

Assessing accessibility, safety, and menstrual hygiene management across school WASH facilities in Cambodia



“I have my period at school, and I ask teacher to go back home by not telling the truth that I am having period, but I tell him I feel have a headache instead.”

Final Report
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Table of Contents

Acknowledgements	4
Acronymns	5
Executive Summary	6
1. INTRODUCTION	12
1.1 UNICEF’s WASH in Schools program	12
1.2 Menstrual hygiene management and WASH in Cambodia	13
1.3 Disability inclusive WASH facilities in schools in Cambodia	13
1.4 Safety, privacy and dignity in school WASH in Cambodia	14
2. METHODS.....	15
2.1 Assessment aims and objectives.....	15
2.2 Assessment design	15
2.3 Study setting	16
2.4 Training on Inclusive WASH	17
2.5 Data analysis	17
2.6 Ethical considerations	17
2.7 Limitations	18
3. FINDINGS	19
3.1 Theme 1: Overview of water, sanitation and hygiene situation	19
3.2 Theme 2: Accessibility of school WASH facilities.....	25
3.3 Theme 3: Safety, privacy and dignity using WASH facilities at school.....	29
3.4 Theme 4: Managing menstrual hygiene management at school.....	32
4. CONCLUSION AND RECOMMENDATIONS.....	37
4.1 Conclusion.....	37
4.2 Recommendations	37
References	43
 Annex 1	Overview of national policies and strategies
Annex 2	Findings from girls and boys dream toilet drawings
Annex 3	Descriptions and drawing of recommended designs
Annex 4	Bill of quantities (BOQ) and Cost

Table of Tables

Table 1. Accessibility, safety, privacy, and MHM features in new designs.	9
Table 2. School locations included in assessment.	16
Table 3. Summary data collection.	17
Table 4. Overview of number and type of water sources at schools.	19
Table 5. Number of functioning toilets per student population.	20
Table 6. Overview of toilets.	21
Table 7. Handwashing facilities and soap in schools.	22
Table 8. Overview of solid waste management.	22
Table 9. Accessibility, safety and privacy and menstrual hygiene management features in new design.	40

Table of Figures

Figure 0-A. Recommended new toilet block designs. Layout of toilet building, top view. (Four rooms with urinals, four rooms no urinals, three rooms with urinals)	7
Figure 2-A. Assessment design.	16
Figure 3-A. Three star approach.	24
Figure 3-B. Examples of ramps in school toilets.	25
Figure 3-C. Exampe of grab bar on one side only inside school toilet.	26
Figure 3-D. Accessibility principle: Reach, Enter, Circulate, and Use (RECU).	26
Figure 3-E. Examples of difficult to reach locations of handwashing stations.	27
Figure 3-F. Example of drinking water station.	28
Figure 3-G. Example of broken door with peep holes.	29
Figure 3-H. Example of toilets located far from school buildings.	30
Figure 4-A. Recommended new toilet block designs. Layout of toilet building, top view. (Four rooms with urinals, four rooms no urinals, three rooms with urinals)	38

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Acronymns

ASA	Accessibility and Safety Audit
CIDI	Cambodian Initiative for Disability inclusion
DFAT	Department of Foreign Affairs and Trade
FGD	Focus Group Discussion
KAP	Knowledge Attitude Practice
KII	Key Informant Interview
MHM	Menstrual Hygiene Management
MoEYS	Ministry of Education Youth and Sport
MRD	Ministry of Rural Development
NGO	Non Governmental Organization
PTA	Parent Teacher Association
RECU	Reach Enter Circle Use (accessibility principle)
RGC	Royal Government of Cambodia
SRHR	Sexual Reproductive Health Rights
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organisation

Executive Summary

A healthy physical learning environment in schools requires provision, operation, and maintenance of safe water supplies, adequate and appropriate toilet facilities, handwashing facilities, and solid waste disposal facilities for all students and staff. Quality school water, sanitation, and hygiene (WASH) programming calls for specific attention to the design of water supply, toilets, and handwashing facilities to ensure that they are **safe and private for girls and boys, accessible to children of all ages and abilities, and meet the menstrual hygiene management (MHM) needs of girls and female teachers** attending school.

WASH actors have a critical role to play in promoting the rights of children with disabilities to access education by ensuring WASH in schools promotes a barrier-free environment. Child-friendly school WASH that promotes privacy, dignity, and safety of girls and boys is fundamental in global school WASH efforts. There is further recognition that there are gendered impacts of WASH in schools. There is growing evidence from studies across Asia and Africa to understand and address challenges facing menstruating girls, such as poor information, knowledge, and education on MHM; lack of access to sanitary materials; and inadequate WASH facilities in school.

To date there has been little evidence of accessibility in school WASH in Cambodia. Importantly, many of the findings presented here are drawn from the perspectives of school girls and boys themselves. This assessment captures their voice, lived experiences, and practical recommendations in an effort to ensure they are central to development efforts to improve the safety and quality of their education environment. This assessment identified a number of challenges that impacted girls' and boys' access to WASH in schools:

School WASH facilities were mostly inaccessible. While some features of accessibility were present, often the surrounding environment and other features failed to meet universal design standards. Presence of a ramp was perceived as making toilets fully accessible, despite most other features, such as toilet seat, handrail, space inside the room, being inaccessible. Teachers and principals had positive attitudes toward children with disabilities attending school but had limited understanding of the barriers to children being able to attend school.

Girls felt unsafe using toilet facilities due to lack of privacy and security. Broken locks and gaps in toilet doors and walls made girls feel unsafe. Toilets not adequately segregated by sex were a self-reported privacy issue for both girls and boys. Teachers were unaware of the safety and privacy challenges reported by students.

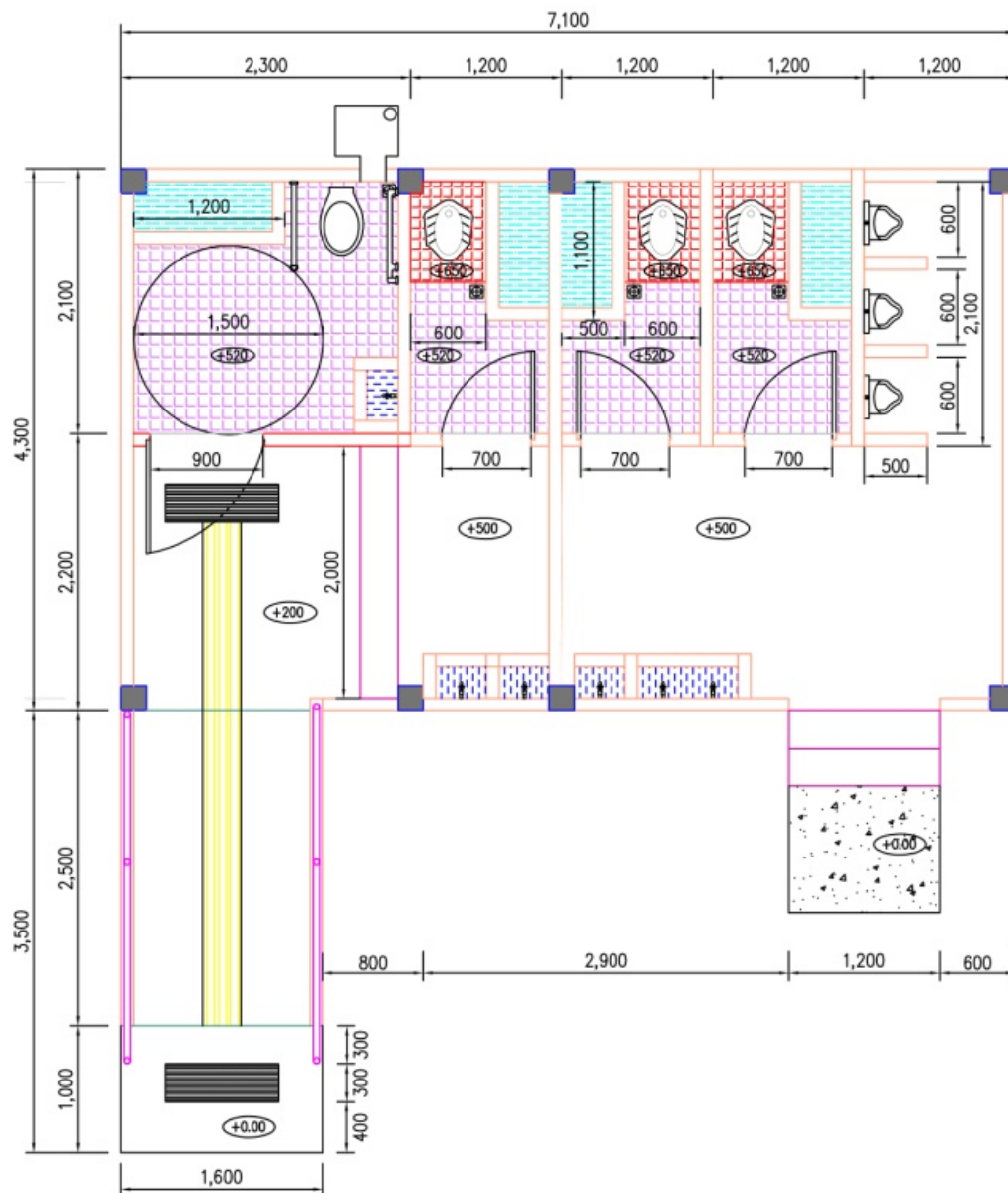
Insufficient knowledge about menstruation and MHM led to a lack of preparation and feeling scared or afraid among girls. While female family members were a source of information, teachers and peers were not. **Access to sanitary materials** was difficult at school. **Inadequate sanitation facilities** that had no water supply, broken locks or privacy meant that changing sanitary pads and **pad disposal** were a key challenges to managing menstruation at school. Finally, girls reported that **school absenteeism** was an impact of poor facilities to manage menstruation at school.

Key recommendations

1. Adopt infrastructure designs for WASH in schools with accessibility, safety and privacy and menstrual hygiene management features

Based on the findings of this assessment, new school toilet designs have been developed. The new designs take into account the needs of girls and have good accessibility, safety, and privacy features suitable for the Cambodian context and create a safer learning environment for girls and boys in school. These designs are presented in Annex 3, including a detailed description of design features and comparisons with universal design standards. It is recommended that WASH in school partners conduct trials of these designs, followed by a participatory evaluation including feedback from girls, boys, and children with disabilities. Evaluation findings should be used to further refine the designs.

Figure 0-A. Recommended new toilet block designs. Layout of toilet building, top view. (Four rooms with urinals, four rooms no urinals, three rooms with urinals)



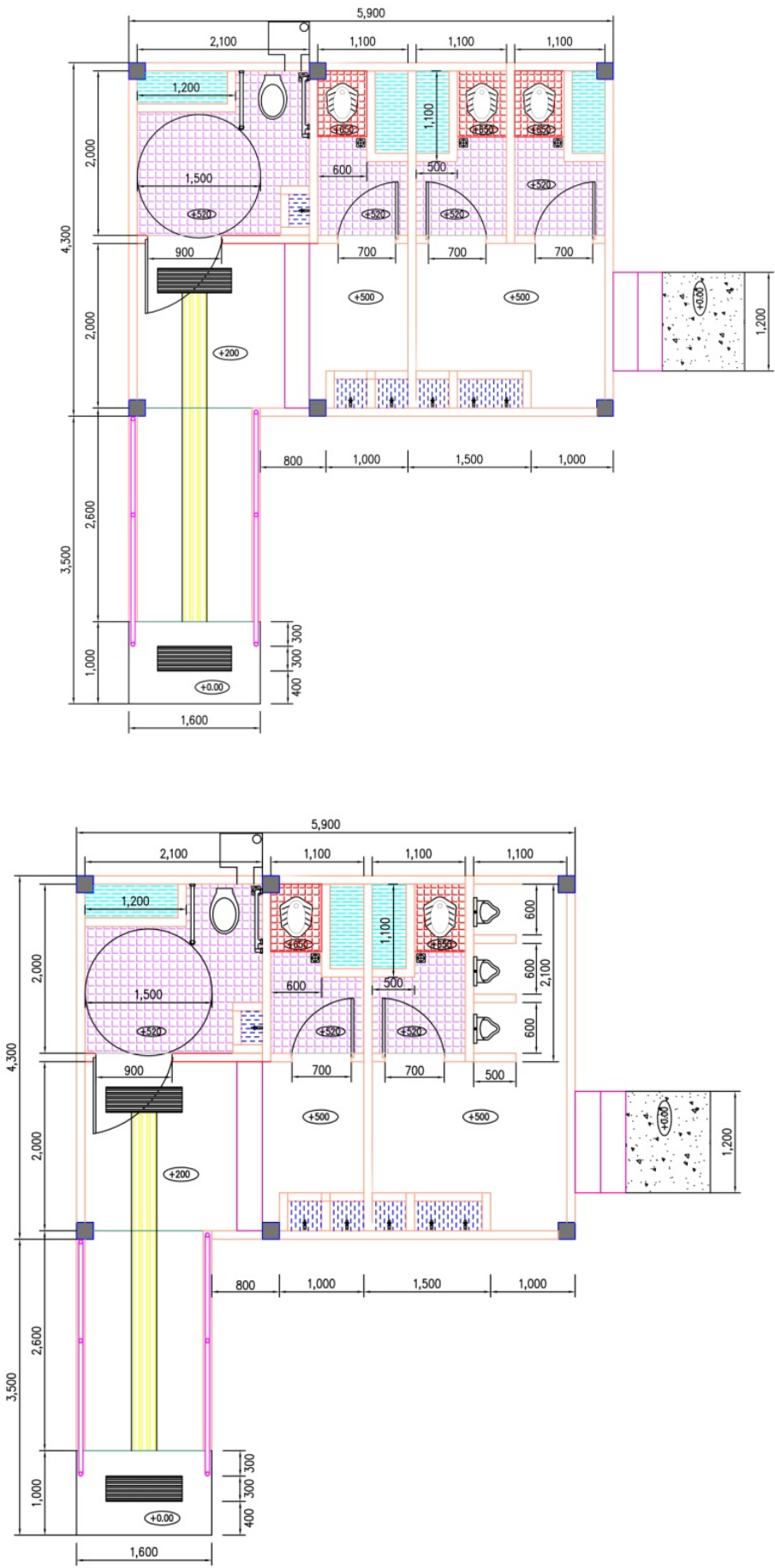


Table 1 below provides an overview of the accessibility, safety, privacy, and MHM features in the new designs:

Table 1. Accessibility, safety, privacy, and MHM features in new designs.

Improved feature	Rationale
Accessibility	
Pathway	To reach the toilet more easily
Ramp with max gradient of 1:20, but if space is limited a maximum gradient of 1:12 is permitted	To ensure that wheelchair ramps are not too steep
Handrail on each side at two heights	To support wheelchair users and children with mobility and visual impairments
Ramp has a raised edge	To avoid trip hazards
Door opens outwards with width 0.9m and height 2m; handle is a bar at 0.85m from the floor	To facilitate opening door with hands and entering toilet for wheelchair user and people with difficulties
Apron is 1.9 m x 1.8 m	To allow wheelchair users and carers enough space to open door
Toilet room is 1.5 m radius	To allow wheelchair user to turn around. Also gives more space for carers
Handrails placed on both sides of toilet	To make transfer to toilet seat easier for wheelchair users To give guidance to people with vision impairment.
Toilet seat has a raised seat	To avoid squatting for people with physical impairments
Water supply for anal cleansing is at max height of 700mm	To allow wheelchair users to reach
Handwashing facility are located inside toilet room and at lower height	To allow easier access for persons with disabilities
Safety, privacy and dignity	
Wall separates girls and boys toilets with a 1m wall along front of block	To provided privacy so girls and boys cannot see each other entering and leaving toilet blocks
Doors have no gaps	To prevent people from looking inside toilet
Locks: Doors can be locked from inside. Outside locks require door bolts.	To allow girls and boys to privately use toilet and to prevent other students locking one another inside the toilet
Ventilation cement bricks are high on toilet walls	To allow privacy, light and air into toilet but there is no gap. This improves safety and privacy and make use easier for people with vision impairment
Location is considered for privacy and safety	To improve feelings of safety and security, especially for girls
Menstrual hygiene management	
Burner with chute is attached to toilet of person with disability	To allow for safe disposal of sanitary pads and other solid waste. To reduces the need to empty bins, allows solid waste to be burned safely. To allow girls to dispose discreetly of sanitary pads
Water tank is inside latrine	To provide a discreet place for girls to wash and clean themselves and their clothes during menstruation.

Research and action learning recommendations

2. Conduct more quality formative research, such as knowledge attitudes and practice either school-based or community based, on menstrual hygiene management in Cambodia.
3. Implement small scale action research initiatives to pilot approaches to menstrual hygiene management and accessibility. As a priority, burners should be tested as a disposal mechanism for used sanitary products in Cambodia.

4. Conduct a careful analysis of the cost of accessibility and menstrual hygiene management features and designs as they are implemented. Document and disseminate findings.
5. At a broader level, conduct research to understand the barriers and enablers to children with disabilities accessing education and the role played by perceptions around WASH.

Programming and infrastructure recommendations

6. Pilot best practice school WASH designs that are accessible, child-friendly, and MHM friendly.
7. Facilitate participation of school students in design of WASH in schools infrastructure to ensure their voice is heard as a key stakeholder (e.g. location of toilets).
8. Embed specific budget allocations to implement accessible WASH infrastructure in schools.
9. Actively promote safety and security of girls and boys as a key design feature in school WASH.
10. Include a small allocation for sanitary pad supply in schools' operation and maintenance budgets.
11. Increase participation of children with disabilities in school WASH activities as an entry point for increasing access to education. This could be done through greater collaboration with Disabled Peoples Organisations and children with disabilities support networks.
12. Promote the importance of inclusive WASH in school with school management, such as school principals and teachers, through awareness raising activities.
13. Incorporate education on MHM into all education-based programs beyond WASH to improve knowledge, attitudes, and practices of girls and boys.
14. Include in MHM education programs a focus on boys to raise their awareness of MHM and privacy and how to behave towards girl in an appropriate manner.

Monitoring and evaluation recommendations

15. Capture information on accessibility, safety and MHM infrastructure as the Education Monitoring Information System (EMIS) evolves.
16. Assess the design of school WASH infrastructure designs used by partners from an accessibility, safety, and menstrual hygiene management perspective prior to construction.
17. Ensure that all monitoring processes include indicators for accessibility, MHM, and child-friendly WASH, including capturing student users' perceptions. Develop a simple checklist for UNICEF staff to use on monitoring visits to schools. Train UNICEF staff on how to conduct Accessibility and Safety Audits, and conduct such audits together with representatives of Disabled Persons Organisations during monitoring visits.

Advocacy recommendations

18. Ensure that UNICEF plays a coordination and facilitating role in programming that address MHM across multiple sectors within UNICEF itself and the Royal Government of Cambodia, including education, sexual reproductive health and rights, gender, and WASH.
19. Lead advocacy with UNICEF on MHM by bringing visibility to the global "MHM in Ten" campaign to Cambodia and the global menstrual hygiene management day in May (28 May). MHM in Ten is a joint aim for the ten-year agenda: "Girls in 2024 around the world are knowledgeable about and comfortable with their menstruation and able to manage their menses in school in a comfortable, safe, and dignified way" (UNICEF, 2014).

20. Promote use of the Accessibility and Safety Audit Tool as an awareness raising activity and information gathering process through WASH in School partners.

Policy and framework recommendations

21. Include MHM in the next version of the School Health Policy.
22. Revise the School and Community Water Sanitation and Hygiene Guidelines, which were issued by the Ministry of Rural Development (MRD) and Ministry of Education, Youth, and Sport (MoEYS) in 2011, to include MHM, accessibility, and safety issues.
23. Revise the MoEYS Quality Control Guidelines for School Building Constructions (2012) to include accessibility features as a minimum standard in the WASH section.
24. Revise the MoEYS Child Friendly School Policy to include elements of accessibility, MHM, safety, and privacy in dimension 3 and 4.

1. INTRODUCTION

The Royal Government of Cambodia has set a target to reach universal access to safe water and improved sanitation and hygiene throughout the country by 2025, including access in households, schools and healthcare clinics. While Cambodia has made significant progress in water and sanitation coverage over the past decade, only 57 and 81 percent of Cambodia's 7,088 primary schools had improved water and sanitation facilities, respectively, in 2015 (MoEYS, 2015). Schools that lack adequate water, sanitation and hygiene (WASH) facilities put children at increased risk of disease due to the "intense person-to-person contact" that occurs in school settings (WHO, 2009). Lack of access to WASH in schools also impacts girls and boys differently, as well as children with disabilities. WASH facilities are not accessible, safe or private can lead to unequal learning opportunities.

Improving access to safe WASH practices in primary and secondary schools remains an area of focus for the Ministry of Rural Development (MRD) and the Ministry of Education, Youth, and Sport (MoEYS). While these ministries have engaged a wide range of development partners, including UNICEF, to implement WASH in schools, there has been a lack of centralized standards for these partners to follow. As a result, Cambodia's school WASH infrastructure utilizes many different designs and reflects a large range in quality. The Department of School Construction within the MoEYS School has issued National Guidelines on Standardized School Infrastructure. However, these have not yet been widely implemented. The government is currently finalizing WASH guidelines for meeting minimum standards in primary school WASH that aim to incrementally improve the standard of school WASH infrastructure.

1.1 UNICEF's WASH in Schools program

UNICEF's school WASH program supports hygiene awareness and education in schools, alongside the construction of WASH facilities. UNICEF has partnered with several NGOs (BORDA, Rainwater Cambodia, Muslim Aid, and local contractors) for the provision of WASH facilities in approximately 87 out of the 7,088 primary schools (1.3 percent) (UNICEF, 2015). Given the lack of clarity around national standards, UNICEF's implementing partners utilize different approaches and designs for their school WASH infrastructure. As a result, projects vary in the designs utilized and consequently the level of inclusiveness with regards to accessibility. To date none of UNICEF's implementing partners have explicitly considered Menstrual Hygiene Management (MHM) in their school toilet designs, and there is a need to better understand this issue and incorporate MHM into future designs, especially regarding the safe disposal of menstrual products.

Quality school WASH programming requires specific attention to the design of water supply, toilets, and handwashing facilities to ensure they are **safe and private for girls and boys, accessible to children of all ages and abilities, and meet the menstrual hygiene needs of girls and female teachers** attending school. These elements can often be overlooked if the challenges around disability, menstrual hygiene, and safety and dignity are not well understood.

1.2 Menstrual hygiene management and WASH in Cambodia

UNICEF and the WHO define good MHM as:

“Women and adolescent girls are using a clean menstrual management material to absorb or collect blood, that can be changed in privacy as often as necessary for the duration of the menstruation period, using soap and water for washing the body as required, and having access to facilities to dispose of used menstrual management materials.” (UNICEF and WHO 2012)

The Royal Cambodian Government’s *National Strategic Plan for Rural Water Supply, Sanitation and Hygiene 2014-2025* acknowledges that girls’ difficulties in attending school are due to a variety of reasons, including a lack of toilets at school (MRD, 2011). UNICEF has commissioned a synthesis report, which is currently in draft form, on MHM in the Southeast Asia and Pacific regions that found that Cambodia has made comparatively good progress on MHM. The report further found that there are many organizations working on MHM in Cambodia. For example, there is a girls’ MHM reader booklet, called *Grow and Know*, that has been distributed.

However, attention to menstrual hygiene management in national policy remains minimal, and there are almost no published data on MHM among girls attending school in Cambodia or other countries in the Southeast Asia region (Connolly S and Sommer M, 2013). One participatory study was done in Cambodia in 2013, exploring recommendations by school girls themselves for facilitating MHM at school (Connolly S and Sommer M, 2013). This study found that girls had only very basic knowledge of menstruation, and most felt they learned about it too late. The research found that the WASH facilities at school were inadequate to meet girls’ needs because toilets were locked, the toilets to student ratio was high, and toilets were unclean or did not have water available. Participants in the study also expressed that water availability inside the toilet room and a bin for disposal were essential for managing menstruation safely and effectively. This study demonstrates that sanitation facilitates and their ongoing maintenance effect students’ perceptions and use of WASH facilities. This study also highlights why toilet designs must be ‘girl-friendly.’ More recently, UNICEF’s WASH section, with the support of an intern, conducted an assessment of the experiences of girls regarding MHM in Cambodian schools. The interim findings of this research have been shared with WaterAid and are in line with the findings of Connolly and Sommer (2013).

1.3 Disability inclusive WASH facilities in schools in Cambodia

Globally, despite limited availability of research, there is growing acknowledgement that girls and boys with disabilities face barriers accessing education and attending school due to a lack of accessible WASH infrastructure (UNICEF and Emory University, 2011). However, there is a lack of robust evidence available in Cambodia on this topic, and scoping activities by NGO’s have found that actors in Cambodia are making some progress on inclusive WASH in schools. For example, one of the first studies conducted on disability inclusive WASH in Cambodia in 2003 found some ad hoc efforts towards inclusive and accessible school WASH, though accessible toilets were generally only provided upon specific request (Jones, 2003). WaterAid and the Australia Red Cross undertook a similar scoping study and found that “most of the inclusive WASH projects reported by interviewees took place in schools and consisted of accessible toilets” (WaterAid and Australia Red Cross, 2014).

A key example was the Department of Foreign Affairs and Trade (DFAT) funded Cambodian Initiative for Disability Inclusion (CIDI) that supported accessible school facilities, some of which were WASH facilities, to nearly 600 schools over a two-year period. This program is

consistent with the findings of a global mapping study of inclusive WASH where most examples of accessible WASH are sanitation in schools (WaterAid, 2013).

These scoping exercises also highlighted that many WASH actors had developed their own accessible designs, such as UNICEF's standard school toilet design and Plan International's disability mainstreaming guide (2013). However, many NGO representatives have cited high cost as a reason why they were unable to build accessible WASH infrastructure, though international studies suggest that making school toilets accessible costs less than 3 percent of the overall cost (Jones, 2011).

1.4 Safety, privacy and dignity in school WASH in Cambodia

UNICEF's WASH in schools monitoring package states that "safe and child-friendly [WASH] in schools improves health, boosts education achievement, [and] promotes gender equity" (UNICEF, 2011). Few targeted studies look specifically at risks of violence linked to WASH in schools globally, and no such studies exist for Cambodia. Despite limited research, a recent global review on the links between violence and access to WASH identified common experiences of girls feeling unsafe when using toilet facilities at schools and being at risk of violence (Somer et al., 2016). The Violence Gender and WASH Practitioners Toolkit (House et al., 2013) highlights that school WASH facility design and location must consider safety and security, particularly for adolescent girls managing menstruation.

This assessment seeks to contribute to the gap in evidence of safety and security for girls using toilets in primary schools in Cambodia. This assessment builds on the findings of menstrual hygiene management and disability inclusion studies by using some similar tools to elicit feedback from schoolgirls on how the construction of WASH facilities addresses privacy, security, usability, and girl-friendly aspects. This report presents the key findings of a participatory assessment of WASH infrastructure across nine schools in Cambodia and draws recommendations from the findings.

2. METHODS

2.1 Assessment aims and objectives

The specific objectives of the assessment are to consider:

- Equity and Inclusion: how disability inclusion is incorporated into design of infrastructure
- Safety and privacy: how facilities meet the privacy, safety and security of girls and boys
- MHM: how facilities meet the needs of girls during their menstruation
- Development of stakeholder capacity at national and sub-national levels to address issues of inclusion and MHM through raising awareness of these issues and giving stakeholders new knowledge and skills

The results of this assessment aim to inform a design recommendation for future school WASH projects in Cambodia. Within this recommended design, a special focus will be placed on MHM, as this is currently an area in which all implementing partners have demonstrated a need for specific guidance.

2.2 Assessment design

To address these objectives, a school-based, mixed-methods assessment was conducted in three provinces of Cambodia, with an emphasis on voice and participation. Participatory qualitative methods, including focus group discussions (FGDs) and Accessibility and Safety Audits and key informant interviews (KIIs), were carried out with adolescent girls, boys, mothers, teachers, and school staff to explore practices and impacts related to accessibility, menstruation, and MHM at schools. FGDs included a participatory dream toilet exercise in which boys and girls were asked to imagine and then draw their dream toilet, highlighting all of the features that they would like to include.¹ A structured observation checklist was completed at all participating schools to assess WASH facilities.

The field assessment team comprised a health officer, who led key informant interviews, an experienced facilitator specialising in MHM research, an equity and inclusion specialist who led training and participatory Accessibility and Safety Audit assessments, and a WASH engineer, who undertook technical assessment of WASH infrastructure and interpreted findings to inform a new design of WASH in schools in consultation with accessibility and gender experts.

¹ This dream toilet is similar to the the participatory exercise developed by Connolley & Summer (2013) in their study “Cambodia schoolgirls recommendations for MHM,” *Journal of Water, Sanitation and Hygiene for Development*.

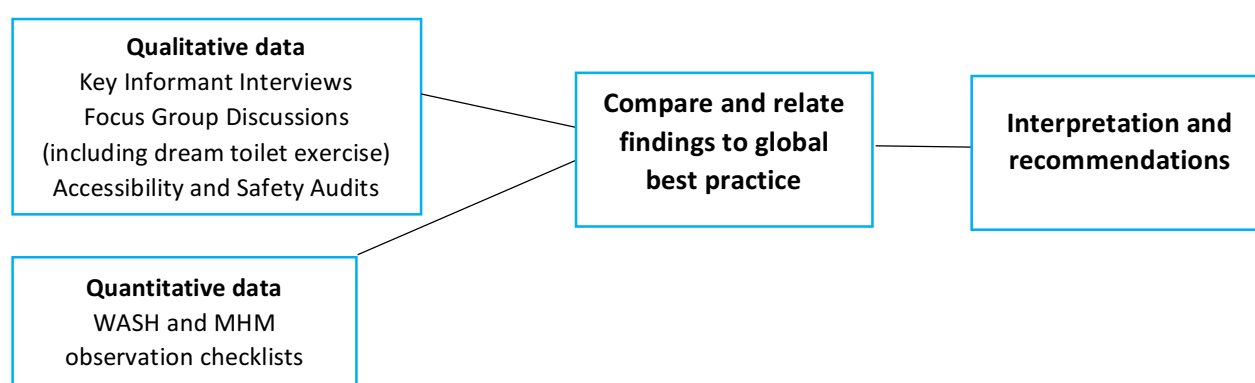


Figure 2-A. Assessment design.

2.3 Study setting

Data collection took place at nine schools supported by UNICEF partners, Ministry of Youth Education and Sport, World Vision and Plan International, listed in Table 2.

Table 2. School locations included in assessment.

Province	District/Khan	Urban/rural	Type of school
Phnom Penh	Chroy Changva	Urban	Primary school
Phnom Penh	Champo Varn	Urban	Primary School
Phnom Penh	Dangkor	Peri Urban	Primary School
Kompong Cham	Kompong Siem	Rural	Primary School
Kompong Cham	Koh Sotin	Rural	Primary School
Kompong Cham	Kang Meas	Rural	Primary School
Siem Reap	Bantey Srey	Rural	Primary /lower secondary
Siem Reap	Soth Nikum	Rural	Primary school
Siem Reap	Soth Nikum	Rural	Primary school

All data collection tools were developed in English, drawing on existing UNICEF and WaterAid tools. A WaterAid MHM expert from India joined the team during the tool development stage to share lessons from India with the study team and others in the sector at a sharing event held on February 5th, 2016. All tools were pre-tested and adapted to the Cambodian context based on previous studies and experience in the WASH sector. All tools were translated into Khmer, and pre-tests were conducted. Data were collected by the assessment team between February 25th and March 18th, 2016. In all nine schools, the following assessments were conducted:

- WASH and MHM observation checklist
- Accessibility and safety audit
- KIIs with a teacher and the Principal (one male, one female)

In each of the three provinces, the following assessments were conducted (Table 3):

- An FGD with girls
- An FGD with boys
- A KII with a mother

Table 3. Summary data collection.

Tools	Phnom Penh	Kompong Cham	Siem Reap	Total activities	Total participants
KII principals (5 male, 5 female)	3	3	4	10	10
KII teachers (4 female, 5 male)	3	3	3	9	9
KII mothers	1	1	1	3	3
KII female student		1		1	1
FGD girls	1	1	2	4	31
FGD boys	1	1	1	3	19
WASH and MHM observation checklists	3	3	3	9	9
Accessibility and Safety Audits	3	3	3	9	9
Total				48	91

2.4 Training on Inclusive WASH

Two trainings were conducted on inclusive WASH in Phnom Penh and Siem Reap on February 17th and March 16th prior to data collection in each province. The objective of the training was raise awareness of disability inclusion in school WASH and to ensure that the data collection processes were participatory. The training brought together key stakeholders from education, WASH, and disability sectors. The training focused on using the Accessibility and Safety Audit tool and was co-facilitated by the Cambodian Disabled People's Organization. Twenty-five participants attended each training, including representatives from the MoEYSs, the Provincial Department of Education, the Provincial Department of Rural Development; school principals and teachers; Provincial Disable Persons Organisation representatives, and WASH teams from UNICEF's implementing partners: Plan International, BORDA, and RainWater Cambodia.

2.5 Data analysis

Qualitative data were analysed into key themes by a team of three WASH experts from WaterAid globally: two specialising in Equity and Inclusion and one in WASH and health. FGD's were recorded and transcribed. KII's were recorded by a note taker. The research team identified key themes, sub-themes, and relationships between KIIs and FGDs by reviewing transcripts and notes multiple times. The key themes were used to create a framework of key findings, and quotes were identified to illustrate each key theme. Quantitative data from Accessibility and Safety Audits and WASH observations were analysed and assessed against universal design standards.

A consultation was held with accessibility experts at Handicap International and national representative groups for people with disabilities to test new designs and validate key findings. A second consultation was held with children with disabilities to test new designs. A consultation was also held with UNICEF and partners to validate key findings.

2.6 Ethical considerations

Informed consent was provided by all mothers, teachers, and principals interviewed. All the respondents were informed about the assessment objectives, assessment team's roles and responsibilities, and use of the data that were collected. The school principle or teacher further sought parental consent for students to join FGDs. Prior to data collection in the schools, each school received a supporting letter from the Department of Construction and MoEYS. The assessment team members met and followed WaterAid's Child Protection policy requirements and ethical photography policy.

2.7 Limitations

The assessment process had several inherent limitations. The sample size was small (nine schools) and was not designed to be representative of WASH in schools nationally. The design did not allow for reaching saturation among KIIs and FGDs among sub-populations. However, it provides a good cross-section of UNICEF partners' approach to WASH in schools and followed a rigorously piloted participatory data collection process.

A second limitation is that, because the assessments focused on primary schools, many girls had not yet begun menstruating. Menstruation was a particularly sensitive topic to discuss, as girls had not received information or education on the topic. This challenge was mitigated by hosting an FGD at a high school and conducting an in depth interview with one menstruating girl attending primary school.

A third limitation was that most schools did not have students with disabilities, so no children with disabilities participated in the accessibility audit. WaterAid mitigated this by inviting the Cambodian Disabled People's Organisation to co-facilitate Accessibility and Safety Audits. WaterAid believes that involving the Disabled People's Organisation helped raise awareness among schools and WASH partners. Furthermore, the proposed design was presented at two consultations to gain feedback from people with disabilities—one with representatives from different organisations focussing on disability and one with a group of children a disabilities.

A fourth limitation was that the cost analysis aspect was difficult to assess because implementing partners did not provide the information and data required to assess costs. WaterAid has cost estimates for the newly developed designs, which each partner can compare against their current design costs.

A final limitation was the assessments focused on physical infrastructure and were not intended to explore knowledge, attitudes and practices (KAP) of students and teachers. Where this KAP elements were captured, they have been included in the findings, but this assessment is not intended to be a comprehensive KAP survey. Given that at least three KAP studies on MHM have been conducted over the last few years in Cambodia, including a study by UNICEF earlier this year, the focus on infrastructure is justified.

3. FINDINGS

3.1 Theme 1: Overview of water, sanitation and hygiene situation

An assessment of the WASH situation across the nine schools is summarised in this section, with reference to the minimum standards set out in guidelines from the MoEYS.² An analysis of how the WASH context impacts girls' ability to manage menstruation at school, and accessibility and safety for all students, is explored in detail in subsequent sections.

3.1.1 Water usage: Most schools had insufficient water supply during the dry season which impacted access to safe and hygienic WASH facilities

Seven of nine schools did not have sufficient water supply all year round, due to inadequate water during the dry season or lack of funds to fuel motor pumps. Six schools had a functional water source, with two schools partially functional (i.e. functioning but not as per design), and one school's water supply was completely not functioning. All schools reported that the water supply was used for flushing and anal cleansing, while only six schools reported that water supply was used for handwashing and drinking. Three schools had no alternative water supply. The other six either purchased water or used rain water or a tube well (Table 4).

Table 4. Overview of number and type of water sources at schools.

School	Water sources at the school				Overall functionality status		
	Ground water	Surface water (river)	Rain water	Piped water	Functional	Partially functional	Not Functional
1				1	1		
2				1		1	
3			1	1		1	
4	1		1		1		
5		1	1		1		
6	1		1		1		
7	1				1		
8	1		1				1
9	1	1	1		1		
Total	5	2	6	3	6	2	1

The MoEYS minimum requirements guideline is that each child must have access to at least 2 litres of water per shift for hand washing and cleaning while in school. These data showed schools have difficulty meeting this requirement, given challenges with water supply all year round.

A third of schools had inadequate drinking water supply. Six schools had drinking water storage containers, with three schools relying on students and teachers to bring bottled water with them to school. To meet the minimum requirement, each child must have access to at least 500ml of safe drinking water per shift. With reference to the Three Star standards in the MoEYS's minimum requirements guideline (see Figure 3), most schools were therefore a One Star school, with students bringing their drinking water from home.

² *Incremental Improvements to WASH in primary schools: A guideline to meeting minimum requirements*, 2nd draft, 2015 (sometimes referred to as 'the Ministry of Education Youth and Sport minimum requirements guideline')

3.1.2 Toilet facilities

Just under half of toilets were functional. Out of 85 toilets, only 41 were completely functional. An additional 15 toilets were partially functional (i.e. the toilet could be used but there were some problems with the infrastructure and some repairs are necessary—for example deteriorated concrete, loose door, deteriorating roof, no locks). Five of nine schools had water supply available inside the toilets to use for anal cleansing. Two schools had locked toilets when the assessment team visited, and therefore the number of toilets available to students to use was reduced (Table 5).

Table 5. Number of functioning toilets per student population.

School	School population		Latrines		No. of students per functioning latrine
	Boys	Girls	Total latrines	Total functioning latrines	
1	564	525	11	0	
2	2021	1815	29	5	767
3	581	580	4	4	290
4	257	226	5	5	97
5	136	121	6	6	43
6	101	95	6	5	39
7	377	316	10	2	346
8	213	197	3	3	137
9	291	270	11	11	51
TOTAL			85	41	

Only four out of nine schools had sex-segregated toilets. At one of these schools, female teachers shared girls' toilets, and male teachers shared boys' toilets. Two schools had a separate toilet for teachers, and neither was sex-segregated. Around half of school toilets were clean. Two out of every five toilets had adequate lighting, and a quarter of toilets were dark inside (Table 6). In their dream toilet drawing, children imagined toilets with water supply and cleaning materials, such as soap and brushes, and that the toilets would be light.

Table 6. Overview of toilets.

School	Number of Toilets	Access							Functionality			Cleanliness			Light			Locked (not able to access)
		Girls only	Boys only	Girls and boys	Female teachers & Girls	Male teachers & Boys	Male and female teachers	All staff and students	Functional	Partially functional	Not functional	Clean	Somewhat clean	Not clean	Light	Somewhat light	Dark	
1	11	2	1					8		2	9			11		1		8
2	29						1	28	5	4	20	1		28		8	21	17
3	4				2	2			4			4			4			
4	5						1	4	5			3	2		5			
5	6							6	6			6			6			
6	6				3	3			5	1		5	1		5	1		
7	10							10	2	8		10				10		
8	3	2	1						3			3			3			
9	11	5	3	1			1	1	11			10	1		11			
Total	85	9	5	1	5	5	3	57	41	15	29	42	4	39	34	20	21	25

The minimum standard of toilets per student in Cambodia for a One Star school is one toilet for girls and one toilet for boys. A Two Star school is one toilet per 50 girls and one toilet and one urinal per 100 boys. Only three of the nine schools would currently meet this Two Star requirement. These data show that even where there are sufficient number of toilets in schools, non-functionality significantly reduces the number of toilets available. This highlights that resourcing, operation, and maintenance are critical for sustainable toilet facilities in schools. The impact of unclean toilets is discussed in Section 3.3 below.

3.1.3 Only half schools had adequate some handwashing facilities with soap

All nine schools had handwashing facilities, using piped water or group handwashing stations. All handwashing facilities were situated in or close to toilet facilities. Four schools had water supply in more than half their handwashing stations, and four schools had water supply in less than half their handwashing stations. One school had no water supply for handwashing. Two schools had separate handwashing facilities for boys and girls. Only half the schools had soap available at all handwashing stations, while the other half had no soap available (Table 7).

Principals reported cost as a barrier to an adequate soap supply. In their drawings, both boys and girls imagined having soap for handwashing and a place to store the soap, and some children also drew hand towels. Children also imagined having other hygiene features such as tooth paste and tooth brushes, combs, and mirrors. The minimum requirement is for hand washing facilities and soap to be available during each shift, and all children must be able to rinse their hands under flowing water. Therefore, around half the schools were not meeting this minimum requirement.

Table 7. Handwashing facilities and soap in schools.

School	Handwashing facilities			
	For girls	For boys	Shared	Soap available
1			18 taps	No
2			5 taps	No
3	5 taps	6 taps		Yes
4			3 taps	No
5			3 taps	Yes
6			8 taps	No
7			3 taps	Yes
8	3 taps	3 taps		Yes
9			6 taps	No

3.1.4 Burning in a pit on school ground was the main approach to solid waste disposal

Safe solid waste disposal was a challenge reported across nearly all schools. All schools except one had a pit for burning solid waste on the school grounds. Five schools reported that they burned rubbish daily, while three schools reported that they burned rubbish every two days or once per week. Three schools contracted a private service to collect solid waste. However, only one urban school had a regular solid waste collection system, collected weekly by a private service, while two schools still burned rubbish. In one urban school, students reported that they were responsible for removing solid waste from toilets and preparing it for collection (Table 8).

Table 8. Overview of solid waste management.

School	Solid waste management			
	Private collection service	Bins (waste storage)	Recycling (storage place)	Waste burning place
1	X	X		
2	X	X	X	X
3	X	X	X	X
4		X		X
5		X		X
6		X		X
7		X		X
8		X		X
9		X		X

The Ministry of Youth, Education, and Sport's minimum requirements for solid waste is for daily collection and disposal by burying, burning or removal. However, this fails to acknowledge that, where solid waste is not safely contained, children can be exposed to health risks. In their dream toilet drawings, boys and girls included bins inside the toilets. There is scope to improve solid waste disposal by improving design of containers used to collect waste and burners to dispose of waste. See the recommendations section for this new design. See Section 3 for full discussion of safe disposal of sanitary materials.

3.1.5 Budget allocation was inadequate to cover operation and maintenance costs of WASH in all nine schools

All schools' WASH facilities had maintenance problems. All nine schools reported using the government-provided program budget to repair and maintain school water system, toilet, and

handwashing facilities. Despite this allocation, most schools reported that program budgets were inadequate for the ongoing operation and maintenance of school WASH facilities. Most of the schools met this gap by requesting support from community or NGO partners to buy cleaning materials and water supply. As reported by one principal:

“Sometimes we ask students to buy soap” – Female principal (KII)

The MoEYS’s minimum requirement guidelines state a Three Star school has *“enough money set aside for buying soap, operations and maintenance, and paying for water.”* These findings show demonstrate a need for simple infrastructure with low ongoing costs where there are minimal funds available for school WASH.

3.1.6 Students were responsible for cleaning toilets in all schools and for solid waste disposal in some schools

All nine schools relied on groups of students to clean toilets, and none of the schools had a cleaner or caretaker. Teachers reported that this was a sufficient system, and that the responsibility was shared between girls and boys. One teacher reported that:

“The students are assigned as per a cleaning schedule (20 students). Two girls and boys clean per day.” – Male teacher (KII)

Operation and maintenance can be increased where there is a sense of ownership of WASH facilities by school staff and students. Measures such as teachers supporting students to clean toilets could improve sustainability of WASH in schools in Cambodia.

3.1.7 Lack of clean toilets, including lack of water supply to flush, reduced the number of functioning toilets used by girls and boys

Seven of the nine schools had inadequate water supply to flush toilets. Students reported they did not use toilets that were unclean, and therefore the limited number of clean toilets reduced the total number of toilets available for students. Two principals reported that unclean water made the toilet “unsafe.” All mothers interviewed felt that lack of water supply during dry season compromised safety and hygiene of school toilet facilities.

Teachers and principals primarily cited several ways to improve the functionality of toilets, including having a more consistent water supply, improving hygiene practices, and additional action by teachers to clean toilets. Encouragement for keeping toilets clean was a common theme in their responses. These findings emphasise the critical role played by WASH facility maintenance to ensure toilets are clean and fit for use. Unclean toilets are likely to be a further challenge to girls managing menstruation at school.

3.1.8 Overall WASH situation in the schools

This section seeks to present an overview of the WASH situation in the nine schools studied. Applying the Three Star Approach, an incremental step-by-step approach to improving WASH in schools adopted by the Ministry of Youth, Education, and Sport (Figure 3), most of the schools assessed met requirements to be a One Star School. Basic WASH infrastructure was available in all of the schools. In order to further increase service levels, the key challenges to be addressed are lack of an adequate water supply all year round, cleanliness of toilets—which is often related to a lack of water for cleaning—and provision of soap for handwashing.

			★★★ Three Star School
		★★ Two Star School	School facilities upgraded to meet National Standard.
	★ One Star School	Low cost point of use water treatment for drinking water.	Low cost point of use water treatment for drinking water.
0 Zero Star School	Daily routines to promote healthy habits.	Daily routines plus facilities for menstrual hygiene.	Daily routines plus facilities for menstrual hygiene.
No water for use.	Basic sanitation & washing facilities are cleaned daily.	Improved (and more) sanitation facilities.	
May or may not have toilet.	Safe drinking water is brought from the home.		
No hygiene and sanitation promotion.			

Figure 3-A. Three star approach.

3.2 Theme 2: Accessibility of school WASH facilities

3.2.1 *All school WASH facilities had some accessible design features such as ramps, however no schools WASH infrastructure completely met universal design standards*

Accessibility and safety of the schools' WASH infrastructure was assessed using an Accessibility and Safety Audit (WEDC, 2013) and examined a range of features, including pathway, ramps, entrance, handrail, toilet style and space inside the toilet. The findings were assessed against Handicap International's Universal Design Factsheet (Handicap International, 2015), which meets globally recognised accessible guidelines.

Eight of the nine schools had ramps leading into the toilet, which is a positive finding (Figure 4). However, some of the ramps did not meet universal design standards due to steep gradients and lack of a handrail. The universal standard is gradient of 1:20, but if space is limited a maximum gradient of 1:12 is permitted and requires handrails so people can support themselves up the ramp if they have difficulty walking or use a wheelchair. A gentle gradient is required on ramps so that wheelchair users can move themselves safely up the ramp.



Figure 3-B. Examples of ramps in school toilets.

Nearly half of the schools had pathways to the toilet that were inaccessible due to bumpy soil pathways. The minimum width of a pathway of universal design is 1.8m (HI Accessibility Factsheet page 28). Pathways need to be clear from obstructions, wide enough for users, and have a flat and non-slippery surface, so that wheelchair users, people with visual impairments and other people with mobility impairments can easily reach the toilets. All nine schools had aprons in front of the toilet. However, most of the aprons were too small. Universal design of an apron is 1.8m with a clear space in front of the toilet. Aprons are important, as they are a place for users to rest at the top of ramps and allow users to turn around and move into position to enter the toilets.

All nine schools had doors that opened outward, which met universal design standards. Yet, nearly half of the schools had doors that were not easy to open. For example door handles were too high or were difficult to turn. Moreover, more than half of the doors were not easy to close from inside. Universal design for a door is 90cm width minimum, opening outwards. None of the doors assessed met this requirement. Universal designs require door handles to be fitted with level action locks and lever or D-handles with height between 85cm and 1.1m from floor level.

Nearly half of the nine schools had a grab bar inside the toilet (Figure 5). All grab bars were only installed on one side, which may not sufficiently support people when using. Universal

design requires two grab bars – one on each wall, the transfer side and the wall side. On the transfer side, the grab bar should be 65cm-70cm from floor height, extending 200mm in front of the toilet.



Figure 3-C. *Example of grab bar on one side only inside school toilet.*

The rooms and toilet pans were different sizes from one toilet to another. Most of the nine school toilets had a small room size and a commode style sit-down ceramic toilet that did not meet universal design standards to enable wheelchair users sufficient space to turn around. Universal design of room dimensions is 2m x 1.75m and clear internal floor space of 1.5m x 1.5m. Toilet floors in all nine schools were made of ceramic tiles fixed to the ground. These tiles become slippery when wet. Universal design is slip-resistant flooring.

The findings highlight that good progress has been made in accessible WASH in schools in Cambodia, as evidenced by all schools having some accessible features such as ramps, doors opening outwards and handrails. However, to be full accessibility requires a more holistic view of the environment and consideration beyond ramps, as often getting to the toilet can be a barrier for children with disabilities. Handicap International promotes the RECU principle: Reach, Enter, Circulate and Use (Figure 6).

Reach: moving around the community to get to the service you wish to use from your home; affected by pathways, linking pathways, slopes, transportation systems, signage, tactile floor surface.

Enter: being able to get inside the building you wish to use; affected by steps, ramps, handrails, door width, door handles.

Circulate: being able to move about inside the building; affected by corridors, thresholds, door widths, resting places, signage and dimensions.

Use: being able to use the services and facilities; affected by dimensions and design of internal furniture and communication.

Figure 3-D. Accessibility principle: Reach, Enter, Circulate, and Use (RECU).

Despite the Accessibility and Safety Audit finding that the toilets were not fully accessible, teachers and principals reported that their WASH facilities were accessible to students with disabilities, with many citing the ramp as an illustration of the facilities' accessibility:

"The toilet has ramps for children with disabilities, and they need education"- Male teacher (KII)

This shows a lack of understanding that a ramp alone is not sufficient to meet full accessibility requirements for children with different abilities. As the WEDC (2011) inclusive school toilet design highlights, “external factors such as distance, location, and surrounding access are equally important.”

Beside ramps, another important feature affecting accessibility that teachers or school principals have not considered is the pathway to the toilet. This is a barrier in accessing toilets that could impact children with disabilities opportunity to attend school. Another gap in accessibility was small dimensions of the toilet rooms. Handicap International (2015) states that toilet rooms should have “clear internal floor space to enable a person using a wheelchair or caretaker to move.”

These findings demonstrate that schools failed to meet “reasonable accommodation” (DFAT, 2013) for children with disabilities, a principle used to make adjustments to ensure services and infrastructure is accessible. In school WASH, this means modifications to infrastructure. Due to lack of knowledge on disability inclusion and inclusive WASH, teachers and school principals thought that school toilets were accessible.

3.2.2 All schools had handwashing stations outside the toilet, however, some stations are difficult to reach

Accessibility and Safety Audits found the all schools had an internal water tank inside the toilet, but the water tank of two schools was too high, making it difficult to reach water after using the toilet. Handwashing stations outside were located in a difficult place to reach due to steps or bumpy pathways in most schools (Figure 7). In schools where handwashing stations were easier to reach, it was difficult for people with an impairment as the tap was hard to open.

Based on Handicap International’s universal design standards, and applying the principle of ‘Reach’ (See Figure 5), most of the schools showed that handwashing stations were in locations that children with disabilities could not easily access. This means that children with difficulty walking were not able to practice handwashing after using the toilet.



Figure 3-E. Examples of difficult to reach locations of handwashing stations.

3.2.3 Drinking water supply infrastructure did not meet universal design standards

Assessing accessibility of drinking water stations was difficult because in many schools children brought water from home. Universal design requires that drinking water stations

have a clear space of 1.2m in front of a drinking water station and clear space of 380mm-450mm either side of drinking water station at two height levels: 50cm and 90cm – 1m from floor level. None of the drinking water stations assessed met universal design standards, because of the height of drinking water was either too high or too low, and the drinking water stations didn't have clear space for wheelchair users (Figure 8).



Figure 3-F. Example of drinking water station.

3.2.4 All teachers and principals displayed a positive attitude towards the rights of children with disabilities to attend school

While the assessments aimed to focus on infrastructure, a critical finding from key informant interviews with teachers and school principals was that they had a positive attitude towards the rights of children with disabilities in accessing education. All of the teachers and principals responded that children with disabilities should come to school, and many cited families as a barrier to studies with disabilities accessing education. As reported by two teachers:

“They have equal rights to participate in society and access to education” – Female teacher (KII)

“The children with disability have to come to school and are not discriminated in education” – Male teacher (KII)

Negative or discriminatory attitudes towards people with disabilities can be a significant barrier to children accessing education. These data suggest that because school staff are supportive of children with disabilities attending their school, negative attitudes may not be a barrier to accessing education for children with disabilities.

3.3 Theme 3: Safety, privacy and dignity using WASH facilities at school

3.3.1 Many girls reported feeling unsafe when using toilets at school due boys looking, hanging around or locking them inside toilets

During eight of nine Accessibility and Safety Audits, female students reported that having access to a toilet provided more privacy, better hygiene, and dignity than going to the toilet in the open. However, most girls described feeling unsafe or scared when using toilets due to a range of factors mostly involving boys' behaviour. Girls described being at risk of boys spying on them through holes in the wall, roof, or gaps under doors (Figure 9):

"I feel a bit scared because I'm afraid; especially boys who look over through the gaps in the toilet walls and the gaps between the wall and the roof" - Female student Grade 4 (ASA).

"I defecated in a field when there was no toilet. Now, I feel happy when having the toilet at a school – walls and water – however, I'm afraid someone looks over through the gaps between the toilet walls and the roof; where they can stand up from the handwashing area. I was peered through the toilet door twice by boys" - Female student Grade 4 (ASA).



Figure 3-G. Example of broken door with peep holes.

Other girls reported that boys sometimes locked girls inside toilets. During the Accessibility and Safety Audits, girls also described boys "hanging around" outside the girls' toilets, and that this made them uncomfortable:

"Sometimes the toilet door was locked from outside by boys when I was inside. I also screamed for helping from someone" - Female student Grade 4 (ASA)

"I have to go with another person when I go to the toilet – one using the toilet and the other one waits from outside, because I'm afraid someone would lock the door from outside. If there are not two people, I wouldn't go to the toilet as there are many boys hanging out around the toilet" - Female student Grade 6 (ASA)

Distance of the toilet from the classroom was another factor which made girls feel less safe when using toilets:

"I always go to the toilet with my friend as the toilet is in a quiet place" - Female student in Grade 7 (ASA)



Figure 3-H. Example of toilets located far from school buildings.

At one school, none of the female students reported feeling unsafe. The students reported that the doors were lockable from the inside and that toilets had good water supply:

“I always use the toilet once or twice every day. I feel happy, and its easy to use because there is a scoop, water and soap to clean my bottom after defecation. I also feel safe as the toilet door can lock and boys couldn’t see” - Female student Grade 2 (ASA)

In contrast to the girls’ reports of feeling unsafe due to lack of privacy when using toilets, seven of the nine school principals interviewed felt that the school toilets were safe for all children to use. In fact, the two safety concerns raised by principals were different to those of female students and did not relate to the behaviour of male students at all. One principal cited lack of water supply and another that the toilets were not safe for students with physical disabilities to use. No teacher or principal reported boys’ behaviour as a risk to the safety and security of girls. However, the teachers acknowledged that girls had developed their own strategies to feel safer when using toilets:

“Yes, male students do not use, and female students always go with their friends. When the girls use, other girls can guard the door” - Female teacher KII

These findings demonstrate that girls’ safety at school when using toilet facilities is compromised due to poor infrastructure designs that do not meet their privacy needs. Studies of schoolgirls’ experiences of menstruation at school in Western Kenya (Oduor et al., 2015) and in India (Sommer et al., 2013) have reported similar findings. Furthermore, these findings highlight that engaging boys is essential for creating a safe school environment for girls. Girls self-reported fear and experiences of vulnerability demonstrate the need to increase education to boys to reduce teasing and bullying and to create an enabling, safe environment at school.

These findings also highlight that teachers and school staff appear to be either unaware or unwilling to take action to address boys’ behaviour. This results in girls being left to develop their own coping tactics, such as going in pairs, having a friend guard the door, or wearing a skirt to have more privacy if boys peak under the door. The teachers see it as appropriate that girls are developing their strategies.

This lack of privacy impacts menstruating girls' ability to manage menstruation privately, discretely, and safely at school. This is discussed further in theme 4 on MHM. UNESCO's 2014 Guidelines on MHM in schools also address safety and privacy, stating that "to promote psychosocial well-being, the school should be a place where all are free from fear" (UNESCO, 2014). Improving approaches and design of WASH in schools in Cambodia requires the participation and voices of girls of all ages to ensure that their concerns, needs, and desires are met.

3.3.2 Toilet designs and facilities were sex-segregated, but not adequately and in practice boys and girls were sharing toilet facilities

During WASH observations, only four schools had sex-segregated toilets, while the others were mixed. Schools with sex-segregated toilets had the gender marked by a sign above the door. However only two schools, which were using the same design, had a wall providing meaningful separation between male and female toilets. All FDGs found that it was important to both girls and boys to have separate toilets, and nearly all students reported that they did not like sharing a toilet with the other sex:

"We are using together.... I don't like. I don't want to use together with girls." - Boy in SRP

Girls and boys reported using each other's toilets when their own sex designated toilet had no water, was dirty, or had broken locks:

"Yes, we mix. It has a notice for boy and girl, but we use together, and the boy toilet is cleaner than girl toilet" - Boy in PNP

"The male toilet has a lock, but the female toilet doesn't have... sometime we use the male toilet.." - Girls in PNP

Seven of the nine schools did not have separate handwashing facilities for girls and boys. None of the accessible toilets for students with disabilities were sex-segregated. Mothers also reported that separate male and female toilets were important for safety and privacy for girls and boys. When asked about whether there was privacy and separation between boys and girls, principals and teachers reported that toilets were sex-segregated between male and female students, which provided privacy despite the data showing that many of the toilets were not sex-segregated. One interview with a secondary school principal found that teachers and students shared toilets:

"Because there are few teachers, there is no separate toilet, and the school has enough toilets." - Male principal, secondary school KII

Girls and boys also identified meaningful separation between girls and boys toilets in their dream toilet drawings. These findings build on previous MHM research in Cambodia, where school girls self-reported that having a designated separate toilet located in the same toilet block was not sufficiently private. In other studies, girls have reported that distance from boys toilet, not being seen to go in and out, not having boys walk past, and having a physical barrier such as a wall or tree were important for privacy (Connolley and Sommer, 2013). Although meaningful separation is desired, girls do not want the toilets to be located too far from the classrooms, and in the dream toilet drawings located the toilets 5 to 10m from the classrooms.

3.4 Theme 4: Managing menstrual hygiene management at school

3.4.1 Most girls had little knowledge about menstruation, learnt mostly from family members (not peers or school teachers)

Girls reported that they mostly felt worried and scared about getting their first period. They sought support from female family members (mothers, aunties and sisters) to learn how to manage menstruation. One girl reported:

“I am scared when I see my period for the first time.... It was last year during my English class. I come back home and tell my mum and my aunt. My aunt showed me how to use sanitary pad” - Girl in PNP

The FGD's and KII's found that teachers do not provide support to girls to manage menstruation at school. Girls reported that they do not feel comfortable speaking about their menstruation with their teachers. Girls also reported they returned home if they got their period at school.

“I have my period at school, and I ask teacher to go back home by not telling the truth that I am having period, but I tell him I have a headache instead.” – Girl in KCM

“The girls never come to talk to me about menstruation... I have no idea [about challenges] because the girls never talk about it” – Female teacher

Nearly all teachers and principals felt that the reason girls did not discuss menstruation with them was because they were “too shy”. Mothers also reported that their daughters did not discuss menstruation with teachers:

Interviewer: “What challenges does your daughter face managing menstruation at school?”

Mother: “She feels very shy to talk about it.”

One teacher felt that, despite educating girls about menstruation, they remained shy. Despite female teachers reporting that girls never spoke to them about menstruation, some male teachers assumed that girls spoke with the female teachers:

“I don't know. I have never seen, but I tell the girls to see the female teacher... if they have menstruation” – Male teacher

Peer support was not a common source of knowledge or learning about menstruation, and girls reported that they did not talk to one another about menstruation:

Facilitator: “Your friends in the classroom or at home, have you ever talked about menstruation with them?”

Girls: “No, I never hear or talk with her [classmate sitting next to her]. We never talk... We shouldn't talk about it. I am shy to talk about it.”

“I only know she [friend] has period but not talk about it” – Girls in KCM

These findings indicate a gap in knowledge about menstruation, as girls felt scared to discuss menstruation prior to reaching menarche. They also show that girls are reluctant to talk about menstruation with anyone other than their female family members. These findings are similar to research in India, where prior to menarche, half of girls had no information

about menstruation (Sommer et al., 2013). Increased knowledge about menstruation prior to menarche has been found to ease girls' fears and concerns (Connolley and Sommer, 2013).

3.4.2 Some students had a biology lesson on menstruation at school but to a varying degree of quality

Some students reported that they had a lesson on puberty and physical body changes at school, while others had received none. Students who had been taught reported that puberty was a difficult topic for male teachers to teach, and students felt that it was more appropriate for this class to be taught by a female teacher:

"He [male teacher] doesn't read the lesson in the class. He just tells the students to copy the lesson from the book to their notebook..... If we have questions, we go back to ask our mother or sister at home.." Girl in KCM

"I had a female teacher for this class ... she explained about menstruation and hygiene." Girls in PNP

One male teacher said he would teach menstruation if a lesson or curriculum were provided. However, he was concerned that boys would tease girls during this lesson. A key recommendation from many teachers during interviews was for students to receive hygiene education on menstruation. One male principal felt female teachers should educate girls on how to use sanitary pads:

"Meet the girls once or twice a month; introduce them to looking after their body and manage menstruation" – Male teacher

Menstruation is partially included in the school curriculum in Cambodia under science and biology in Grade 6 and Grade 9. This assessment found that the quality of teaching varied, suggesting that teachers are not well equipped to teach this sensitive topic. These findings are similar to prior research on MHM in Cambodia, in which girls reported feeling more comfortable being taught about menstruation by a female teacher (Connolley and Sommer, 2013). Education related to menstruation requires cross-sectoral efforts, particularly with sexual and reproductive health rights (SRHR) experts who are skilled at addressing taboo topics and can position menstruation on the spectrum of SRHR (Sommer et al., 2016).

3.4.3 Inadequate WASH facilities at school meant girls faced challenges in safely, hygienically and effectively managing menstruation at school

During FGDs girls described a lack of clean toilets, water, and soap as a challenge to managing menstruation, particularly changing sanitary pads, at school. One impact of this lack was that girls reported using the same sanitary napkin for the whole day of classes or returning home to change their sanitary pad, thus interrupting their school day. One girl described wearing many pairs of pants during her period to avoid a stain appearing on her clothes. Similarly, mothers felt that lack of water, soap, and other cleaning materials made it difficult for girls to manage menstruation at school and reported their daughters would come home during the school day to manage menstruation:

"There is no water at school so my daughter come to change napkin at home" - Mother KII

Teachers reported similar challenges, with three reporting a lack of soap for handwashing and three reporting a lack of water supply as a key challenge.

“When they [girls] use the toilet they are not able to do like at home if they want to take a shower.” – Female teacher KII

However, when asked what would improve menstrual hygiene management in schools, only one principal recommended cleanliness and water supply. Once girls start menstruating, they experience additional WASH needs to safely, hygienically, and privately manage their period (WaterAid, 2013). Menstruating girls are more impacted by lack of access to WASH than their male peers. In their dream toilets, girls imagined having water available in every toilet. Given that WASH observations identified that a third of schools had unclean toilets and no water for washing inside the latrine, the current state of school WASH is likely challenge for menstruating girls. It is critical to create an enabling environment in schools to ensure girls have access to the same education opportunities as boys.

3.4.4 Lack of safe disposal facilities for sanitary materials was a challenge to managing menstruation in school

No schools had disposal facilities inside latrines to allow girls to dispose of sanitary items discretely and hygienically. Girls reported that they carried black plastic bags in order to carry used sanitary pads back home with them. Two mothers reported that lack of disposal facilities at school meant girls returned home during school day to manage their menstruation:

“I think there is no disposal so my daughter runs home when she wants to do the same. Her friends do the same” – Mother KII

Eight of nine teachers also reported a lack of disposal facilities as a challenge for girls managing menstruation in schools, although none reported that girls returned home as a solution:

“There is no incinerator, no dustbin” – Female teacher KII

Despite nearly all teachers reporting disposal as a key challenge to managing menstruation at school, only three teachers, two mothers, and two principals recommended provision of safe disposal facilities to improving menstruation management at school. Two female teachers and one male teacher felt the onus was on girls to manage their own disposal:

“The girls bring a black plastic bag from home for napkin” – Female teacher KII

These data show that, due to limited access to waste management systems at schools, disposal of sanitary pads has become a challenge. Global research on MHM identifies disposal as a common barrier for girls addressing menstruation at school (Winkler and Roaf, 2014). In many contexts, qualitative studies have found that girls dispose of materials into toilets (Odour et al., 2015), which can impact toilet functionality. The findings here demonstrate similar challenges and the need for schools to provide a safe, discreet, and effective disposal mechanism for girls to meet their menstruation needs at school.

As all rural schools disposed of solid waste by burning, a more effective solution to safe disposal of sanitary items would be a burner with a chute connected to the toilet facility. This solution has the benefits of simplicity, by reducing the need for the school management to maintain a supply of solid waste containers and for someone, most likely students, to empty these. Furthermore, this solution requires no water supply for cleaning, an important consideration where water supply is unavailable in many schools for part of the year. A burner is more discrete and more hygienic than solid waste disposal containers, as the chute minimises contact with waste before burning. There are a number of health and safety

issues to be aware of and manage during the design and operation of burners, but given that schools are regularly burning solid waste issues are likely surmountable. WaterAid recommends that schools in Cambodia pilot burners as a solution for MHM. See Annex 3 for a full description of the burner design.

3.4.5 No sanitary pads or other materials to manage menstruation were available at school

The assessment found that one out of nine schools had sanitary pads available in first aid supply, and the girls at the FGD for that schools said they did not know that the school had pads available. This lack of knowledge led to girls leaving school to access sanitary materials. One girl reported:

“Once I have my period in school, I run to buy [a sanitary pad] at shop near school” - Girl in KCM

“There are no sanitary pads at school. I go back home” - Girl in SRP

Only one teacher reported that the school kept a supply of sanitary napkins available for girls. Another teacher reported that she would give girls sanitary napkins from her own supply if they needed them. Mothers felt that access to sanitary pads at school was a challenge for their daughters:

Interviewer: “What is a challenge your daughter faces managing her period at school?”

Mother: “My daughter does not bring napkin with her.”

A key recommendation by mothers to enable girls to manage menstruation at school more effectively was for schools to provide more support:

“School should have [a place for] disposal and napkin at office when the girls need and medicine for pain” - Mother KII

Some teachers made similar recommendations, although not all. Teachers also reported they did not have pain management medication available to support girls’ management periods at school:

“The school should reserve some clothes for girls to change, have black plastic bags available, and have napkins at school” – Male teacher

Access to sanitary materials to absorb blood is a key factor to adequately address MHM for girls in school (WaterAid, 2013) These findings show that lack of access to sanitary pads is another challenge to managing menstruation at school. One small budget measure that schools could take is to keep a supply of sanitary pads and ensure girls know pads is there if needed.

3.4.6 Girls reported missing school during menstruation

Girls, teachers, and mothers reported that girls missed school during menstruation. However it is difficult to ascertain exactly why:

“The girls ask teachers to go home because of health issue. They quit class for 3 or 4 days, there is no painkiller for menstruation at school. If the girls are seriously ill, the school calls parents to get their children home” – Male teacher

One teacher reported that girls didn’t attend school during menstruation:

“The students are shy and dare not come to school” – Female teacher KII

One teacher felt that a barrier to supporting girls’ MHM at school was that school staff in decision-making roles were male and therefore not concerned about menstruation:

“The vice principal is male, so he does not pay attention much about menstrual hygiene management” – Female teacher KII

School absenteeism is difficult to attribute to MHM, and while some small scale studies have been done in Africa (Grant et al., 2013), there is a gap in global evidence linking MHM to absenteeism, and no evidence exists from Southeast Asia. The data here suggest some level of school absenteeism, ranging from brief visits home during the school day to change sanitary napkins at home to skipping full days of school to manage pain and blood flow. More research is needed to understand the impact of menstruation on school absenteeism in the Cambodian context.

4. CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

Quality school WASH programming requires specific attention to the design of water supply, toilets, and handwashing facilities to ensure they are **safe and private for girls and boys**; are **accessible to children of all ages and abilities**, and **meet the menstrual hygiene needs of girls and female teachers** attending school. These elements can often be overlooked if the challenges around disability, menstrual hygiene, safety, and dignity are not well understood.

The findings presented here demonstrate that school WASH approaches in Cambodia can be strengthened to improve accessibility, safety, privacy, and sustainability.

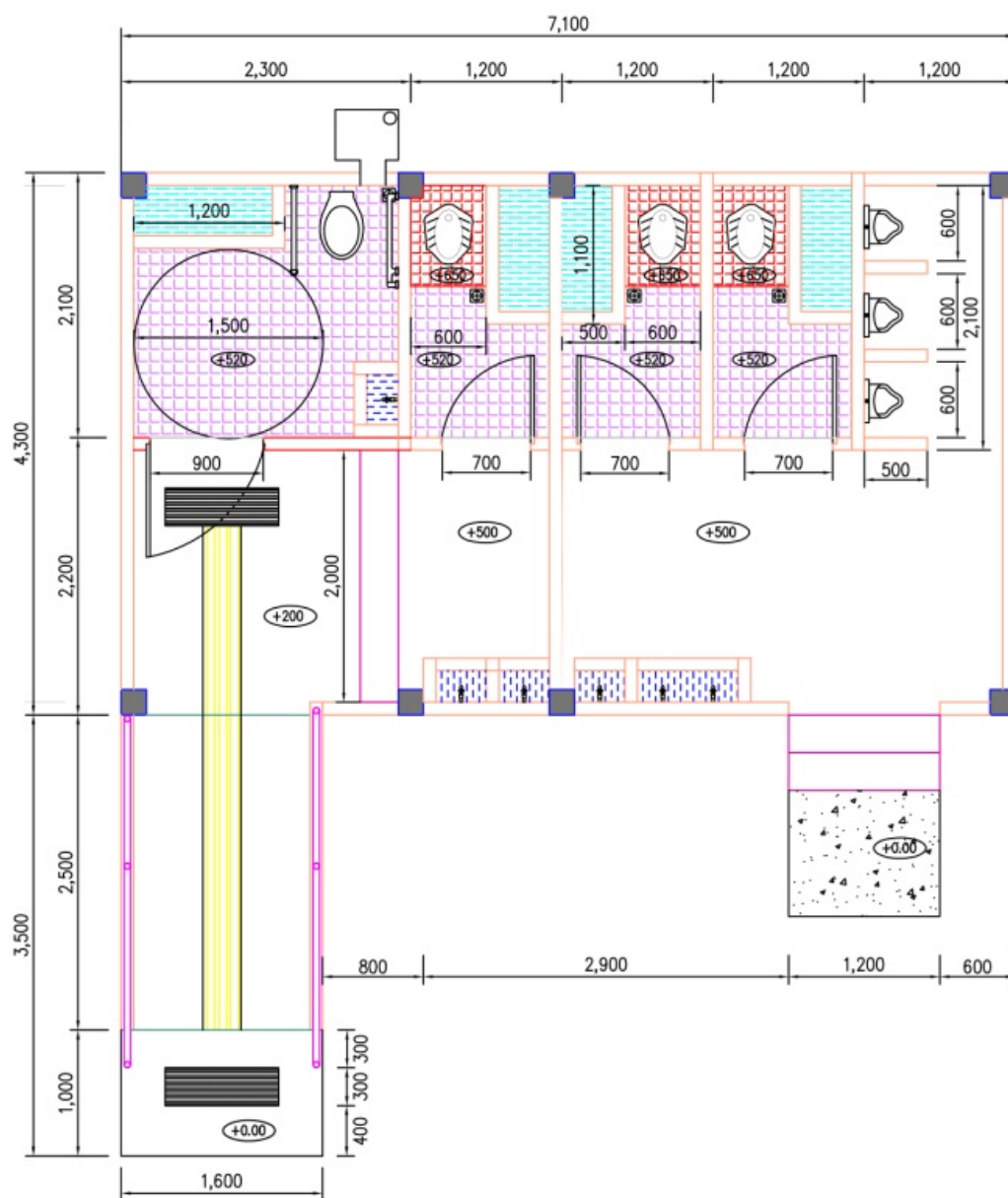
Most importantly, many of the findings presented here are drawn from school girls and boys themselves. This assessment captures their voice, lived experiences, and practical recommendations. It is critical that they are central to development efforts to improve the safety and quality of their education environment.

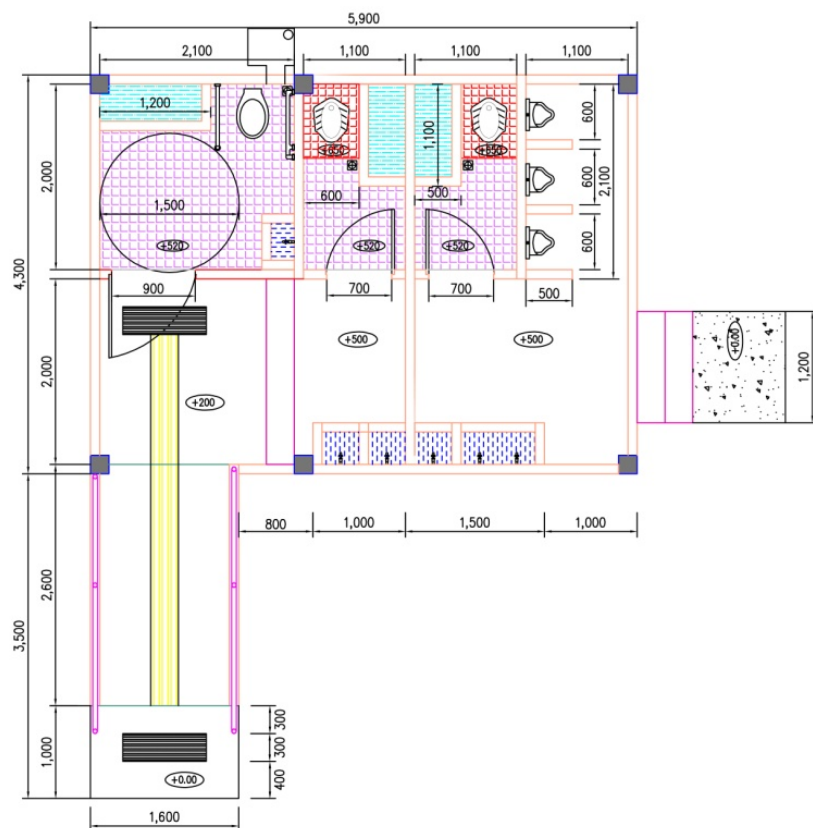
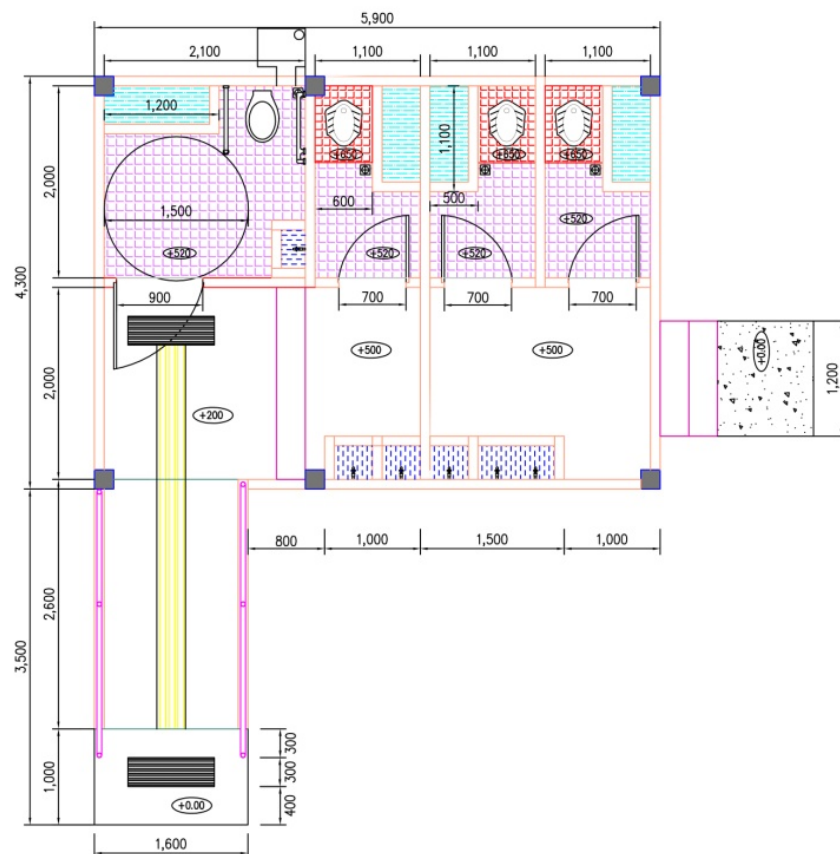
4.2 Recommendations

25. Adopt infrastructure designs for WASH in schools with accessibility, safety and privacy and menstrual hygiene management features

Based on the findings of the assessments, new school toilet designs have been developed. The new designs take into account the needs of girls and have good accessibility, safety and privacy features suitable for the Cambodian context and to create a safer learning environment for girls and boys in school. These designs are presented at Annex 3, including a detailed description of design features and comparisons with universal design standards. It is recommended that WASH in school partners trial the designs followed by a participatory evaluation including feedback from girls and boys, including children with a disability. Evaluation findings can be used to further refine the designs.

Figure 4-A. Recommended new toilet block designs. Layout of toilet building, top view. (Four rooms with urinals, four rooms no urinals, three rooms with urinals)





The Table below provides an overview of the accessibility, safety and privacy and menstrual hygiene management features in the new designs:

Table 9. Accessibility, safety and privacy and menstrual hygiene management features in new design.

Improved feature	Rationale
Accessibility	
Pathway	Easier to reach toilet.
Ramp with max gradient of 1:20	Easier for wheelchair users as not too steep.
Handrail on each side, at two heights of handrail on each side	To support wheelchair users and children with mobility and visual impairments.
Ramp has a raised edge	To avoid trip hazard.
Door opens outwards and width 900mm, height 2m and handle is a bar at low height	Easier for wheelchair user and people with difficulties using hands to open door and enter toilet.
Apron is 1.9 m x 1.8 m	Allows wheelchair users and carers enough space to open door.
Toilet room is 1.5 m radius	To allow wheelchair user to turn around. Also gives more space for carers.
Handrails on both sides of toilet	Makes easier for wheelchair user to transfer to toilet seat, also gives guidance to people with vision impairment.
Toilet seat is a raised seat	People with physical impairments do not have to squat.
Water supply for anal cleansing is at max height of 700mm	Wheelchair users can reach.
Handwashing facility inside toilet room and at lower height	Easier for person with disability to access.
Safety, privacy and dignity	
Wall separates girls and boys toilets and a 1m wall along front of block	Provides privacy so girls and boys cannot see each other entering and leaving toilet blocks.
Doors have no gaps	To prevent people from looking inside toilet.
Locks: Doors can be locked from inside. Outside locks require a key	To allow girls and boys to privately use toilet and to prevent other students locking one another inside the toilet.
Ventilation cement bricks are high on toilet walls	Allows privacy, light and air into toilet but there is no gap. This improves safety and privacy and make use easier for people with vision impairment.
Location is an important consideration	Location in a safe area improves feeling safe and secure, especially for girls.
Menstrual hygiene management	
Burner with chute attached to toilet	Allows for safe disposal of sanitary pads and other solid waste. Reduces the need to empty bins, allows solid waste to be burned safely. Allows girls to dispose discreetly of sanitary pads.
Water tank inside latrine	Provides discreet place for girls to wash and clean themselves and their clothes during menstruation.

Research and action learning recommendations

26. Whilst there have been a few studies undertaken in recent years, there is a need for more quality formative research (such as knowledge attitudes and practice either school-based or community based) on menstrual hygiene management in Cambodia.
27. WASH in School partners implement small scale action research initiatives to pilot approaches to menstrual hygiene management and accessibility. As a priority burners should be tested as a disposal mechanism for used sanitary products in Cambodia.
28. As accessibility and menstrual hygiene management features and designs are implemented, a careful analysis of the cost of these elements is documented and disseminated.

29. At a broader level, research is needed to understand the barriers and enablers to children with disabilities accessing education and what role perceptions around WASH play.

Programming and infrastructure recommendations

30. WASH in School partners pilot best practice school WASH designs which are accessible, child-friendly and MHM-friendly.
31. WASH in School partners facilitate participation of school students in design of WASH in schools infrastructure, to ensure their voice is heard as a key stakeholder (e.g. location of toilets).
32. WASH in School partners embed specific budget allocations to implement accessible WASH infrastructure in schools.
33. WASH in School partners actively promote safety and security of girls and boys as a key design feature in school WASH.
34. Schools' operation and maintenance budget includes a small allocation for sanitary pad supply in case girls require it.
35. WASH in School partners increase participation of children with disabilities in school WASH activities, as an entry point for increasing access to education. This could be done through greater collaboration with Disabled Peoples Organisations and children with disabilities support networks.
36. WASH in School partners promotes the importance of inclusive WASH in school with school management (school principals/teachers) through awareness raising activities.
37. WASH in School partners incorporate education on menstrual hygiene management into all education-based programs (beyond WASH) to improve knowledge, attitudes and practice of girls and boys.
38. Menstrual Hygiene Management Education programs include a focus on boys to raise their awareness of Menstrual Hygiene Management and privacy and how to behave towards girl in a good manner.

Monitoring and evaluation recommendations

39. As the Education Monitoring Information System (EMIS) evolves, information on accessibility, safety and MHM infrastructure is captured.
40. WASH in School partners assess the design of school WASH infrastructure designs used by partners from an accessibility, safety and menstrual hygiene management perspective prior to construction.
41. UNICEF WASH in School partners ensure all monitoring processes include indicators for accessibility, menstrual hygiene management and child-friendly WASH, including capturing user perceptions (students). A simple checklist is developed for WASH in Schools staff to use on monitoring visits to schools. WASH in Schools staff are trained on how to conduct Accessibility and Safety Audits and such audits are conducted together with representatives of Disabled Persons Organisations during monitoring visits.

Advocacy recommendations

42. UNICEF plays a coordination and facilitating role in programming which address menstrual hygiene management across multiple sectors within UNICEF itself and the Royal Government of Cambodia, including education, sexual reproductive health and rights, gender and WASH.
43. UNICEF leads advocacy on menstrual hygiene management, by bringing visibility to the global "MHM in Ten" campaign to Cambodia and the global menstrual hygiene management day in May. MHM in Ten is a joint aim for the ten-year agenda: "Girls in 2024 around the world are knowledgeable about and comfortable with their

menstruation and able to manage their menses in school in a comfortable, safe, and dignified way” (UNICEF, 2014).

44. WASH in School partners promote use of the Accessibility and Safety Audit Tool as an awareness raising activity and information gathering process.

Policy and framework recommendations

45. The next version of the School Health Policy includes menstrual hygiene management.
46. The School and Community Water Sanitation and Hygiene Guidelines issued by the MRD and MoEYS in 2011 are revised to include menstrual hygiene management, accessibility and safety issues.
47. The MoEYS Quality Control Guidelines for School Building Constructions (2012) be revised to include accessibility features as a minimum standard in the water, sanitation and hygiene section.
48. The MoEYS Child Friendly School Policy be revised to include elements of accessibility, menstrual hygiene management and safety and privacy in dimension 3 and 4.

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