hand washing area	Yes	Good	Lack soap and tissue
Water supply	Yes	Good	-
Bins	No	-	-
Drying and changing area	Yes	Fair	Lacks washing line to hang pads and materials
LUTEMBWE			
Features	Available (Yes/No)	Condition	Comment
Toilets	Yes	Good	-
Locks/doors	Yes	Good	-
Buckets	Yes	Fair	-
Toilet has a person who cleans it regularly	Yes	Fair	-
Hand washing area	Yes	Fair	Broken or leaking taps
Water supply	Yes	Fair	-
Bins	Yes	Fair	-
Drying and changing area	No	Poor	No designated area for drying of reusable pads
GONDAR			
Features	Available (Yes/No)	Condition	Comment
Toilets	Yes	Good	-
Locks/doors	Yes	Fair	-
Buckets	Yes	Fair	-
Toilet has a person who cleans it regularly	Yes	Fair	-

Hand washing area	Yes	Fair	Lack soap and tissue
Water supply	Yes	Fair	-
Bins	No	Poor	-
Drying and changing area	No	-	-

Observations from the field showed that girls toilets were available. Conditions varied due to the type of toilets and when they were refurbished. Minimum quality menstrual hygiene management requires that adequate water is available always. The challenges seen to be faced by the girls with regards to the facilities were that of privacy and running water for their menstrual hygiene management. As the observation checklist shows, existing facilities mainly lacked doors or had no water nearby or running water always. In addition, there was no signs of bins for disposal of waste. When girls were asked about this observation. The responses either were that they threw away their used or soiled pads in the bush nearby, carried their used pads home because they were unable to wash the reusable pads or threw them into the pit latrines. Three respondents had this to say:

I feel shy when I must wash my pads at school and everyone will know when I hang them. So, I pack them in a bag and take them home – 13 (G8)

I throw my soiled pads in the bush nearby, we have been taught to wash them first then burn them but at school it is hard to do that, and the bins smell when we leave them in there -13 (G8)

One time I saw a used reusable pad left in a corner in the toilets. There was no bin – 11 (G6)

The disposal of the reusable sanitary towels constitutes part of what good MHM is, which includes safe and private disposal space. Many girls must consider, how to dispose of or clean reusable sanitary towels. However, from evidence collected during facilities inspection, and reflection of the girls' experiences there are still challenges when it comes to sanitary disposal in schools. Instances such as hiding their used reusable pads for hours on end before cleaning will continue if the right facilities are not included or provided for at the schools.

Improper disposal of menstrual waste has high chances of leading to health and environmental related challenges. Depending on the type of material used for the reusable pads, it is highly likely they are of a strong non-biodegradable cloth. When girls described their knowledge of disposal methods the majority sited that they had to first wash the used sanitary towel and then burn it after it has passed the maximum month for use. If done haphazardly or not right, cloths will not burn completely and thus will take longer to degrade if buried. Other methods mentioned were wrapping of the used towels in plastic and burying them. Again, this poses an environmental problem overall.

Further, study, revealed that when the girls lacked the ability or access to easily dispose of their reusable pads, they kept them for longer periods and justified this action by insisting they wash the cloths regularly and carefully. However, it can be argued that if the girls do not change their reusable towels, they could be susceptible to health issues caused by degraded sanitary materials, accumulated bacteria, and pathogens capable of growing in the threads of the materials used to make reusable sanitary pads. In of the FGD, results from the girls' experiences highlighted that in addition to not having the safe and private spaces to dispose of their reusable sanitary towels, they tended to fall back into old habits that were easier but not adequate for proper MHM. The girls sited that to avoid their used pads smelling or having lingering smell follow them around at school, they will rather throw them or bury them in the surrounding areas or bushes.

In addition, the constant handling of menstrual blood when changing their towels and being unable to wash hands with soap has severe health implications in the spread of infections and bacteria around amongst the school going pupils. Such shortfalls need to be addressed and from the lack of bins in the schools it is important that to ensure less handling and swifter disposal is aided by the existence of bins that a regularly cleaned. This was lacking in the observations of the study.

As can be seen in the images below from Lutembwe and Katandala, there are no flushable toilets, however, the schools suffer from regular cuts in flowing water and thus require drums for water storage as well as a functional borehole. Every time a person uses the toilet, when there is no running water, they must use water from the water drums.

We usually have running water during school hours but sometimes running water supply is cut off due to the water and sewerage company, to make sure we have water the class on duty will draw water in drums for handwashing -T

The image on the right shows the inside view of the toilets as can be seen, the toilet offers little privacy in lack of a door to the girls accessing it. Observations obtained at Kanjala, Lutembwe and Katandala on the checklist showed varying degrees of similarity in terms of lack of acceptable for the girls. However, at the time of observations the toilets were kept relatively clean. The image on the right shows the view of the toilets from the outside, which is kept clean and a distance from the classes. The main toilet door is lockable but only when school is not in session or when the toilets are not conducive for use.

It was also clear from the FGD that most girls preferred using the toilets when fewer traffic surrounded the toilets or when the boys in class were aware of their frequency to the toilets.



Image 6. Outside view of girls wash room



Image 7. Inside view of girls' shower room



Image 8. Inside view of girls' handwashing and toilets

Image 9. Drying room

(Source: Field images)

Overall, the access to hand washing basins or corners were near the toilets and were available to both males and female students in the absence of the handwashing basins being within the toilet structures. However, the facilities were lacking a stock of essential supplies such as; soap and paper towels. At Lutembwe day school, female pupils had to report to the staff office in instances when they started their period at school and had no sanitary towels on hand, at the staff room female teachers have a supply of tissue and pads that girls can sign for or use in cases of emergencies. A head teacher however commented;

We do not have a budget for such products, and there is barely enough for toilet paper and soap to stock or cater to the students. However, we came up with a system from the PTA where a small fee can be donated to go to MHM and ASH products for students. It's not consistent but it helps when possible -HT

Data from the FGDs regarding sanitary towels and reusable pads showed a positive reception in all but one school, situated in the peri-urban area and closest to the central business sector of Chipata town.

We know about reusable pads and have been taught how to make them in the WASH clubs, but I do not want to use them because they are embarrassing to use, I would rather buy store bought sanitary towels – 16 (G8)

The response garnered much of agreement from the other girls and further probing revealed that it was the status and appearance of what using reusable cloth pads meant. There was a perceived pressure being a school close to the town to have store bought items for girls.

It was also discovered that outside of learning about reusable pads only a third solely utilized reusable pads. The majority of which were in the rural areas where disposable sanitary products were expensive and hard to access.

I am happy we have learnt to make reusable cloth pads, before I would hide and say I was sick because if I went to school or had chores, I would use old newspaper, foam or tissue paper. At least now I am more comfortable with the reusable cloth pads because I can't afford disposable ones -15 (G8)

The main consensus however, was that girls were happy for the alternative because the price of buying disposable and conventional sanitary towels was usually high.

It was further noticed that although MHM had been introduced in the WASH clubs, understanding of the menstrual process and managing the body and symptoms were still confusing to some girls. During a free question and answer portion of the FGDs one girls asked:

Is it normal for me to only have 3 days of period, I am worried about being able to have children? – 12 (G6)

Similarly, another girl aged 16 asked, why she had clots and feared talking to her mother about them because she may have done something wrong and did not want to be blamed.

Trying to find out about the depth of their knowledge, a question was also asked on whether they knew the methods of counting their period days to be able to forecast their next start of menstruation. All girls asked about this said no.

Supply of reusable pads and access was said to be better, but girls still found that outside of the school getting the materials for their reusable pads and supplies to make them was

sometimes difficult. Many were reliant on having access to the materials from the WASH clubs.

Because reusable sanitary pads vary in design, size and materials, girls were asked about their overall analysis of the use of the reusable pad. Data from their responses showed that the most negative trait of reusable pads, was how secure they were. It was felt that the reusable pads tended to move out of place and needed extra care on how they were worn, how the girls walked in them and that absorbency was a close second to negative traits of using reusable pads.

Girls said they preferred longer reusable pads with the designs that had straps for security. However, they did point out that sometimes if they could not find fleece material, other types of cloth tend to be uncomfortable due to being rough, coarse and in absorbent.

I used material some time ago and it was not comfortable because it was itching, and it burnt my thighs -13 (G8)

I got a rash that was very uncomfortable after using reusable pads -17 (G9)

Further negatives stated by the girls was that making of reusable pads, changing, cleaning and disposing of them was highly time consuming. When asked which they preferred between the reusable pad and the disposable pads, the girls made no obvious choice over the other. They cited reasons for use of both types of pads and tended to interchange the use of the two sanitary towels. Majority of the girls clearly stated that they used reusable pads as emergency backups when unable to afford disposable pads.

It can consequently be reasoned that continued training and production of reusable sanitary towels by the girls can be a key aspect in MHM. Costs are lower, but access still possess a burden to girls, especially in the rural schools. To circumvent this, teachers have encouraged the girls to be resourceful but stress proper care of cloth pads. One of the resourceful methods that have been encouraged are for girls who cannot afford purchasing the right fleece or cloth for the pads to use under-utilized but soft and absorbent clothing items to make their reusable pads but to ensure proper material is used and that care is taken to maintain hygienic products.

This compromises the quality but allows the girls to continue to be relatively comfortable and go about their normal day to day activities when they are experiencing menstruation.

The images below show the different types of reusable cloth pads that are taught in school WASH clubs.

Image 10. Reusable cloth pad designs¹⁰¹



The study further revealed that the girls found that they enjoyed the different patterns and colors that could be used in making their reusable pads. It gave girls the ability to be both creative and in a sense fashionable.

I like that the materials we use are soft and that we get to choose our colors and patterns, they are pretty, and I like that -16 (G8)

When it came to costs, many girls said they preferred reusable pads because it meant they did not feel bad about asking their parents or guardians for money every month. From the field research, it was found that disposable towels costs between K8 to K25 per pack of 10 sanitary pads (CZK16-CZK50). With reusable pads, girls could keep their towels to up to 3 months before making new ones.

¹⁰¹ Field images

In discussion on the pros and cons of disposable pads, girls expressed that the store-bought pads were sometimes uncomfortable and made noise when they were walking. The other reason cited as why girls preferred reusable pads was that there were still beliefs that the conventional pads had chemicals that caused cancer.

As part of the WASH in schools' initiative MHM is taught and open to both males and females. One of the question posed to the girls, was how they felt about learning MHM and pad making with boys. Some of the responses included the following.

It is still weird, but am enjoying it -12 (G7)

Sometimes the guys still tease us outside of class, but not as badly as before – 13 (G6)

Am happy my close friend is a guy and now he can understand if I don't want to play or be active during my period and I don't have to hide from him -12 (G6)

Participants in the FGDs were asked whether they ever missed school days due to menstruation, why they missed and how often. A follow up question further tried to ascertain if because of the new learnings from WASH clubs and the reusable pad anything changed. In all the schools, the girls revealed that missing school due to menstruation was rare but in instances when severe challenges arose, they opted to remain at home. The severe circumstances were if they experienced crippling physical pain; discomfort because of the water or product situation at school and when they had very heavy bleeding that could result in too many changes or having blood leak through their uniform.

I have not missed much of school since we started learning about how to take care of ourselves during our periods but sometimes the pain killers I take are not enough and I can't concentrate or feel comfortable in class if I hurt badly -17 (G9)

I think 2 months ago, I remember I came to school and I started my period. I went to the school counsellor to ask for a pad after I messed myself, I only stayed for one class afterwards because I was in pain then went home -15 (G9)

In all the discussion groups, when posed with the option to recommend or discourage the use of reusable pads, all girls remarked that they would recommend reusable pads, as they had helped in emergency cases.

Additional findings to be presented from the study arise from the interviews of the key staff members in schools, the DEBS office as well as those from SPLASH implementing partners. A total of 13 teachers and Head teacher were identified and supplied interview questions to provide responses to. Due to time schedules and responsibilities, only 6 interview responses were collected. 2 from Head teachers and 4 from teachers who were also the WASH club coordinators. Of the respondents from school staff members 2 were male and 4 were female. The average amount of time spent at the schools was 5 years and the age range were between 23 and 45 years old. The teachers who responded were eager and passionate about the WASH in school's programs and provided insights that are summarized in Table 4. The respondents were also identified as participants who obtained ToT training and introduction into the WASH school activities i.e. SLTS, MHM etc. The research revealed that, 30% of government teachers were trained in hygiene promotion¹⁰².

Furthermore, 5 of the respondents reported that, they had an experience of conflicting information in their trainings or were not fully knowledgeable on topics such as MHM and could not answer pupils' queries on menstrual myths, taboos and traditions.

In terms of teachers receiving support from the school administration, the respondents reported receiving basic teaching and learning materials. But, had trouble with sanitary facility and products not included in school supplies lists or not enough stationery for activities in class. In addition, there seemed to be a delay in the integration and implementation of a concrete WASH component in the class syllabi outside of the WASH club's teachings. This meant capturing all students was not always possible if some pupils opted to join other clubs instead. The respondent attributed this inadequate support mainly to lack of financial resources from the government, as well as an evaluation and monitoring plan from government.

¹⁰² SPLASH, 2014. Baseline Survey: School WASH Facility Assessment

In Chipata the ratio of teachers and pupils is also a factor standing at one teacher per 82 pupils¹⁰³. Schools are understaffed, and teachers are overwhelmed by the classes and number of pupils that they are responsible for. The introduction of extra learning material within the syllabi has thus been slow going, frustrating and according to the DRCC office, many have yet to start teaching pupils at their schools the full WASH component, especially on MHM.

As part of being a WASH club coordinator and counsellor, the female teachers are the point persons for female students who need assistance during menstrual days. When asked, about how they handle emergency situations or girls coming for advice the following were some of the responses.

Support seemed to be varied both from respondents and from observations of those who were unable to conduct the interviews. One teacher informed that she urged girls to seek her assistance and would provide privacy for them. She stated that at first none of the girls ever came to seek help or advice and would always wait until they “messed” themselves to be assisted. Now however, it appeared there were less instances of such situations.

Asked to see some of their activities materials, only two schools had a file for guidance and set curriculum. See the images below.

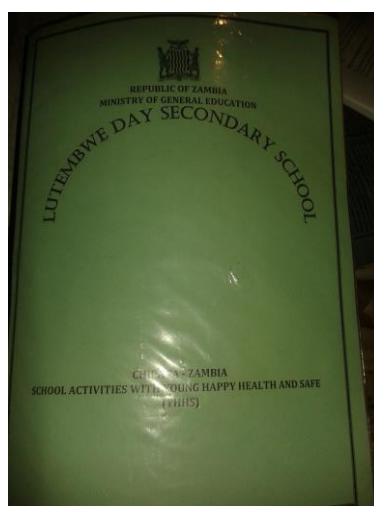


Image 11. School health and well being activities guide

(Source: Field images)

¹⁰³ SPLASH, 2014. Baseline Survey: School WASH Facility Assessment

However, all 5 of the respondents did mention that they are sometimes deterred by the lack of materials. Though creativity and resourcefulness are usually employed.

I urge the girls to come find my office when they have started their period or need extra pads. We are not well stocked, but we try and keep a few for emergencies for the girls. We have disposable pads but not yet providing reusable ones-T

Table 5. Key Findings from Focus Groups and One-On-One Interviews

	Absenteeism in girls	Reusable sanitary pads perceptions and reception	WASH in the school curriculum	Monitoring and evaluation SPLASH	Expectations for MHM and the MHM Toolkit program
Teachers	Less missed classes Better attendance in girls and participation	Received well by students Still confusion on mechanisms of menstruation	Slow or no integration of MHM into core subjects Majority of MHM components only taught in WASH clubs	Poor mechanisms are not done systematically and poor storage of registers and records in school	Better and streamlined information Improved norms More participation by teachers, parents and pupils Better alternatives to address budgets and funding for materials and products in schools
Implementing organizations Key informants	External evaluations are hard to make due to missing registry records and reports from schools	Monitoring and evaluation reports show they have been received well and classes on learning how to create reusable pads are being taught to parents as well	Reports show that integration is underway and operational in some schools	Been done routinely both externally and internally but have had to work with little or incomplete data from some schools	Adoption of better hygiene practices To be integrated fully into the school education system and be seen to be operational A deeper look into the social enterprise aspects to empower both girls and boys in school of creating reusable pads Increased private sector involvement and innovation

Discussion

The study findings clearly show that the introduction of reusable pads have changed the perceptions of girls and how they manage their bodies, surroundings, and health during menstruation. However, despite having been introduced to reusable pads, school going girls still used disposable sanitary towels, though because of the low cost of reusable pads, they had increased their use and regarded them as adequate emergency substitutes when they were unable to afford store bought sanitary towels. In addition, there still social pressures perceived by the girls in lacking confidence to openly use reusable pads and still talk about it amongst themselves. Knowledge about MHM was good, but there were instances of poor understanding of key processes when it came to MHM. During the FGDs, majority of the girls were able to explain how to make reusable pads, what types of patterns were available and the proper care of reusable pads. But, when it came to actual use and disposal, many were unable to completely adhere to the best practices either due to inadequate facilities or misunderstanding of the implications. Self-esteem and confidence was improved in the girls due to the WASH clubs and peer education activities. They were still shy to some extent learning with the males but had opened to being able to talk about MHM in class. One of the key terms that were made was that they have been told to remember and share that menstruation is nature¹⁰⁴

From the teachers and key staff members of the school, questions on facilities and school attendance showed that poor records could not provide a concrete evidence that absenteeism related to menstrual issues was less since the introduction of the reusable pad, WASH club and MHM classes. In addition, the MHM component was still being integrated into the education syllabus and had not fully been in the class structures and thus gaps in parts of MHM knowledge were still being experienced by the girls. It was also highlighted by the DRCC, that the DEBs office was finding it challenging to get staff members from schools involved or willing to teach on MHM issues to its full extent and that some schools had not even started the integration plan, even after ToT for teachers were conducted. There is therefore still a need for a structured MHM integration plan to be put in the education system. It was further established that despite having the training and teaching tools, materials were still scarce, and teachers were forced to be creative and sometimes use their own resources. This further discouraged the teachers to put a comprehensive activities and training of pupils

¹⁰⁴ WASHplus, 2015. SPLASH – Menstrual Hygiene Management Day

in the WASH clubs and health classes during science subjects. a variety of sanitary towels on the market. In addition, school budgets were limited when it came to sanitary products such as soap, tissue, emergency sanitary pads, bins and mops. They are unable to cater to the demands and needs of the school populations and other school materials such as textbooks take precedence over sanitary products. Resulting in overall poor sanitary facilities.

In 2016, the SPLASH report was published and initial results of the implementation of the project in Chipata showed significant improvements in access to water supply and sanitation facility, and hygiene behaviors and health of learners and teachers¹⁰⁵. The results from the study interviews found that the key informants had a hard time with follow-up of reports from the schools and had incomplete records of attendance and WASH club activities. The delays were found to be systematic. Teachers and key staff involved had district responsibilities and fell behind in keeping up with recording or making reports. In addition, allocation of resources was done in a way that would be sustainable overall, thus encouraging Community-led total sanitation (CLTS) and School Led Total Sanitation (SLTS) drives, where teachers, parents, guardians and children mobilized their own resources to come up with WASH activities that improved their surrounding environment and were able to build or refurbish their toilet facilities such as the VIP toilets. However, in Chipata, like most low-income areas in Zambia. Cost of living and earning a livelihood means first establishing that the basic needs are catered for. That is food and shelter. Due to the types of income generating activities in such areas, resources are scarce.

¹⁰⁵ WASHplus, 2015. Final Report of the SPLASH Project in Zambia. Washington D.C., USA. USAID/WASHplus Project.

CHAPTER 5:

CONCLUSIONS AND RECOMMENDATIONS

This concluding chapter summarizes the discussion, results and offers conclusions and recommendations that respond to the needs uncovered by the findings of this study.

Conclusion

This qualitative study was conducted at 6 primary and basic government (public) schools in Chipata district of Zambia. The research employed a series of FGDs with girls from grade 7 up to grade 9. In conjunction with a comprehensive literature review and study of the SPLASH project the study compared its findings to present as detailed a report as possible. One of the main conclusions of this study was that menstrual hygiene management integration into the schools studied showed fair improvement compared to the baseline survey reports that the research reviewed in relation to Zambia. The MHM component in the WASH in

school's initiative has seemed to have encountered difficulties, though generally received positively. The introduction of reusable pads and information and skills imparted have had a high effect on how MHM has been received. Most of the perceptions around reusable pads is that they have been useful to the adolescent girls in certain aspects. The girls are open to the reusable pad in terms of learning about them in school, however, actual use seems to be limited to emergency situations and not yet becoming an everyday part of life. Serious attention must be paid to not only the awareness and distribution of information, but how this is done and whether behavior and use of the products is being seen to make a difference. The research concentrated on girls in school, but a large portion of whether the girls use reusable pads and how to manage their materials and products at home is still not entirely clear. If habits are not also formed at home the learnings and information are not actually being put into practice. It is also important to ensure that both the school and home life of the girls have proper and continuous access to reusable sanitary towels. Results of this study further showed that existing facilities play a crucial role in MHM and using reusable pads or disposable pads requires a safe, secure and adequate water and sanitation system. If toilet facilities do not offer adequate privacy for the girls, they are left to feel marginalized and are unable to go through their natural bodily functions in dignity because they are forced to resort to methods that are unhygienic and in places that are prone to breed infections and bacteria. This study further points out several issues that need to be considered such as the negatives to the improper use of reusable pads.

The study has shown that managing their menstruation is still challenging for adolescent girls because of the factors established in this study, such as inadequate knowledge on how to maintain their towels, poor understanding of the menstruation process and inadequate disposal facilities. It is however, important to note that gender inclusion in the issues of MHM is improving the self-esteem and confidence of girls to be more participatory in class, sports and games. A factor worthy to be noted that was not planned to be explored but emerged during the FGDs was the positive side of traditions and culture. It was found that girls were not in complete opposition of being secluded from people during their severe period symptoms such as heavy bleeding and cramps. The lack of being comfortable made them more self-aware and shy and would rather recover in a controlled space with fewer people. This was highlighted as a reason that many girls preferred returning home if they started their periods at school and had "messed" themselves.

Further challenges surface from the funding mechanisms that need to be reviewed for them to be sustainable and consistent to continue the expected results. In addition, a look into the different options and available styles on how to better disseminate knowledge on MHM should be done, to satisfy both learners and educators. It was observed from the study that when asked if integration of WASH and MHM was operational, teachers involved had yet to complete the task and introduce these components into proper subjects outside the WASH clubs. This has an adverse impact on the education and knowledge gaps for the students and girls involved. In instances, not having the integrated syllabi means that girls and boys not yet involved in the school WASH clubs are left out and remain ignorant on the issues of MHM. Cost effective methods need to be explored to ensure that funding and budgetary issues are considered in relation to the stock of sanitary facilities and sanitary towels, both reusable and disposable. Through observations and the FGDs, it can be concluded that the greatest challenges with regards to the reusable pads are the following:

Comfort and security

Proper maintenance of reusable pads

Cost of materials to create reusable pads at home

Moving passed using reusable pads for emergency situations or surprise onset of a girl's period.

Therefore, the overall findings of the study coincide with the framework and ideas presented in the literature review, theoretical framework and hypotheses that the change in behaviors and norms such using the reusable pads must be partnered with the other systems to see a positive and long-lasting impact. At present, though the reusable pad and the MHM component in WASH school programmes is addressing hygiene, health and wellbeing. The break down and inconsistencies in the existence of sanitary facilities, teaching methods and information are hindering the effect that can be made to address adolescent girl's education, future endeavors and health (mental and physical).

Recommendations

This research on the introduction of reusable pads has provided a snapshot of the environment, conditions, challenges, and perceptions that exist through the eyes of adolescent girls in Chipata after the implementation of SPLASH initiative in schools. Due to the time of implementation, comprehensive results are yet to be seen and further studies need to be taken to critically review the WASH in school's initiative and the newly published national

guidelines on MHM to be integrated into the school system. The findings of this research wish to this point out the following to be taken into consideration.

1. Additional research or investigation is required into the needs, perceptions and importance of reusable pads to girls and women
2. Further discussion and innovation related to the disposal of menstrual products at school. Incineration or bin disposal? What about access to the incinerator or bins, how environmental friendly/biodegradable are the materials used in reusable pads?
3. How can peer education be supplemented and supported. Are their trained guidance counseling teachers? What activities can be learned and what are practical in the Zambian context?
4. An evaluation into how the integration of MHM into the curriculum has been received by teachers. Are they trained, aware and active? Is it clear and easily adaptable to different schools? Are teachers triggered or need to be?
5. Continued advocacy and inclusion of community, educators' students and government, private organizations into MHM to be pushed as its own separate agenda and not within the WASH initiative.

BIBLIOGRAPHY

Adinma, E and Adinma, J. 2008. "Perceptions and practices on menstruation amongst Nigerian Secondary School girls." African Journal of Reproductive Health 12, no. 1: 74-83 Retrieved from <http://www.bioline.org.br/pdf?rh08011> on 11th July 2016 at 04:00am.

Afripad Ltd, 2016. Reusable Sanitary Pads. Retrieved from www.afripads.com on 6th November 2016 at 21:00pm

Averbach, S. et al. 2009. Duet for menstrual protection: a feasibility study in Zimbabwe. Contraception 79

Creswell, J. W. 2007. Qualitative inquiry and research design: Choosing among five approaches. 2nd ed. Sage Publications, Inc., Thousand Oaks.

Dharampal G. Dambhare, Sanjay V. Wagh and Jayesh Y. Dudhe, 2012. Age at Menarche and Menstrual Cycle Pattern among School Adolescent Girls in Central India. Retrieved from <http://www.ccsenet.org/journal/index.php/gjhs/article/view/13989>

Dokovska N, 2017. Menstrual Hygiene Management in Macedonia. Retrieved from https://www.linkedin.com/pulse/menstrual-hygiene-management-macedonia-dokovska-spirovska-natasha/?lipi=urn%3Ali%3Apage%3Ad_flagship3_search_srp_content%3B8S5vKKD7R1%2BbAJ6IVYTIUA%3D%3D

E3/Land, 2018. Impact Evaluation of the Tenure & Global Climate Change Project in Zambia Retrieved from <https://www.land-links.org/2018/03/impact-evaluation-tenure-global-climate-change-project-zambia/>

Emily Oster, and Rebecca Thornton. Menstruation and Education in Nepal. Retrieved from <https://www.povertyactionlab.org/evaluation/menstruation-and-education-nepal>

FHI360, 2016. Schools Promoting Learning Achievement through Sanitation and Hygiene (SPLASH). Retrieved from <https://www.fhi360.org/projects/schools-promoting-learning-achievement-through-sanitation-and-hygiene-splash> on 3rd December 2016 at 16:00pm

Friedman, B. & Neuman Allen, K. 2011. Systems theory. In J. Brandell (Ed.), Theory and practice of clinical social work (3-18). New York: The Free Press.

Fry, S. et al. n.d Mainstreaming MHM in the Ministry of Education System in Zambia. SPLASH and FHI360 Retrieved from https://www.unicef.org/wash/schools/files/2.5_Fry.pdf on 14th December 2016.

Geeta Nanda, Justin Lupele, and Jenae Tharaldson. 2016. Menstrual Hygiene Management among Schoolgirls in Eastern Province of Zambia: Qualitative Research Final Report. Washington DC, USA, USAID/WASHplus Project.

Gwillim, L. 2012. Districts of Zambia. Retrieved from <http://www.statoids.com/yzm.html>

House S, Mahon T, and Cavill S, 2012. Menstrual Hygiene Matters; A Resource for Improving Menstrual Hygiene Management Around the World.

iTech Mission, 2017. UN SDG 6.2 cannot be achieved without safe Menstrual Hygiene Management for all women and girls Retrieved from https://www.linkedin.com/pulse/un-sdg-62-cannot-achieved-without-safe-menstrual-hygiene-mission/?lipi=urn%3Ali%3Apage%3Ad_flagship3_search_srp_content%3B8S5vKKD7R1%2BbAJ6IVYTIUA%3D%3D

Jacobs, Garry and Asokan N., 1999. Towards a Comprehensive Theory of Social Development. In: Human Choice, World Academy of Art & Science, USA, p. 152.

Lee, S and Kerner, B. 2013. What Do Menstruating Girls Need in School? Save the Children Retrieved from http://www.aglobalvillage.org/journal/issue9/adolescent_health/what-do-menstruating-girls-need-in-schools-seung-lee-brad-kerner-save-the-children/

Lusaka Times, 2016. Govt praised for its plan to provide free sanitary napkins to rural girls. Published. Retrieved from <https://www.lusakatimes.com/2016/11/13/govt-praised-plan-provide-free-sanitary-napkins-rural-girls/> on 8th December 2016 at 14:27pm

Mariska, Ronteltap. Conventional on-site sanitation. Retrieved from <http://slideplayer.com/slide/6027556/>

Menstrual Hygiene Day, 2016. MHM Infographic. Retrieved from http://menstrualhygieneday.org/wp-content/uploads/2016/05/MHD_infographic_MHM-SDGs.pdf

Michelle Baumgartner, 2016. Innovations in Sanitation: The Challenge of Menstrual Waste Management. Retrieved from <https://leafsociety.wordpress.com/2016/02/23/innovations-in-sanitation-the-challenge-of-menstrual-waste-management/>

Ministry of Education (MoE), 2016. Menstrual Hygiene Management National Guidelines. Lusaka, Zambia

Ministry of Health (MoH), 2000. Reproductive Health Policy. Reproductive Health Unit, Lusaka. Zambia.

Openstax College. Introduction to Sociology – 1st Canadian Edition Retrieved from <https://opentextbc.ca/introductiontosociology/chapter/chapter21-social-movements-and-social-change/>

Patkar, A and Bharadwaj, S. 2004. Menstrual Hygiene and Management in Developing Countries: Taking Stock.

Pillitteri, S. 2011. School menstrual hygiene management in Malawi: More than toilets. Master of Science project for Cranfield University, UK.

Project Luangwa, 2011. Menstrual Hygiene Management. Luangwa, Zambia. Retrieved from <http://www.projectluangwa.org/mhm>

Prudence Phiri, 2017. In Zambia, a Costly Choice Between Managing Menstruation and Missing School. Retrieved from <https://globalpressjournal.com/africa/zambia/zambia-costly-choice-managing-menstruation-missing-school/>

PSI, 2016. Menstrual Hygiene Management: A Review of the Evidence Retrieved from http://www.psi.org/wp-content/uploads/2016/06/MHM_EvidenceSeries_d1.pdf on 21st November 2016

Results 4 Development. Wash in Schools (WinS)

Save the Children. Menstrual Hygiene Management Operational Guidelines Retrieved from <https://www.savethechildren.org/content/dam/global/reports/health-and-nutrition/mens-hyg-mgmt-guide.pdf>

Singh, Medhavi. Disposal of Menstrual Waste: Trends, Laws and Solutions Retrieved from http://www.academia.edu/13235750/DISPOSAL_OF_MENSTRUAL_WASTE_TRENDS_LAWS_AND_SOLUTIONS

SlideShare presentation. Qualitative Data Analysis Retrieved at <http://image.slidesharecdn.com/qualitivedataanalysis-120306182822-phpp02/95/qualitative-data-analysis-18-728.jpg?cb=1331058990>

SPLASH, 2014. Baseline Survey: School WASH Facility Assessment Retrieved from http://www.washplus.org/sites/default/files/splash-baseline_survey2014.pdf

Sumpter C, Torondel B, 2013. A Systematic Review of the Health and Social Effects of Menstrual Hygiene Management. PLoS ONE 8(4): e62004. Retrieved from <https://doi.org/10.1371/journal.pone.0062004>

SuSanA, 2016. Menstrual Hygiene Management: An Overview of a Neglected Issue. Retrieved from <http://www.susana.org/resources/documents/default/3-2657-7-1490361293.pdf>

Tamiru, S. et al, 2014. SNV: Girls in control- Compiled findings from studies on Menstrual Hygiene Management of schoolgirls (Ethiopia, South Sudan, Tanzania, Uganda and Zimbabwe). Retrieved from: http://www.snv.org/public/cms/sites/default/files/explore/download/snv_girls_in_control_baseline_report.pdf

Thomas Brinkhoff: City Population, 2017. Chipata District in Zambia Retrieved from <https://www.citypopulation.de/php/zambia-admin.php?adm2id=0302>

UNICEF, 2016. MHM in Ten: Advancing the MHM Agenda in Schools.

UNICEF, 2012. WASH in schools empowers girls education: Proceedings of the Menstrual Hygiene Management in school's virtual conference 2012. Retrieved from: http://www.unicef.org/wash/schools/files/WASH_in_Schools_Empowers_Girls_Education_Proceedings_of_Virtual_MHM_conference.pdf

United Nations, 2015 Transforming our World: The 2030 Agenda for Sustainable Development. Retrieved from <https://sustainabledevelopment.un.org/post2015/transformingourworld/publication>

United Nations, 2012. World Population Monitoring: Adolescents and Youth, A Concise Report. Retrieved from http://www.un.org/en/development/desa/population/publications/pdf/fertility/12_66976_adolescents_and_youth.pdf

Vaughn, J. 2013. A Review of Menstruation Hygiene Management among Schoolgirls in Sub-Saharan Africa. University of North Carolina, Chapel Hill.

WASHplus, 2015. Final Report of the SPLASH Project in Zambia. Washington D.C., USA. USAID/WASHplus Project.

WASHplus, 2016. Sanitation updates. Retrieved from <https://sanitationupdates.wordpress.com/2015/05/28/washplus-weekly-focus-on-menstrual-hygiene-management-2/> on 20th February 2016 at 15:31pm.

WASHplus, 2015. SPLASH – Menstrual Hygiene Management Day Video retrieved from <https://www.youtube.com/watch?v=8k2KnDNazdM>

WASHplus, 2015. Zambia—Public-Private Pad-Making Partnership Retrieved from <https://washplusblog.wordpress.com/2015/01/30/zambia-public-private-pad-making-partnership/>

WASH united, 2016. MHM and SDGs. Retrieved from http://menstrualhygieneday.org/wp-content/uploads/2016/05/MHD_infographic_MHM-SDGs.pdf on 8th November 2016.

WaterAfrica, 2012. Walk4Water5 Youth: WASH Club Youth Retrieved from <http://www.waterafrica.org/walk4water5-youth-wash-club-youth/>

WECF International, 2015. Why WASH in Schools and Menstrual Hygiene Management needs to be in the SDG sanitation indicators Retrieved from <http://www.wecf.eu/english/articles/2015/09/call-wash-indicators.php>

WHO/UNICEF, 2012. Joint Monitoring Programme. Meeting Report of the JMP Post-2015 Global Monitoring Working Group on Hygiene. Washington, DC

Wilson, E et al. 2012. “Pilot study: evaluating the acceptability and short-term effect of teaching Kenyan school girls to make reusable sanitary towels on absenteeism and other daily

activities: A partial preference parallel group, cluster randomized control trial.” School of Health and Related Research (ScHARR), University of Sheffield.

Wood, L. 2015. A menstrual cup? Is that what it sounds like? Gross. Retrieved from <http://theecoguide.org/menstrual-cup-what-sounds-gross> on 3rd December 2016 at 15:48pm

World Bank, 2017. Providing Sustainable Sanitation Services for All in WASH Interventions through a Menstrual Hygiene Management Approach. Retrieved from <http://menstrualhygieneday.org/wp-content/uploads/2017/12/WP-SustainableSanitationMHM.pdf>

WSSCC and UN Women 2015. Menstrual Hygiene Management: Behavior and Practices in the Louga Region, Senegal. WSSCC/UN Women publication.



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13th March 2017

The District Education Board Secretary
Chipata District Education Board
Chipata

Dear Sir,

Introduction of Miss Monde Ndana (NRC # 958726/11/1) a MSc Student at the University of Palacky in the Czech Republic.

The above named student has chosen to do her Master of Science research project on the **Impact of Reusable Menstrual Pads and Menstrual Cups on adolescent Girls in Eastern Province of Zambia**. She has particularly chosen to do her research on schools in Chipata district.

Her interest arises from her previous work experience and having come across the work of SPLASH in your district, I would therefore recommend that she associates with the Chipata DRCC for guidance.

Your usual collaboration and assistance will be highly appreciated.

Yours faithfully
CARE International in Zambia

Henry Loongo, PhD
Director-Knowledge Management, Learning and Innovation

CC: Geraldine Zwack-Country Director, CARE International in Zambia

CARE'S Vision: We seek a world of hope, tolerance and social justice, where poverty has been overcome and people live in dignity and security.

Appendix 1. Introduction Letter

Appendice 2. CONSENT FORM

Informed Consent: My name is Monde Ndana and I am currently a student at the master's in international development studies at the Palacky University in the Czech Republic. I'm working on my thesis with the aim of analyzing the impact of the use of menstrual cups and reusable pads in promoting health safety, reduced economic burden and environmentally safe waste disposal in menstrual hygiene management (MHM) in adolescent girls.

I would appreciate your cooperation by answering the following questions, based on your knowledge and experience.

Description of the procedure

If you agree to participate in this study the researcher will set up an appointment with you at your convenience in a setting that suits you. The researcher will have an interview schedule with a list of questions which will guide the interview. The interview will be audio recorded if permitted to avoid losing any detail and make it easier for me transcription. No one else will have access to this recording. Your participation is completely voluntary, and if you do not want to answer any questions or wish to end the interview at any time, you can. The interview is expected to last for an hour. Once the interviews have been completed, the researcher will analyze data with the help of the supervisor and record the results from which conclusions of the study will be drawn. This information will be included in the final research paper and submitted to Palacky University Olomouc for assessment. Once it has been approved the thesis can then be shared with the participants.

Confidentiality

All information obtained from the interview will be kept confidential by the researcher and the supervisor of this study.

Risk of harm

The researcher does not intend to share your identities in the results of the final product of this research, this a caution that will be taken due to the sensitivity of the issues to be discussed. If you wish to remain anonymous by not sharing your name on the interview schedule the research will oblige.

Sharing and publishing of results

The researcher will analyze the data collected to come up with results of the study. This information will be included in the final product which is the thesis. This information will be shared with you once it has been approved the Palacky University Olomouc.

Payments

Kindly note that the researcher will not provide any kind of payment as an incentive of pay for participation in the study.

Participation and withdraw

Participation in this study is strictly voluntary and therefore you have the right to refuse to take part in the study. If you have agreed to participate and change your mind at a later stage, you can inform the researcher and withdraw from the study.

Consent

Your signature at the bottom of the page confirms you have agreed to volunteer as a research participant and that you have read and understood the information provided above. A signed copy of this consent form will be given to you.

Signature of participant: Signature of the researcher:

Date: Date:

Appendix 3. INTERVIEW SCHEDULE FOR SCHOOL STAFF, MINISTRY STAFF AND NGO STAFF.

DEMOGRAPHIC INFORMATION

Gender:

Qualifications:

Institution:

Department:

Position:

How long have you been in service?

What are your responsibilities?

MENSTRUAL HYGIENE MANAGEMENT (MHM) PROCESS

1. Could you briefly describe the MHM programme you work with? a. What is the main purpose of the program?

2. What is your role in the MHM process?

3. Who are the actors involved in the implementation of MHM programme?

4. How do you engage schools in the MHM programme?

5. Which networks are included /should be included in the MHM programme and why?

6. What strategies are included in the implementation of MHM in schools?

7. To what extent has the MHM toolkit been included in school education curriculums?

8. What are the challenges faced in the implementation of MHM?

9. According to your opinion, what factors would indicate that the process has been successful in the communities?

10. Is there monitoring or evaluating of the activities and/or action plans? Could you describe the monitoring process given? a. Do you have any suggestion on how the monitoring and evaluation could be improved?

REUSABLE SANITARY TOWELS/PADS

1. How have reusable sanitary pads affected attendance at school?

2. How many MHM workshops have been conducted in the last academic year?

3. What are your major achievements so far in introducing reusable sanitary pads?

4. How are reusable sanitary pads promoting social change within the communities?

REFLECTION / COMMENTS

1. What are your expectations for the future of MHM and the MHM Toolkit program?
2. Do you know of other institutions/schools that adopted MHM education with adolescent girls? Briefly describe.
3. Are there any other documents that you could share with me to complement the information?

Do you have anything else to add that was not asked or included?

Do you have any questions or comments?

Thank you for the time and the information provided.

Date: _____

Interview code: _____

FOCUS DISCUSSION SCHEDULE FOR ADOLESCENT GIRLS

DEMOGRAPHIC INFORMATION

Age Group:

Institution/School:

Date:

Rules set up: safety, everybody who can talk have to put the hand up.

MENSTRUAL HYGIENE MANAGEMENT (MHM) PROCESS

1. Have you ever missed a school because of menstruation? When? Why? How often? What changed the situation?
2. What exactly due to the menstruation caused you to miss school?
3. What type of sanitary products do you use most of the time?
4. What different types of sanitary products do you know of? Please describe them? How do you use them?

REUSABLE SANITARY TOWELS/PADS

1. Do you know what reusable sanitary products are?
2. Have you been taught how to make reusable pads? How many know? Do you think it was useful to learn how to make reusable sanitary pads?
3. What kind of obstacles do you have to produce your own reusable sanitary towels?
4. Did you use the reusable sanitary pads last time you menstruated?
5. What do you like about reusable pads?
6. What don't you like about sanitary pads?
7. How often do you change your reusable sanitary pads? If not on a regular basis, why? What is the reason?
8. How do you clean and/or dispose of reusable sanitary pads?
9. Where do you dry your reusable sanitary pads when are you at school?
10. Would you recommend reusable sanitary pads to friends and family members?

Do you have anything else to add that was not asked or included?

Do you have any questions or comments?

Thank you for the time and the information provided.

Date: _____

Interview code: _____