



WASH in Schools Empowers Girls' Education in Rural Cochabamba, Bolivia

An Assessment of Menstrual
Hygiene Management in Schools



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WASH in Schools fosters social inclusion and individual self-respect. By offering an alternative to the stigma and marginalization associated with hygiene issues, it empowers all students – and especially encourages girls and female teachers. In recognition of the positive impact on girls' school attendance and achievement, initiatives around the world are addressing adolescent girls' menstrual hygiene management (MHM) needs through WASH in Schools programming. Such interventions are increasingly implemented in both development and humanitarian emergency contexts.

In 2012, UNICEF and the Center for Global Safe Water at Emory University initiated a programme to support collaborative research focused specifically on exploring the MHM challenges faced by female students in Bolivia, the Philippines, Rwanda and Sierra Leone. The project includes developing or strengthening MHM-related programming in schools in those countries.

Emory University sent research fellows to work with UNICEF and its in-country WASH in Schools partners on the programme. The assessment activities conducted and themes explored were guided by an ecological framework that covers societal, environmental, interpersonal, personal and biological factors. Questions for qualitative data collection were created to investigate and understand the personal challenges and needs girls have during menstruation in the school setting. The results are now published as a series of reports, including 'WASH in Schools Empowers Girls' Education in Rural Cochabamba, Bolivia: An Assessment of Menstrual Hygiene Management in Schools'.

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Executive Summary

The onset of menstruation presents multiple challenges for schoolgirls. Many girls lack the knowledge, support and resources to manage menstruation in school. This project aims to understand the scope of education and health challenges faced by girls in Cochabamba, Bolivia. Findings will inform strategies that mitigate challenges and appropriately support adolescent girls at school during menstruation.

Data were collected in rural communities in the municipalities of Tacopaya and Independencia of Cochabamba, Bolivia. Methods included an in-country desk review of research, policy and practice related to menstrual hygiene management (MHM); focus group discussions and in-depth interviews with girls; focus group discussions with mothers, boys and teachers; and key informant interviews with teachers, health professionals and school administrators. Structured observations of school water, sanitation and hygiene (WASH) facilities were performed at 10 schools.

Findings focus on the challenges surrounding menstrual hygiene practices from the perspectives of schoolgirls, teachers, male classmates and mothers. Major challenges discussed by schoolgirls focused on feelings of fear and shame during their menstrual cycle, associated with their inability to maintain privacy while managing menses in school. Girls were worried that peers and teachers would know they were menstruating. They especially feared exposing themselves through bloodstains and odour because this led to teasing from classmates.

The challenges girls faced had health and education impacts, including girls' self-exclusion, reduced school participation, distraction, missed class time, absenteeism and fear of pregnancy. Participants also suggested detrimental long-term education and health risks due to the inability to properly manage and understand menstruation, including school dropout, infections, long-term mental health consequences and unplanned pregnancy.

Determinants of challenges included sociocultural factors associated with rural Bolivian communities and schools, lack of practical guidance on MHM and a biological understanding of menstruation, inadequate school facilities and limited access to absorbent materials. Participants provided recommendations to expand education, provide workshops, programmes and training about menstruation, and improve WASH facilities in schools and girls' access to absorbent materials for managing menstruation.

An analysis of the challenges and recommendations from the data incorporates the participants' recommendations. It further encompasses additional needs required to fill the MHM gaps, such as: the specific topics to be addressed in menstruation education and how information should be delivered to students in schools and to community members; systems for WASH facility maintenance; improvements of current WASH facilities and policies; future WASH infrastructure innovations to facilitate MHM practices; and systems that create access to absorbent materials for schoolgirls.

Introduction

Assessment background

The Government of the Plurinational State of Bolivia has made advancements in WASH in Schools during recent years, although current education and health policies do not yet specifically address menstrual hygiene. Research from other countries has found that the onset of menstruation presents several challenges for girls in school. Girls report experiencing stress, shame, embarrassment, confusion and fear due to a lack of knowledge, an inability to manage menstrual flow or from being teased by peers [1–3]. These challenges may negatively impact girls’ learning experiences and result in absenteeism, distraction, decreased school participation and falling behind in course work [4–6].

Girls may face these challenges as a result of poor menstruation-related knowledge; insufficient access to menstrual hygiene materials; and inadequate school water, sanitation and hygiene (WASH) facilities for personal cleaning and washing their clothes or menstrual cloths, privately changing materials and discreetly disposing of menstrual hygiene materials [6–9].

The experiences girls face at school in Bolivia during menstruation had never been formally researched before this project. Data collection in Bolivia was part of a multi-country assessment of the challenges girls face in schools that included the Philippines, Rwanda and Sierra Leone. The overarching aim of this collaboration was to understand the range of challenges faced by schoolgirls during menstruation, as well as the determinants of those challenges, and to provide recommendations for stakeholders.

This report presents the challenges and determinants identified, the impact that those challenges have on girls’ health and education, and a discussion of the most important programmatic recommendations in light of these findings. Report tables provide a complete, detailed list of recommendations based on determinants and impact, as well as a list of recommendations made by participants.



Source: United Nations Cartographic Section, www.un.org/depts/Cartographic/english/htmain.htm.

Country context

Current education initiatives

Bolivia's public education system is based on the concept of 'productive socio-community', stemming from the *vivir bien* (live well) paradigm that takes a holistic approach to teaching by focusing on the relationships between communities of people and 'Mother Earth'. The approach ties principles from traditional indigenous belief systems, such as the relationship between Mother Earth and the cosmos, to central teachings in the curriculum and promotes coexistence between the natural environment and community health [10].

The Ministry of Education is currently updating the national curriculum. The draft curriculum includes responsible sexuality, the elimination of patriarchal gender relationships and community hygiene to prevent endemic diseases [11]. Although menstruation is not yet specifically mentioned, menstruation and menstrual hygiene management could be included within these curriculum topics.

The Ministry of Education has developed an educational web portal called 'educabolivia' that provides resources to help teachers with materials and lesson plans. Detailed biological explanations of menstruation are available online from Asociación Española para la Cultura, el Arte y la Educación (Spanish Association for Culture, Art and Education) via educabolivia [12]. But accessing this information is a challenge for teachers working in rural areas. While a recent implementation of 'Una computadora por docente'^a aims to provide one computer per teacher, teachers do not always have Internet access and may not be knowledgeable about the resources available through educabolivia [13].

WASH in Schools environment

WASH conditions in Bolivia need improvement at both the community and school level (see table 1).

Table 1. WASH and education statistics, Bolivia

Household access to improved water ^a	88%
Household access to improved sanitation ^a	27%
Primary education gross enrolment ratio ^b	100%
Secondary education gross enrolment ratio ^b	81%
Number of initial schools nationwide ^c	8,063
Number of primary schools nationwide ^c	14,271
Number of secondary schools nationwide ^c	3,804
School access to water ^d	87%
School access to sanitation ^d	61%
School access to hand-washing facilities ^d	32%
School access to showers ^d	29%

a. JMP 2012 [14].

b. UNESCO 2012 [15].

c. Bolivia Education Statistics 2009 [16].

d. Note: The data on sanitation did not categorize 'improved' or 'not improved'; regarding hand-washing facilities, there were no data on the availability of soap.
Ministry of Education Information Management System (SIE) data set, 2009 [17].

^a In October 2012, the Ministry of Education began implementation of the *Una computadora por docente* (One computer per teacher) project, distributing free laptop computers to more than 5,000 teachers in Cochabamba in an effort to incorporate information and communication technologies in the learning process.

The Ministry of Environment and Water, in close coordination with the Ministry of Education, created the National Sanitary Education Program in 2010. Programme components focus on water saving, safe water consumption, waterborne diseases, safe sanitation conditions, waste management and hygiene promotion in schools.

UNICEF currently works with the Ministry of Environment and Water and the National Service for Sustainability of Basic Sanitation Services (SENASBA) to strengthen capacities among Community Development Managers (Técnicos DESCOM), with specific attention to rural areas and communities with small populations. Other organizations involved in WASH in Schools issues in Bolivia include: UNICEF; the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) PROAPAC (cooperation programme for water and sanitation in small and medium cities); Programa de Agua y Saneamiento del Banco Mundial (PAS/BM, World Bank); World Vision; Federación de Asociaciones Municipales de Bolivia (Federation of Municipal Associations of Bolivia); Save the Children; El Centro Boliviano de Investigación y Acción Educativas (Bolivian Centre for Educational Research and Action); Autoridad de Fiscalización y Control Social de Agua Potable y Saneamiento Básico (Regulatory Authority and Social Control of Drinking Water and Basic Sanitation); and Fundación SODIS.



The experiences girls face at school in Bolivia during menstruation had never been formally researched before the Emory University-UNICEF assessment. The students shown above are participating in a school parade in Independencia.

Photo credit: Jeanne L. Long, 2012

Research from the WASH in Schools mapping programme found significant gaps in WASH provisions in rural schools compared to urban schools [18]. Access to water and sanitation – and therefore the ability to practise adequate hygiene – were challenges for Bolivian children attending rural schools. According to Ministry of Education data based on all schools, pit latrines (63.7 per cent) are the most common form of sanitation in rural Bolivian schools, followed by open defecation (10.8 per cent). Rural schools have an average of one toilet or lavatory per school. Only 32 per cent of schools have hand-washing basins and 29 per cent have showers on the school premises; 13 per cent of schools do not have access to a water system [17].

UNICEF has initiated and evaluated two intervention programmes to confront sanitation challenges in rural schools and communities in five departments of Bolivia. The first is a programme focused on construction of urine diverting dry (UDD) toilets in rural schools, including an anthropological study of UDD toilet use in rural Andean regions of Bolivia. The second is a pilot of Community-Led and School-Led Approaches to Total Sanitation, a methodology used to mobilize communities to eliminate open defecation by raising awareness, changing behaviour and creating sustainable, locally appropriate solutions. The Total Sanitation pilot showed promise and was recognized as an effective method to spark behaviour change within rural communities, though acceptability of human faeces as manure remains a limitation [19].

There is a strong momentum to improve WASH in Bolivia, as exhibited by the coordinated approaches between ministries, UNICEF and non-governmental organizations (NGOs). According to the National Institute of Statistics, in 2006 there were 76 different NGOs working in Cochabamba, of which 8 are dedicated to health, 9 to basic sanitation, and 15 to education and culture [20]. To the best of our knowledge, none of these organizations is currently involved in MHM programming, however, many are well positioned to integrate MHM-related programmes via WASH and/or education mechanisms that are already in place.

Methods

School selection

Assessment activities were conducted in Cochabamba from 14 August–8 November 2012, in the municipalities of Tacopaya and Independencia. Representatives from Emory University, UNICEF, SENASBA and Fundación SODIS selected municipalities and schools to participate in the research. Schools were purposively sampled to examine differences between two common types of school settings and distinct climate regions within Cochabamba.

Schools were selected with the following characteristics:

- Located in Tacopaya or Independencia Municipalities
- Located in disperse Quechua communities with less than 500 people
- Contained secondary-level grades
- One of two school types: (1) *núcleos* – central schools in a group of affiliated smaller schools in the same region; and (2) *internados* – central schools or private Catholic schools where students board during the week.

Table 2. Summary of school characteristics

Type of school	No. of schools, Tacopaya	No. of schools, Independencia	Totals, by type of school
<i>Núcleo</i>	5	2	7
<i>Internado</i>	0	3	3
Total no. of schools selected			10

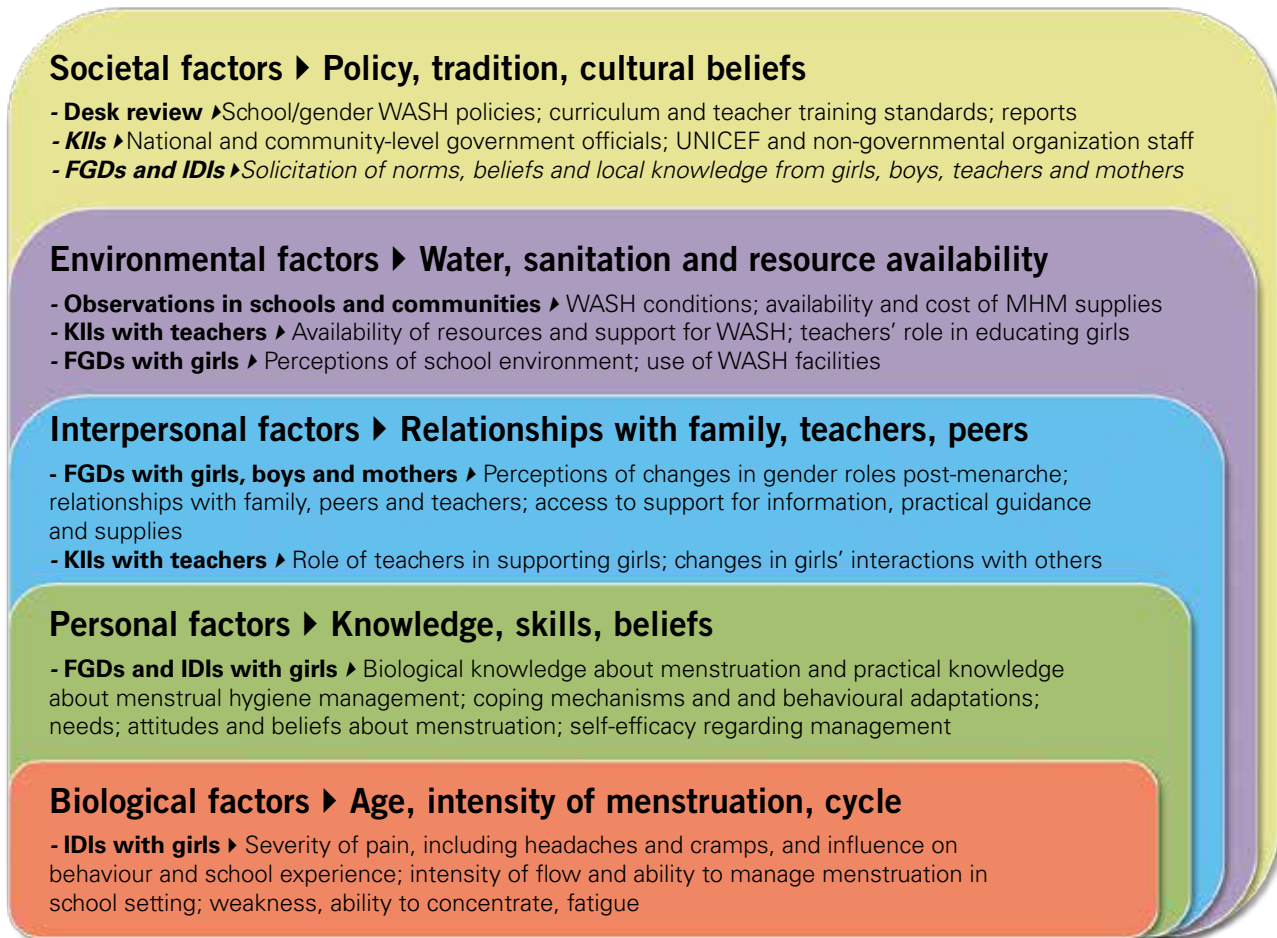
Data collection

Activities

The activities conducted and the themes explored by the researchers were guided by the theoretical ecological framework of factors expected to influence MHM (*see figure 1*). Questions for qualitative data collection were created to investigate and understand the range of personal challenges and needs girls had during menstruation in the school setting, from the perspectives of the girls, and their families, peers and teachers. All activities included a segment allowing participants to make recommendations on how the community, school and local government could improve girls' experiences at school.

A total of 157 participants from 10 schools and their surrounding communities were engaged in the research activities (*see table 3, page 8*). Focus group discussions (FGDs) were carried out with girls, boys, mothers and teachers; in-depth interviews (IDIs) were carried out with girls; and key informant interviews (KIIs) were carried out with teachers, school administrators and community health professionals. In addition, observations were carried out at all 10 schools.

Figure 1. Ecological framework for MHM research activities and themes



Authorization to conduct activities in schools was obtained from three local levels: the mayor of each municipality, the Director of Education of Cochabamba and the director of education for each district. Local research assistants facilitated activities with students and mothers, primarily in Quechua. Participants were given the option to hold conversations in Spanish if preferred. Interviews with school staff and health professionals were performed in Spanish by the Emory researcher.

Focus group discussions – Separate FGDs were performed with girls, boys, mothers and teachers, with up to eight participants in each session. FGDs with girls focused on typical experiences girls have at school while menstruating, as well as typical practices and beliefs. FGDs with mothers, boys and teachers were performed to triangulate and expand on findings from the discussions with girls. These discussions focused on the same themes, while offering researchers varied perspectives on girls' challenges and experiences.

Due to cultural norms surrounding menstruation noted during piloting of the tools, female students were found to be hesitant about openly discussing menstruation with research assistants in front of their peers. To help girls become more comfortable in participating, a board game was developed for data collection during focus group discussions. Questions were adapted from the FGD tool produced for this research to create a game-like format that encouraged interactions between girls and gave them opportunities to work in small groups to come up with the answers. The FGD board game incorporated drawing, writing and brainstorming activities (*see photos, page 8*).

Table 3. Activities completed and participants included during MHM research, Cochabamba, Bolivia, 14 August–8 November 2012

Tool	Population	No. of activities completed	No. of participants
Focus group discussions	Girls in school	12	60
	Boys	5	37
	Mothers	4	19
	Teachers	2	9
In-depth interviews	Girls in school	11	11
Key informant interviews	Teachers/school administrators	17	17
	Community health professionals	4	4
Observations	Schools	10	–
Totals		65	157

In-depth interviews – Up to two in-depth interviews were completed with girls at each school. Girls were asked to discuss their personal experiences with menstruation, specifically what they knew about menstruation and where the information came from. They were asked how they managed menstruation in school and at home. Girls also wrote down the questions they still had about menstruation.

Key informant interviews – KIIs were conducted with teachers, principals and health workers. The interview content was influenced by UNICEF’s WASH in Schools Monitoring Package and included additional questions specific to the assessment goals [21]. KIIs with school staff investigated hygiene, sanitation, menstrual hygiene education and menstruation-related challenges experienced at school. KIIs were also performed with two doctors and two community health workers to gain a general understanding of the health situation in the surrounding community, as well as to inquire about the potential health issues related to menstruation they may have observed.



The board game shown above (left) was developed for focus group discussions with girls; at right, participants use the game during research in Tacopaya.

Photo credits: © Jeanne L. Long, 2012 (left) and © Gladys Camacho Rios, 2012

School observations – A tool for observation of school water, sanitation and hygiene facilities was adapted directly from the UNICEF WASH in Schools monitoring tool [21], with additional questions added as appropriate. School observations were conducted in 10 schools.

Training

A one-week training workshop was held for everyone involved in data collection. The workshop provided a broad understanding of WASH and menstruation, methods and techniques in qualitative data collection, and research ethics. Two modules from the UNICEF WASH in Schools online course were presented: 'Introduction to WASH in Schools' and 'Special Topics for Girls' [22, 23] with additional WASH information specific to Bolivia.

By recommendation of UNICEF Bolivia's Child Protection Unit, MAP International's Centro Una Brisa de Esperanza (the 'Breeze of Hope' Center), an organization focusing on child rights and sexual violence in Cochabamba, provided training for research assistants on how to respond to abuse in the event that girls reported any instances during interviews or discussions. Training on research ethics was adapted from the FHI 360 Research Ethics Training Curriculum [24].

Research assistants were also familiarized with the data collection tools, and they helped with the language translations and cultural adaptations required prior to data collection. All tools and consent forms were reviewed in Spanish, revised and adapted, and translated into Quechua. Tools for girls and teachers were reviewed and translated similarly, if necessary, then piloted and revised. Tools were adjusted throughout the lifespan of the project to improve the quality of data at each school.

After initial data collection and a preliminary review of collected data, two schools were revisited for follow-up questions to validate preliminary findings and gain additional detail. The team purposively selected the schools so that there was one from each municipality, including one school that had worked closely with UNICEF and had a UDD toilet, and one school that lacked adequate sanitation and water facilities for students. The research team selected these two schools to be sure that girls from diverse settings were represented. Two FGDs with girls and two FGDs with teachers composed validation activities.

All protocols were reviewed and approved by Emory University's Institutional Review Board.

Gathering stakeholders' feedback

Preliminary research findings were presented to country-level stakeholders during a meeting at UNICEF in La Paz, on 28 November 2012. Participants engaged in a group activity to provide feedback on study results and recommendations. Representatives from the following organizations were present:

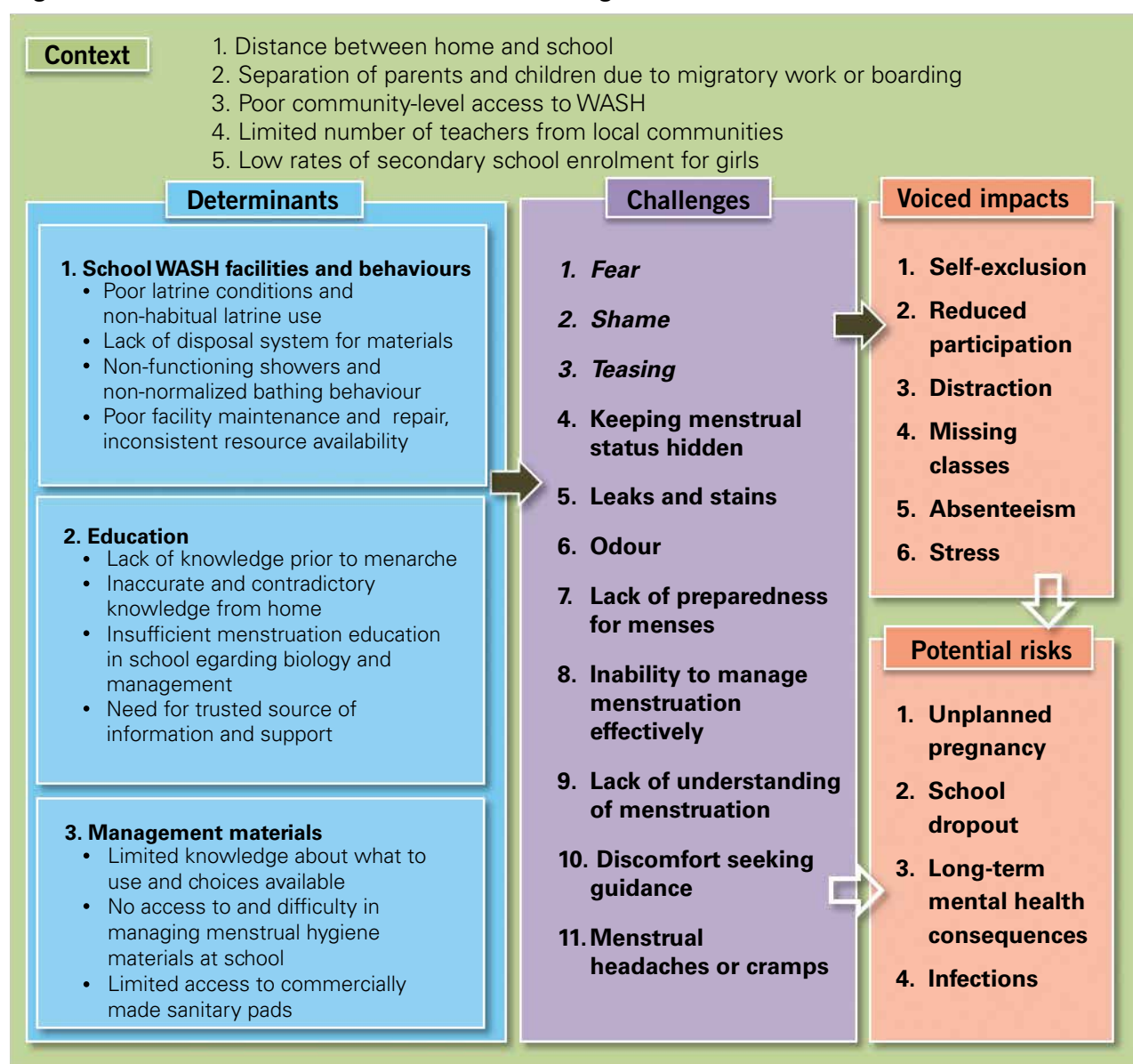
- Bolivian Ministry of Education
- Community Development Managers (Técnico DESCOM)
- UNICEF, water and sanitation sector
- Save the Children
- Fundación SODIS
- Project Concern International
- CIES (sexual and reproductive health NGO).

Findings

The findings explain the social and environmental context within which the research is situated and highlight the challenges girls in Cochabamba face at school when menstruating, as described by the girls themselves and other participants. The determinants of those challenges are also described, and the impacts and potential risks of menstrual hygiene challenges are explored. Quotations from the research discussions appear throughout the findings section as a complement to the main text. In all cases, participants' names have been changed to preserve their anonymity.

Figure 2 outlines the context, determinants, challenges, and impacts and risks that are discussed in detail below.

Figure 2. Schematic of the MHM research findings in Bolivia



Social and environmental context

Girls' experiences during menstruation and the challenges they face must be understood within the broad social and environmental contexts in which girls live. Conversations with girls, boys, mothers, teachers and community health workers painted a picture of life for a typical adolescent girl in rural Cochabamba.

Key aspects of the social and environmental context related to girls' MHM experiences have been organized into five factors: (1) distance between home and school; (2) separation of parents and children due to migratory work or boarding; (3) poor community-level access to WASH; (4) limited number of teachers from local communities; and (5) low rates of secondary school enrolment among girls. Details on each of these contextual factors are presented below.

Contextual factor 1

Distance between home and school

Schools that participated in the research were located in dispersed communities throughout the Tacopaya and Independencia Municipalities. Due to the distance between communities and the small population size in each community, a single school served several surrounding communities. The long distances from communities to a school made travel to school burdensome; some children had two-hour bus rides to and from school every day.

Contextual factor 2

Separation of parents and children due to migratory work or boarding

Some students had reduced contact with their parents or other family members due to the parents' need to migrate from Cochabamba to other parts of the country for work or the students' need to board away from home in order to access school. Living near school during the school year was common for students whose parents were migratory workers. Older students rented rooms, alone or with siblings, or boarded near the school during the weekdays in the nearby community to reduce travel time.

Students who lived far from their parents during the school week were also responsible for their younger siblings if they attended the same school. Depending on the family's economic situation, students living near school often received a weekly allowance, but many also discussed working on the weekends to make ends meet.

Contextual factor 3

Poor community-level access to WASH

Although schools may have the only latrines and showers in a community, living near a school did not entitle students to access such facilities during non-school hours. Consequently, the first place many students encountered and used latrines, or learned about the importance of sanitation and hygiene, was often while attending school.

The lack of sanitation facilities in surrounding communities complicated the education on and practice of WASH and MHM behaviours established in schools because students were not able to apply what they learned when they returned home. Students were often forced to maintain two different sets of sanitation and hygiene practices.

I: Would Rosita perhaps be worried that there isn't a bathroom, soap, water?

P: She can always worry about that.

~ Girl, FGD, Tacopaya

Younger students had difficulty utilizing sanitation facilities correctly when they began school. They were reported to misuse school bathrooms by leaving faeces around the latrine, not flushing or cleaning after latrine use, or clogging latrines by throwing rocks inside. None of the schools provided materials for personal hygiene, such as toilet paper and soap. Absorbent menstrual materials were not available at school for regular use or in cases of emergency. All students were expected to have and bring their own materials for use during school hours.

Contextual factor 4

Limited number of teachers from local communities

Teachers were not from the same communities as their students and usually came from larger cities. Teachers typically lived on the school grounds from Monday through Friday and returned to their home village on the weekends. Often they were not fully aware of girls' menstruation-related practices. Because teachers were not from the local communities, communication with students about menstruation and reproductive health was frequently difficult.

Contextual factor 5

Low rates of secondary school enrolment among girls

There were considerable declines in enrolment between primary and secondary school due to attrition. In addition, attrition was higher among female students than male students during this transition. School dropout for girls was a concern for teachers. Most teachers attributed dropout to lack of economic means and lack of support from students' parents; two principals indicated that girls leave school because boys "bother" them once they reach puberty. Research results suggest that, compared to their male peers, girls may face additional barriers to gaining secondary-level education.

Challenges girls face during menstruation

Attending school during menstruation can often be challenging for girls. *Challenges* have been identified as the experiences girls have at school during menstruation that make this time more difficult than other days at school. Challenges were identified through conversations with research participants: Girls were asked what their experiences were generally like at school during their period and how days at school during menstruation might be different than other days; other participants were asked about their perceptions of girls' experiences at school during menstruation.

Challenges lead to fear, shame and teasing

The most prominent challenges girls face at schools include fear, shame and teasing, which were linked to:

- Keeping menstrual status hidden
- Leaks and stains
- Odour
- Lack of preparedness for menses
- Inability to manage menstrual hygiene effectively
- Lack of understanding of menstruation
- Discomfort about seeking guidance
- Menstrual headaches or cramps.

I: *In her body, how does it feel?*

P1: *Worried.*

P7: *She's worried...she could be worried because she doesn't know, since it just came she could be startled, inside she could be worried, her body could tremble.*

~ Girls, FGD, Tacopaya

Schoolgirls expressed constant feelings of fear and shame during menstruation, which manifested in specific behaviour changes in the classroom and during interactions with others.

Girls felt fear and shame in anticipation of a bloodstain, an odour or a classmate realizing she was menstruating because these outcomes all resulted in humiliation, laughing and teasing from classmates. Having a stain, emitting an odour or having a menstrual cloth fall from underpants were mainly a result of lacking access to effective sanitary materials, the lack of privacy or space to change materials, or reduced bathing.

Fear, shame and teasing also permeated the classroom setting, affecting the teachers' abilities to discuss menstruation. Teachers often noted that simply introducing the topic embarrassed girls and increased teasing from boys.

Menstruation affects girls' behaviour

Girls often reacted to the topic of menstruation by hiding their faces or hunching over in their chairs. Male classmates said girls seemed like they did not want to learn: "When we're talking about that, period, menstruation, birth control, they are always hiding themselves like this [*they put their hands over their face*], they don't even want to hear anything" (Boy, FGD, Tacopaya).

Girls were also silent during class, not raising questions or requesting clarification on topics they did not understand. The discomfort teachers witnessed among female students sometimes caused them to only summarize menstruation instead of teaching in depth on the subject.

The common objective of menstruating girls was to keep their menses hidden from others. When girls lacked menstrual materials, did not have adequate bathrooms or could not bathe, they coped by altering their behaviour in an attempt to manage menstruation at school and prevent others from noticing. These behaviour changes could lead to health and educational impacts, including self-exclusion and isolation, reduced participation in class, distraction and fear of pregnancy.

Mothers described the typical personality of girls in their community, stating: "When they're healthy they're daring, they're playing. They are the ones punching boys, they are the ones tugging at them, they are doing everything...but when they are with their menstruation they're seated, like startled" (Mothers, FGD, Independencia). Girls, teachers, boys and mothers not only knew when girls were menstruating, they were able to pinpoint and describe the altered demeanour and behaviours of girls during menses.

She will be afraid, afraid...she's not going to want to play, neither will she want to go to the board...she's going to play only with her friends, with the women.

~ Girl, FGD, Tacopaya

The experience of menstruation for a girl in rural Cochabamba, Bolivia

The following story is a compilation of real experiences girls discussed during in-depth interviews and focus group discussions.

I was 13. I was out alone tending to my family's sheep. My stomach had been aching all day and I felt like I was going to be sick. I squatted by a tree expecting to relieve myself and when I looked down there was fresh blood staining the insides of my legs. What's happening, am I sick, am I dying? I headed home, but the blood hadn't stopped and my mom wasn't back yet. So I washed up, put on the pair of underwear I wear when I go to school, and folded up an old hand towel to put inside my underpants.

The next day when my mom arrived from the tropics, I told her what had happened. She looked at me, embarrassed, then turned her back to me and said, "Yes, it will always be like that. It happens to all women." She explained to me that when I have "my sickness" that if I walk with boys while the blood is coming that I would get pregnant. She told me that it is very important that when I have my sickness that I don't touch cold water or bathe, or else the dirty blood in my stomach will clot and it won't come out – my sickness will hurt more and the blood could rot inside of me. She handed me some pieces of old clothing that she cut up and told me to put them in my underwear. I was supposed to wash it with soap, dry it and reuse it. That was all she told me that day.

The next time it came to me it was a Saturday. I used the old cloths my mother gave me and I did what she had told me. I stopped bathing during that time. Two days later, I still had my sickness and I had to go to school.

In the morning, while I was in math, I started worrying that the blood was soaking through the cloth – I could feel it. All I could think about was whether it was leaking onto my skirt, when I could change it, and how I could make sure no one saw the blood on my skirt. The teacher called on me and asked me to go to the board, but I didn't want the whole class to see if I had a leak. I told my teacher that I hadn't studied and I couldn't answer. She looked disappointed and I felt ashamed.

When the class ended I waited for everyone else to walk out before I did. I wrapped my scarf around my waist and went to the water tank to fill up a bucket of water to take into the latrine with me. When there, I closed the door behind me and examined my skirt. Luckily, there was no stain, but I had to change. I pulled the soiled cloth from my underwear, wrapped the bloody cloth into a little plastic bag, and put it into my book bag. I took toilet paper from my book bag to clean myself, but realized I would have to leave the bloody toilet paper in the corner of the stall with all the other trash...the next girl would see it and know. I wasn't supposed to do it, but I dropped the toilet paper down the latrine hole, emptied the bucket to flush it down, and I hoped I didn't clog the toilet. I walked over to the school patio and rinsed my hands with water then went to where my classmates were playing futsal [a modified form of soccer].

I wanted to play with them, but I was afraid my cloth would fall out of my underpants and my stomach hurt, so I sat down. I realized the girls next to me were whispering and looking at me. One of them said to me, "You smell foul!" and they laughed at me. I felt devastated and humiliated. I got up and hurried away from them...for the rest of the day I sat alone and didn't talk to anyone. Tomorrow I had gym class and there was no way I could participate. I stayed home the next day.

One year later I learned about sanitary pads from my best friend. When I wear them it's easier to go to school, but they're expensive and I can't ask my mom to buy them. Sometimes I save pads for my heavy days or I only use them at school. I still have to wrap them up and take them home because there's no trash can in the school latrine. My friend told me that I could get cancer if the blood on my pad is burned.

I am 15 now. When I was younger I used to skip school two days a month, but now I can manage and I'm not scared anymore. Today doctors came to the school to talk to our class. I learned that my sickness is called "menstruation." I'm really glad I learned about it, but I didn't feel comfortable during the class because boys were with us. I'm still uncertain about it all. My friends tell me many things – like I shouldn't drink milk when I have my period, or I shouldn't play, I shouldn't bathe – but my teachers tell me the opposite. I don't know what's true. I'm too embarrassed to ask questions, but I still have them.

Determinants of menstruation-related challenges

Challenges girls face in managing menstruation at school are determined by factors that are largely preventable. *Determinants* are the factors that contribute to girls' challenges at school during menstruation and were identified through conversations with study participants. When girls described these challenges, they often explained why they occurred. If specific challenges were noted and not elaborated, follow-up questions were asked by the research team. Crucial determinants of the challenges girls face include:

1. School WASH facilities and behaviours
 - a. Poor latrine conditions and non-habitual latrine use
 - b. Lack of disposal system for materials
 - c. Non-functioning showers and non-normalized bathing behaviour
 - d. Poor facility maintenance and inconsistent resource availability
2. Education
 - a. Lack of knowledge prior to menarche
 - b. Inaccurate and contradictory knowledge from home
 - c. Insufficient education in school regarding biology and management
 - d. Need for trusted source of information and support
3. Access to absorbent materials
 - a. Limited knowledge about what to use and choices available
 - b. No access to and difficulty in managing materials at school
 - c. Limited access to commercially made pads.

Details on each of these three determinants are described next.

Determinant 1

School WASH facilities and behaviours

Maintaining good menstrual hygiene to prevent stains and odour requires resources and facilities to change absorbent materials, dispose of materials, and access water for washing hands and body. Poorly maintained or absent facilities can hinder healthy menstrual management and other sanitation and hygiene behaviours.

While only one of the schools lacked a latrine structure, few had sanitation facilities that met all the needs of the students. In addition, availability of facilities did not ensure use. Sanitation facilities were not used at all in two schools, and girls noted several barriers to shower use despite availability.

Further, teachers noted that deficiencies in WASH facilities created contradictions in hygiene lessons. They could not demand that children adhere to safe practices if facilities were inadequate. Although hand washing was stressed as an important hygiene practice, if students could not afford to bring their own soap and schools did not provide it, teachers were unable to reinforce good hygiene habits. When water systems broke down or there were droughts, it was equally difficult to require students to flush toilets after use or clean bathrooms. The teachers at one school were aware that their students were practising open defecation because the school's toilets were clogged.

There is no bathroom, we usually go far over there, under the bushes. That is the reason we're late sometimes, the teachers lock the door on us.

~ Girl, FGD, Independencia

Poor latrine conditions and non-habitual latrine use

Poor latrine facilities at school hindered girls' abilities to change absorbent materials during menses. Girls complained that taking too long to change during breaks caused them to arrive late and be locked out of class. Girls attending schools with poor sanitation facilities found hidden places far from school grounds to change their pads or cloths.

Some schools had mostly functional latrines, with only one or two broken; at other schools, all latrines were completely broken and unused. In many cases, girls talked about relieving themselves and changing pads or cloths outside the school, or going to their rooms during their breaks if they lived in a boarding school or in the community. When girls had to change outside, they intentionally waited until they were in class to ask permission to use the bathroom because there were fewer students outside at that time and less risk of being seen than during scheduled class breaks. When they changed or went to the bathroom during school breaks, they reported going with a female friend to look out for them.

I go with my friend, we change together in a room. Between friends, we don't criticize.

~ Girl, FGD, Independencia

Discussions with girls suggested that some may prefer hidden outdoor locations to latrines because they provided more privacy and offer space and water to wash up. In one discussion, girls were asked to draw the place they feel most comfortable changing their materials. None of the girls drew latrines or bathrooms, but instead houses or open places with trees, cliffs and rivers (see photo, page 17, for an example)



P: *It's a little house, it's in a hidden place...it has a cliff here...so you can change.*

I: *Is it close or far from school?*

P: *Far...about 5 kilometers.*

I: *Why is this a perfect place?*

P: *Because it's hidden.*

~ Girl, FGD, Tacopaya

Photo credit: © Jeanne L. Long, 2012

Inadequate facilities also impacted female teachers working in the schools. Although teachers did have access to latrines after school hours, they expressed frustration over latrine conditions. Teachers stated that local authorities did not visit to check the status of sanitation and water systems and did not repair them when specifically requested.

Female teachers from two schools were asked where they bathed and change their sanitary pads while living on school grounds. One school had partially functional UDD toilets and the other had poorly functioning pit latrines. Female teachers from both schools said they often went to their room to bathe and change, and that schools should provide a space specifically for them: "What female teachers need is a private bathroom only for women...while we're in class we usually get our periods and in that moment we don't know where to go" (Teacher, FGD, Independencia).

Lack of disposal system for materials

Girls could not discreetly dispose of sanitary materials, regardless of the type or functionality of the latrines in schools or the type of materials used. Even in schools with clean facilities, trash cans were typically made from cardboard boxes or jerrycans that did not have lids. When schools provided a basic uncovered trash can, girls were afraid other girls would see their used materials. Girls also mentioned that dogs would come into the bathroom stalls, pull out their used materials and chew them up in front of all the students.

Many girls preferred to wrap used materials in plastic bags and dispose of them at home instead of at school. In some cases, taking pads home for disposal was accepted as the norm and supported by teachers. Girls using a menstrual cloth brought their cloth home so that they could wash and reuse it. Taking absorbent materials home for washing or disposal required girls to inconspicuously bring their school bag to the bathroom with them and place their used menstrual materials inside. Over the course of the school day, girls could accumulate several used menstrual pads or cloths in their school bags.



An open cardboard box was used for waste disposal in this school latrine stall.

Photo credit: © Jeanne L. Long, 2012

If bathrooms did not have a trash can and if girls did not have a backpack or plastic bag on hand, they would throw menstrual materials into the latrine, potentially causing damage to the sanitation system. One school did not provide any trash receptacles, so students left used toilet paper and other trash in the corner of the bathroom stall.

Our teachers tell us, they always tell us, “You’re not going to throw that away. That you’re going to collect it, and then you are going to burn it.”

~ Girl, FGD, Tacopaya

Since primary students aren’t informed, then the pads that have blood on them they throw in the latrine....the older girls...they’re already aware of how many times they have to change and that they shouldn’t throw it, no, in the latrine...here we don’t have a trashcan... So they throw it [pads] there.

~ Teacher, KII, Tacopaya

UNICEF Bolivia’s current sanitation intervention includes construction of urine diverting dry toilets (UDDs), which facilitate decomposition of personal hygiene materials such as toilet paper. Sanitary pads, however, do not decompose in these facilities. During school observations, none of the UDD toilet bathroom stalls had trash cans available.

The lack of proper waste disposal can negatively impact the environment. If girls were disposing of pads in the UDD, they were also jeopardizing the ability to effectively compost human waste. Further, no drying agents or stirring tools were seen in latrines, and all pits were used concurrently. Also, girls who changed their menstrual materials outside would leave used materials there.

Traditional beliefs about menstrual blood and appropriate disposal may also influence how girls dispose of sanitary pads and menstrual cloths. Although beliefs varied among girls, some explained that there would be negative health effects, such as sickness or cancer, from mixing or burning their menstrual blood with trash or that burying pads was more appropriate than burning. Girls and mothers also discussed washing the blood from disposable sanitary pads before burning them.

Even when adequate infrastructure and covered trash cans were provided, traditional knowledge and perceptions may hamper the full utilization of facilities, as well as potentially cause damage to infrastructure. In this case, neither software nor hardware can stand alone to improve disposal practices – they should be provided simultaneously to reinforce each other.



The drain in this UNICEF-built urine diverting dry toilet was blocked due to improper use and lack of maintenance.

Photo credit: © Jeanne L. Long, 2012

Sanitary pads we shouldn't throw wherever. If we throw them out others see them, the boys too. Some girls throw them out, including in the bathrooms and the dog is taking them out. And the boys can look at us.

~ Girl, FGD, Independencia

I: Where is she going to throw that [sanitary pad] away?
P: She will throw it away in the ravine.

~ Girl, FGD, Tacopaya

Non-functioning showers and non-normalized bathing behaviour

Although several schools had showers, they were not always used. Schools with functional showers only had one or two to share among the entire student body. Several schools had showers that were broken and had never been repaired.

If two functional showers were available, the boys' and girls' stalls were right next to each other, discouraging students from bathing due to a lack of privacy. Showering was not an option in schools that experienced drought during the winter because schools had to prioritize water consumption and sanitation needs. For girls who rented a room with their siblings in the community, they also lacked the privacy to bathe at home.

Discussions suggested that there was low cultural acceptability of bathing at school. Some girls stated that they had showers at school but never used them, without explaining why. Yet girls without showers at school often requested them, indicating a strong desire to bathe. This dichotomy indicates an important contradiction within the findings: The ability to bathe is desired, but the current means to do so are insufficient.

Girls noted a traditional custom of reduced bathing during menstruation and, specifically, a restriction on touching cold water. If functional showers and water were available, and bathing was more acceptable, girls might require warm water. UNICEF already builds showers with solar panel technology to heat water in the Andes region due to the extreme climate. These facilities may be the most promising and should be considered by other organizations that construct showers in rural areas, provided that appropriate education on use and plans for maintenance and repair are also integrated in the initiative.

Poor facility maintenance and repair, inconsistent resource availability

Lack of maintenance, inability to repair broken structures, and inconsistent availability of resources such as water affect all issues regarding WASH facilities in schools. Observations at each school revealed that the number of latrine facilities on school grounds deviated from the number that were actually usable. The pupil-to-latrine ratios increased when functionality and cleanliness were considered.

Despite having infrastructure in place, maintenance and repair remain a constraint for schools that do not have the capacity or budget to make improvements. Further, many schools have pour-flush toilets, despite having issues with water scarcity. As a result, facilities can be clogged if not properly flushed or may be unappealing to use due to the presence of faeces or odours. Consideration for the environment and the year-round availability of resources need to be carefully deliberated when building new structures. Maintenance plans should accompany construction plans, with consideration for accountability, capacity and available funds.



Girls play at broken showers, constructed by the municipality with UNICEF support. Lack of maintenance is an overarching issue for WASH facilities in schools.

Photo credit: Jeanne L. Long, 2012

Table 4. Summary of characteristics of WASH facilities in schools among the 10 participating schools in Independencia and Tacopaya, Cochabamba

	Independencia ^a	Tacopaya	Total
Sanitation			
No. of schools with latrines	4	5	9
No. of schools that only have latrines that are <i>not functional</i>	2	1	3
No. of schools that only have latrines that are <i>not clean</i>	2	1	3
No. of schools with latrines segregated by gender			
All latrines gender-segregated	3	4	7
Some latrines gender-segregated	1	1	2
No latrines gender-segregated	1	0	1
No. of schools with functional locks inside girls' latrines			
All with functional locks	2	1	3
Some with functional locks	1	0	1
None with functional locks	2	4	6
No. of schools with trash bins inside girls' latrines			
All with trash bins inside girls' latrines	2	1	3
Some with trash bins inside girls' latrines	1	0	1
None with trash bins inside girls' latrines	2	4	6
Water and hygiene			
No. of schools with functional water source at time of visit	4	5	9
No. of schools with hand-washing facilities	5	1	6
No. of schools with water available in at least 50% of hand-washing facilities	4	1	5
No. of schools with soap/ash available in at least 50% of hand-washing facilities	1	0	1
No. of schools with a private place to bathe/wash	2	0	2
No. of schools with private facilities to wash menstrual cloths	0	0	0
No. of schools with sanitary pads available on a daily basis	0	0	0
No. of schools with sanitary pads available for cases of emergency	0	0	0
No. of schools where teachers report providing menstruation education	5	5	10

a. Observations were not made of boys' latrines in one school in Independencia, so they are not included in the calculations.

Table 5. Mean pupil-to-latrine ratios^a among the 10 participating schools in Independencia and Tacopaya, Cochabamba

	Independencia ^b	Tacopaya	Total
Mean pupil-to-latrine ratio in participating schools	59:1	29:1	42:1
Girl pupil-to-latrine ratio	44:1	23:1	34:1
Boy pupil-to-latrine ratio	66:1	35:1	48:1
Mean pupil-to-latrine ratio for latrines considered at least <i>partially functional</i> only	107:1	69:1	86:1
Girl pupil-to-latrine ratio	81:1	45:1	63:1
Boy pupil-to-latrine ratio	119:1	107:1	113:1
Mean pupil-to-latrine ratio for latrines considered at least <i>somewhat clean</i> only	135:1	80:1	104:1
Girl pupil-to-latrine ratio	89:1	48:1	69:1
Boy pupil-to-latrine ratio	184:1	118:1	148:1

a. All ratios are tabulated by school. Means are the average of each school's pupil-to-latrine ratio. One school in Independencia has no latrines, and several schools do not have any latrines that qualify as 'at least partially functional' or 'at least somewhat clean'. To calculate ratios for these schools, the total number of latrines has been set to 1 (0.5 for girl-specific and boy-specific calculations).

b. Observations were not made of boys' latrines in one school in Independencia, so they are not included in the calculations.

Note: In tables 4 and 5 (*above*), latrine functionality and cleanliness have been defined as in the WASH in Schools Monitoring Package [21]:

Functional – the toilet facilities are not physically broken and can be used.

Partially functional – the toilets can be used, but there are at least some problems with the physical infrastructure (e.g., corrosion in concrete, doors/locks coming loose, roof deteriorating) and some repair is necessary.

Not functional – the toilets exist, but are so badly damaged or deteriorated it is no longer reasonably possible to use them (e.g., squatting plate broken, door missing, roof has holes).

Clean – the toilet facilities are not smelly, there is no visible faeces in or around the facility, there are no flies, and there is no litter.

Somewhat clean – there is some smell and/or some sign of faecal matter and/or some flies and/or some litter.

Not clean – there is a strong smell and/or presence of faecal matter and/or a significant fly problem and/or a large amount of litter.

Determinant 2

Education

Knowledge is imperative for understanding the biological reasons for menstruation and how to manage it. Due to a lack of information, girls often resented their menses or were afraid of it. Many believed that it was their body releasing “dirty blood” that could rot inside them. Menarche was described as a scary experience for girls because information about menstruation was shared too late.

Girls frequently received conflicting information about menstruation from home and school. Sometimes, when girls followed the traditional practices learned at home – such as decreased bathing – they dealt with intensifying odour, leading to increased fear and teasing at school. Teachers faced challenges in the classroom when attempting to teach about menstruation and when teachings contradicted what happened at home.

Lack of knowledge prior to menarche

During interviews with girls, several admitted that they did not know why they were bleeding the first time they menstruated.

Girls thought they were sick, haemorrhaging internally or dying.

Boys reported seeing girls with blood dripping from their legs while walking or while in class, but the boys also did not realize what it was. Menarche was often considered to be a scary experience for girls, and in worse cases it was also humiliating and traumatizing if it occurred at school.

Menarche does not need to be a traumatic experience for girls. An important component of changing girls’ experiences during menstruation may be as simple as telling them about it before they reach menarche. Knowing what they are likely to experience and what materials they can use for menstrual hygiene management could reduce stress and fear, and give girls a sense of normalcy and control.

When I was in 7th grade that happened to a girl. When the teacher was reviewing the homework, the floor was pure blood. Yes, and the girl realized and hunched over, like this. I have seen that here. The [male] teacher hadn’t said anything... We didn’t say anything. We were thinking it was coming out of her nose.

~ Boy, FGD, Tacopaya

Inaccurate and contradictory knowledge from home

Knowledge passed down from mother to daughter was based on traditional practices and beliefs, and often contradicted the guidance provided in school (see table 5, page 25). Mothers informed girls that bathing or even touching cold water during menses could lead to blood clots, cysts, sickness, cancer or infertility. In two schools, teachers provided similar information as mothers, instructing girls to reduce bathing and physical activity, but most teachers emphasized that girls should bathe when menstruating. During research discussions, girls who had received both sets of information typically repeated what they had learned from their mothers.

The next text box presents two real stories from girls in rural Cochabamba. Both girls have learned how to take care of themselves, though they had different experiences at menarche.

“Can you tell me about the first time you had your period?”

Two schoolgirls’ real experiences

My name is Olivia. I am 18 years old, I’m in 6th [grade] of secondary and I’m about to graduate from high school. I’m from a very small community, but I’ve lived in the boarding school for four years. I live far from my mother and the rest of our family, but for most of my schooling my sister was here with me. The first time my sister talked to me about menstruation, I was 14. One day she asked me, “Do you have it yet? Have you had your period yet?” I had sort of heard about it before, but really didn’t know anything about it. She explained to me, “Don’t get scared. I think you’re going to get it soon.” I listened, but I was still a little startled.

That same year, I got my period early one morning. I felt bad. I was scared to go to school and I hadn’t told anyone because I was in the dormitory and I didn’t have my mom or anything. I realized I had to figure it out myself. I went to my sister to tell her what happened and she said to me “don’t be scared, it’s normal, the only thing is that you have to take care of yourself.” Afterward, I went to the store and I bought myself sanitary pads to use that day. I remember being a little startled and feeling a little sad, but it wasn’t so bad because my sister had already warned me that it would happen.

Now I am always prepared for my period. I go to school and I feel normal and relaxed –though sometimes I still don’t feel well enough to play in gym class. I’ve also learned recently that it’s okay to bathe during my period. My mom used to tell me that I shouldn’t bathe during [menstruation] because the blood will stay inside of me and make me sick. But I bathed the last couple of times and nothing happened, so I think it’s better to be clean those days.

At first I didn’t want anyone to know, but now I can talk about my period with my friends in the dormitory because we’re close. But I don’t really care if other people know. It’s normal. Recently, my neighbour told me that I’m not supposed to drink milk or fresh fruit while I have my period because it will make my blood come out white. Sometimes I’m careful with that, but I have my doubts about it...Is it true?

~ Girl, IDI, Independencia

My name is Sophia. I am 17 years old and I’m in 4th [grade] of secondary [school]. I live with my mother and father in a small community about two hours from school. Due to the distance from school, I took a three-year break from school and recently came back last year to start secondary. I heard about periods for the first time in school last year when a doctor came to school to give us a workshop. I learned we have to take care of our insides and we shouldn’t have sex with many boys. I also learned how many times I should change my pads. I was glad to be in the workshop because I learned a lot.

I had my first period when I was 14. I had it at night and the next morning when I woke up and I said, “What is happening to me?” I didn’t know what to do. I felt bad all day, but I went to work to harvest potatoes. That night I was scared and still didn’t know what was happening, but looking back on it, I wonder if lifting the heavy potatoes all day made my first period so heavy! I did not know about pads yet, and I needed to do something about the blood. Since I was alone, I grabbed one of the small towels I used to clean my face and I put it in my underwear.

First I told my aunt what happened. My aunt told me, “It’s always like that.... The one time I had sex on my period, that’s how I had a baby...don’t do what I did.” I always remember that. The third time I got my period I finally told my mom – she had never mentioned it before. I asked, “Mom, why is it like that? Is something wrong with my insides or what?” She responded, “It’s always like that, you have to take care of yourself.”

I’ve learned how to handle my period. I buy myself pads when I go into the city and if I run out I make myself cloths. My cousin told me that bathing during my period will make my stomach hurt and the blood clot inside me. So when I have my period I bathe less. I only wash my hands and brush my teeth those days. I still go to school when I have my period, but I avoid going to the chalkboard when I’m in class. I also don’t want anyone to know when I have it, except my close friends – I would never tell anyone else. No one knows.

~ Girl, IDI, Tacopaya

Table 6. Abbreviated list of traditional practices during menstruation, presented by schoolgirls and mothers in rural communities of Cochabamba, Bolivia

Traditional practices during menstruation	Consequences of not adhering to the practice
Personal hygiene	
Do not touch, drink or bathe with cold water	<ul style="list-style-type: none"> - Menstrual blood clots - Catch a cold - Become sick - Increased stomach pain - Shortened menstrual cycle, with a longer cycle the following month - Causes cysts that lead to infertility
Wash well with tepid chamomile water	<ul style="list-style-type: none"> - A safe way to wash without causing illness - Has a calming effect
Menstrual blood is dirty blood	If it is not released, menstrual blood will rot inside the woman and cause cancer
Sanitary pad use and disposal	
Wash or bury sanitary pads; burning the blood on the pad is like burning oneself Do not dispose of sanitary pads with the trash	<ul style="list-style-type: none"> - Causes cancer - Causes other sicknesses - Burying sanitary pads can serve as fertilizer
Activity restrictions	
Do not lift heavy objects	<ul style="list-style-type: none"> - Affects regularity, causing menses to come earlier or later than expected - Haemorrhaging - Heavier menstrual flow - Shortens current menstrual cycle - Menstrual blood will come out as clots - Back and stomach pain
Do not walk, run or play	<ul style="list-style-type: none"> - Heavier menstrual flow - Increased pain
Do not have sex during menstruation	<ul style="list-style-type: none"> - Increased risk of pregnancy - Increased risk of venereal disease - Increased risk of HIV and AIDS
Do not wash clothes	Stains/blemishes will appear on one's face
Food restrictions	
Do not eat onions	<ul style="list-style-type: none"> - Cancer - Menstrual blood will smell worse
Do not eat honey	<ul style="list-style-type: none"> - Stains/blemishes will appear on one's face - Heavier menstrual flow
Do not drink milk or eat dairy	<ul style="list-style-type: none"> - Menstrual blood will turn white (known as <i>Haba blanca</i>) - Shortens menstrual cycle



Students play volleyball during recess at their school. Girls often change their behaviour during menstruation, restricting their participation in class and activities with peers.

Photo credit: © Gladys Camacho Rios, 2012

Traditional practices and beliefs often explained the behaviour changes others witnessed and the challenges girls faced. For example, the types of food girls could eat and the activities they could perform were restricted, betraying girls' menstrual status to others. Also, they were advised to reduce bathing, which increased odour and the risk of teasing. Girls were also told not play or run in order to prevent heavier menstrual flow, and this became an indicator that a girl was menstruating and could lead to more teasing.

Traditional beliefs also provided false explanations for other reproductive health outcomes, such as sexually transmitted infections and pregnancy. For example, girls were told they should not drink milk during menses because it could turn their menstrual blood white. A white vaginal discharge could actually be a sexually transmitted infection or other vaginal infection for which they were not seeking treatment. Older females believed that girls were at greatest risk of pregnancy during their menses and, therefore, girls who learned about their menstrual cycle from these women could be at increased risk of unplanned pregnancy.

My mom told me that...you also shouldn't wash clothes because when you're washing clothes you're touching cold water, she says that if you do that it clots...I think it does damage to your fallopian tube, to the ova. ... So for me when I touch water, no, when I have my period I'm allergic to that, when I have my period I don't have to touch any water.

~ Girl, FGD, Independencia

One of my students, last year in first of secondary... [I said] come bring your notebook...she comes and leaves me the notebook...she turns around and then the smell was strong, strong, it's not even like that the first day or the second day because that [smell] from menstruation is [after] 5 days, no? ... The smell was extremely strong. Then I looked and I looked at the pollera, I had looked at her buzo, from the outside... to figure out why she smelled like that...I said, so, she has to be "sick"...surely her clothes are very dirty.*

~ Teacher, KII, Tacopaya

* A *pollera* is a traditional skirt, often incorporated into girls' school uniforms; *buzo* refers to wool leggings worn in the colder regions of Cochabamba.

Girls were led to believe that their behaviour could influence their menstrual flow, regularity and cramps. Most pervasive was the belief that one should not touch or drink cold water while menstruating, which could inhibit hand washing and personal bathing. Reduced contact with water was frequently discussed, though adherence and practice varied among girls. Some girls avoided water during their entire menstrual cycle, others only during the first couple of days. Some girls still washed their hands and performed chores involving water, while others placed stricter limitations on their exposure to water. Practices changed slightly in different communities, with certain beliefs more prevalent or even non-existent. These variations suggest that some interpretation was involved in understanding and following their traditional practices.

Mothers expressed discomfort and fear in regard to talking about menstruation with their daughters. For many girls, it was not until they reached menarche that the topic was discussed with their mothers. Mothers lacked formal menstruation-related education, which may have contributed to their inability to discuss it.

There was a generational education gap between students and their parents. Both girls and boys explained that their parents only attended primary school and had not received formal education about menstruation or reproductive health. Although some women receive community training from NGOs about pregnancy and birth control later in life, the extent to which menstruation is covered is not clear – and this information was rarely shared between mother and daughter.

The other day the teacher told her, saying to the young woman, "It comes like this. Has your mother already informed you?" [She said,] "No," then, "right, mom?" she asked me... "Yes, daughter, it is always like that." I told her like that, looking away and turning my back to her...I'm scared.

~ Mother, FGD, Independencia

Insufficient menstruation education in school regarding biology and management

By the time many girls received formal education in school about menstruation, the information was overdue. Menstruation was taught within the natural sciences curriculum as a component of reproductive health. Reproductive health was addressed during the first or second year of secondary school, when girls were expected to be between 12 and 14 years old. Many girls in rural areas were not in the expected grade for their age and did not formally learn about menstruation until they were 15 or 16 years old. A common belief among teachers was that girls from the high Andean plateau (Altiplano) reach menarche at a later age because of the cold climate. This was part of the explanation teachers gave for waiting to introduce the topic of menstruation until girls were older, even though they were not teaching in the high-elevation areas.

What I understand is that where it's cold, sometimes menstruation is later, and sometimes when you teach in advance they get scared. Sometimes it's better not to teach too far ahead, but nearer to the precise moment... For example, here girls get it around 14 or 15 years old... you shouldn't teach more than 3 or 4 years ahead because she's going to be scared or...she won't know and she won't give it any importance.

~ Male teacher, Tacopaya

Only the natural science teachers received formal education on the subject of menstruation, and the information they studied was purely biological. Teachers were not trained specifically, so rarely taught girls about menstrual management. When teachers discussed menstruation beyond biology, they usually explained how girls should use sanitary pads. Frequently, female teachers were asked to speak to girls about sanitary pads and bathing, but they mostly taught from their personal experiences. Some schools had large posters and pictures that they used when teaching about the human body and reproductive system, yet none of the schools had menstrual hygiene learning aids for teachers to use in the classroom or for girls' reference.

In one school, the topic was addressed via *transversales*, an approach teachers used to integrate cross-cutting themes into their subject material; a psychology teacher, for example, may have to integrate menstruation into her lesson plan while simultaneously teaching the original subject matter. Teachers explained that this method was used when they felt information on menstruation was needed. One principal in Tacopaya stated that if he saw boys teasing a girl about her period, he did not punish them; instead he used it as a "learning opportunity" to teach boys about menstruation.

Community health workers came to schools once or twice a year from municipal hospitals and occasionally discussed menstruation alongside other health topics. Schools that were closer to the town centre received more workshops than others. Teachers generally felt that the community health workers did not come to their schools frequently enough and believed that more workshops and training led by the health workers were needed for their students.

Recognizing gaps in girls' learning, teachers occasionally strayed from the formal curriculum to provide practical guidance. They discussed the frequency of changing pads, where to change pads and dispose of them, and the importance of bathing. Menstrual hygiene 'tips' from teachers often did not correspond to the reality of many rural schoolgirls who relied on menstrual cloths or had to manage menstruation without access to a bathroom or appropriate disposal facilities. Although schools provided a basic understanding of menstruation, most girls maintained the traditional beliefs and practices they learned in their communities, suggesting that the formal education received in school was not adequate, internalized or well received.

Need for trusted source of information and support

Both girls and teachers were not satisfied with how education about menstruation was conducted in school, and they wanted to improve the classroom experience and learning. Teachers wanted to gain the trust of their students so girls could ask questions without fear. They also wanted girls to participate in class, and they wanted girls to learn. Girls wanted to know more about menstruation. They did not want it to be a taboo topic. One girl noted, "Menstruation has to be a visible topic, not hidden. Because menstruation is an issue everywhere...no one should have to be ashamed of the topic" (Girl FGD, Independencia).

Teachers acknowledged that menstruation is a culturally taboo topic in rural areas, and they were adamant that education on menstruation and reproductive health should start in the home. Teaching menstruation can be challenging for teachers because of cultural gender norms and the shy disposition of girls. Teachers were frustrated that conversations between parents and students did not occur.

They felt pressure to teach reproductive health and menstruation because students were unaware of these topics.

In some communities, teachers felt that parents did not approve of the lessons. Some teachers were afraid that the parents would blame them if their daughters became pregnant: "The parents here, if you talk about it they see it as something bad and they put the blame on us. Sometimes the girls run the risk of getting pregnant and they put the blame on us 'you're always talking to them about these things, you've encouraged them' " (Teacher, KII, Tacopaya).

Male teachers have a particularly difficult time teaching girls about menstruation. Although male teachers claimed their professional training prepared them to discuss sensitive topics, sometimes they lacked the ability to teach menstruation thoroughly. One girl described her teacher as scared and said he only gave her an overview of the topic. A male biology teacher said that when he was teaching a class on menstruation or reproductive health, girls would become so embarrassed in his class that he felt bad. He felt he was contributing to their embarrassment, so he generalized the information presented in class.

Mostly what we would need is that the girls talk to us, tell us... "Teacher, I don't understand this question"...that would be amazing, no? Because sometimes we come into the class [and ask], kids, "What do you believe? What do you think? Let's see, tell me about sexuality." But no, the silence, the class sits there empty, without an opinion.

~ Female teacher, Tacopaya

I haven't learned much [about puberty] and it's that the teacher is a man and he kind of can't talk so much about these things... Men...sort of should be a little scared to talk about those things, no? We talk a little...in general terms... there are girls in my class...and some of them sometimes get embarrassed.

~ Girl, IDI, Independencia

It is a little difficult to talk because it's also a very delicate topic... the girls are shy, they don't ask and if you talk to them in class in front of their male classmates they get embarrassed...so for me it's a little difficult to teach those topics.

~ Male teacher, Independencia

Boys noted that girls seemed as if they did not want to listen when doctors came to talk with them about menstruation or sexuality. A female biology teacher described girls as “empty, without any opinion.” Teachers described girls blushing or covering their faces with their scarves when conversations about menstruation arose. Girls’ negative reactions to menstruation were associated with the teasing from boys they experienced afterwards, because they were uncomfortable with a man teaching the course or because they did not want to talk about menstruation in front of their male classmates.

Even though teachers expressed concern that parents were not supportive of the topics they were teaching, mothers trusted that teachers were giving their girls all the information they needed. Mothers want their daughters to have the opportunities they never had. They want their daughters to be educated, they value the school’s role in their children’s lives, and they worked hard to keep them in school.

During a focus group discussion, when asked why they sent their daughters to school, one mother shared “so that they learn...so that they don’t suffer like us in the country-side, she could be a professional.” Another added “so that she learns to read, to do that so she isn’t here in the country-side suffering. We don’t want them to suffer anymore” (Mother, FGD, Independencia).

I came from the country-side. I have brought my children here... “I will make my children study.” Do you think by any chance our parents begged us like that?... They only put us through primary, afterward no more. So we are begging you. Take advantage, become a professional so that you can do well for yourself.

~ Mother, FGD, Independencia

Determinant 3

Management materials

Having a menstrual cloth or sanitary pad on hand is essential to managing menses and preventing stains at school. Girls either bought sanitary pads or used home-made menstrual cloths called *trapos* or *trapitos*. *Trapos* were made from old clothes or other cotton material, and could be washed, dried and reused.

Although reusability and low cost were stated as benefits of the *trapo*, all girls preferred to use sanitary pads in school because the blood did not soak through as quickly and there was less risk of a stain and subsequent teasing. Pads were essential if girls wanted to play or participate in gym because a cloth could easily fall out from their underpants. Some girls saved sanitary pads for school use and used *trapos* at home. *Trapos* were considered more acceptable in the home environment because girls had more privacy and could change as often as they needed.

[With] those trapitos [the blood] goes through, and with the sanitary pads, it doesn’t. And for that reason girls are the victims of others laughing at them.

~ Girl, FGD, Tacopaya

Limited knowledge about what to use and choices available

Mothers often provided little information about menstruation, and girls were uncomfortable raising the subject. As a result, some girls did not know what was available to manage menstruation at menarche. Due to large family sizes and economic constraints, many girls relied on *trapos* to manage menstruation. Older adolescents who worked weekends or after school could purchase their own sanitary pads if their mothers did not provide them.

Very few girl participants admitted to using *trapos* themselves, but when discussing what a hypothetical classmate could use, they said that if a girl did not have money she would use cloth to manage menstruation. The use of *trapos* may be associated with poverty, which would explain why it was common knowledge that girls used *trapos* but few openly admitted to using cloths themselves.

No access to and difficulty with managing menstrual hygiene materials at school

None of the schools had absorbent materials available for free or for purchase, or in cases of emergency. Girls were expected to bring their own menstrual materials to school, as they would be for toilet paper and soap. Girls rarely had sanitary pads or *trapos* ready at menarche.

Teachers noted that girls from rural areas who wore the traditional clothing were also not accustomed to wearing underwear. If a girl had her first period while in school, the school was unable to provide absorbent materials unless they were borrowed from a female teacher. Because girls often did not wear underwear, stains became quickly visible unless an underskirt or tights were being worn.

Limited access to commercially made sanitary pads

Girls faced several obstacles to obtaining sanitary pads in rural communities. Depending on the location of the community and the school, pads were not always sold nearby and were not easily accessible on short notice. If pads were available, girls avoided buying pads when men were behind the counter.

Girls often bought themselves pads in bulk if they travelled into Cochabamba or the town centre. One girl noted: "If it [a supply of sanitary pads] runs out, I use cloth. I bring them [pads] from the city. If I go, I bring myself a lot" (Girl, IDI, Tacopaya). Often the city was brought to them via weekend fairs where girls could purchase sanitary pads.

Impacts on and risks to education and health

Girls adapted their behaviours to cope with the fear, shame and teasing they experience while managing menstruation. Feelings of fear and shame, and attempts to avoid teasing, permeated decisions girls made related to menstruation and impacted how they engaged with peers and participated in school. Discussions with participants suggested that as a result of the MHM challenges they faced at school, girls experience negative education- and health-related impacts and are at risk for additional negative consequences.

Voiced impacts are the impacts that girls, mothers, teachers and boys discussed as negatively influencing girls' health^b and education in the school setting. Voiced education and health impacts include self-exclusion, reduced school participation, distraction, missing class, absenteeism and stress.

P2: She can't play with the boys anymore, she will only play with her girlfriends.

P3: And when the boys want to play with her, she's going to escape. She's not going to play anymore. She can tell the boys off, right?

P4: Because she can prefer to sit alone. She can't sit with anyone anymore.

~ Girls, FGD, Independencia

They don't like to present sometimes, no? When it's their turn to present they're afraid to go up or they say "I haven't studied." So with that they want, let's say, to resolve [it], no?

~ Teacher, KII, Independencia

Potential risks to health and education are issues that may arise in the long term as a result of challenges or negative practices or behaviours related to menstrual hygiene management. While these were not mentioned as occurring, potential risks were identified through analysis based on the experiences and practices discussed by participants. Potential risks include unplanned pregnancy, school dropout, long-term mental health consequences and infections.

Voiced impacts

Voiced impact 1

Self-exclusion

As a result of the constant feelings of fear and shame girls felt during their menstrual cycle, girls removed themselves from social interactions on the playground and in the classroom. Distancing themselves from peers lowered the chance that others would notice a bloodstain or odour.

Girls primarily removed themselves from interactions with boys, but also avoided younger girls who did not know about menstruation or older girls they believed would tease them. One girl noted, "Some girls that realize another girl is menstruating insult her, saying 'she smells foul' " (Girl, FGD, Independencia). Another girl surrounded herself with only her closest friends.

^b The World Health Organization definition of health is referred to for the purposes of this report: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Source: 'WHO Definition of Health'. www.who.int/about/definition/en/print.html, accessed 25 September 2013.

P1: *The girls mostly don't pay attention as much in the classes, to the teachers.*

P5: *Yeah, more than anything they want to sleep.*

~ Boys, FGD, Independencia

I: *How do we know that Rosita has her period?*

P: *She doesn't want to do anything. She is tired. She doesn't want to do any kind of activity... she will be thinking.*

~ Girl, FGD, Tacopaya

Voiced impact 2

Reduced school participation

Girls were described as tired, quiet and less participatory during their menses. To avoid exposing stains that could occur during class, girls limited going to the chalkboard or presenting in front of their peers. One teacher said that a girl would admit she did not do her homework rather than stand in front of her peers and possibly show a bloodstain.

Research participants noted that girls often requested to be excused from physical education class during menses. Reduced participation also resulted from headaches, stomach aches and other pain associated with menses – and because of a traditional belief that increased movement would increase menstrual flow, and thus increase the likelihood of a stain.

P5: *You have your period, you feel like you've stained yourself, you're standing up or, yeah, or the smell is coming out. A boy comes and you get nervous and you think the smell is really strong.*

P2: *More than anything you're paying attention [to it], you're looking at yourself all the time.*

~ Girls, FGD, Tacopaya

Voiced impact 3

Distraction

Girls frequently described themselves as being distracted in class during their menses. Distraction could be caused by the emotions associated with menstruation; apprehension that others will find out she is menstruating; worry about a leak or a stain; or the physical pain or tiredness associated with menstruation. One girl shared, "Being sad like that, I don't think so, she won't do her work well" (Girl, FGD, Tacopaya).

Voiced impact 4

Missing class

Girls missed parts of class when they had to change menstrual hygiene materials. This was due to short breaks between classes, in combination with the long distance girls had to walk to find a private place outside to change, or if they returned to their homes to manage menstrual hygiene.

Voiced impact 5

Absenteeism

Some girls also missed entire school days. They admitted to skipping school one or two days a month, or when their menstrual flow was heavy. It was suspected that girls were skipping school during menses when they were absent around the same time every month or for days at a time.

Boys assumed that girls missed school during their periods and claimed: “We are friends with the girls. Also, we’re accustomed [to] spending all day with them....when they have it [their period], during that time they distance themselves and they hide themselves. Sometimes they don’t even come to their classes...some skip, so it could be for that” (Boys, FGD, Tacopaya).

Some mothers stated they allowed girls to skip school because their daughters complained that they were embarrassed or they did not want to participate in gym: “She then becomes sad saying ‘and now are they going to look at me or what?’ you know?...then she always skips... my daughter skips ‘I have PE [physical education] today, I will not go’ she says...when she feels bad she says ‘I’m going to skip’ then [I say] ‘So skip then today’...we always say that to them” (Mothers, FGD, Independencia).

Voiced impact 6

Stress

Girls indicated tremendous stress at the onset of menstruation. The major stress was related to fear of unplanned pregnancy, which was an issue in their communities. Unplanned pregnancy was a major concern for girls because it resulted in humiliation and rejection by their peers and families – and it jeopardized their education. The problem was attributed to not having clear guidance on how to track their menstrual cycle and understand ‘fertile days’. During discussions, some girls believed they were at higher risk for pregnancy when they were menstruating; others were not sure how to count the days of their cycle to properly use birth control methods based on fertility awareness.

When we get our malninchik [our sickness] you shouldn’t walk at all with boys because that’s how we get pregnant and then, what have we found? Being in high school, we’re harming ourselves.

~ Girl, FGD, Independencia

She can get pregnant...she will worry about that more...her father could yell at her, so could her mother and her siblings... also she could drop out of school that way. Girls, they humiliate each other [when they get pregnant].

~ Girl, FGD, Tacopaya

Potential risks

Potential risk 1

Unplanned pregnancy

Participants believed girls were at high risk for unplanned pregnancy. It was clear from conversations with girls and boys that many adolescents were sexually active at a young age. The lack of menstruation education and the late timing of reproductive health education in school may contribute to unplanned pregnancy among schoolgirls.

Although unsure of the exact cause, one teacher expected dropout to be related to pregnancy: "It has occurred already, in many cases here in the school...since they don't know their bodies, the girls then try to experiment, no? There have already been dropouts, although we haven't been able to identify why there is dropout. She [a student] told me her mother came and she [the mother] told me 'we're going, we're going' but it was because of work she told me, no? But in reality it was because her daughter had become pregnant" (Teacher, KII, Tacopaya).

Potential risk 2

School dropout

Teachers suggested that school dropout was a possible outcome from the trauma of experiencing menarche at school or was due to unplanned pregnancy: "When a girl has an accident, teachers have to explain it to her and make her feel better so she doesn't reject education... sometimes when this happens...she leaves school and doesn't ever come back" (Teacher, KII, Independencia). Teachers believed that many girls also dropped out of school for lack of economic means. They also noted that a family's economic constraints affected a girl's ability to buy sanitary pads, which girls preferred to use when in school.

Potential risk 3

Long-term mental health consequences

Guidance and support for girls in dealing with the worry, shame and fear they experience regarding menstruation and reproductive health is lacking. The cycle of continual fear and anxiety could have long-term impacts on girls' mental health and their relationships with others. Girls experienced fear due to negative experiences they had at menarche and anxiety on the days they were menstruating as a result of stains or odour that made them feel ashamed.

Girls constantly experienced fear of pregnancy because they did not understand their irregular menstrual cycles. One girl noted that a mother would alert her daughter to the risk of getting pregnant: "Maybe as time passes she will forget what has happened to her, right? But she couldn't easily forget, in her thoughts it will always be present what has happened to her, and that is going to affect her psychologically. Because of her experience and what has happened, I know that she [a mother] is going to forewarn her daughters so that when they come to that stage the same thing doesn't happen to them that has happened to their mom" (Girls, FGD, Independencia).

Girls struggle to understand menstruation: A mother's description of worry and self-harm

The following material is transcribed from discussions during the research in Cochabamba (Mother, FGD, Independencia) and illustrates the intense fear, and drastic reactions, that girls experience.

Girls don't understand their period – they have the blood clots, their period doesn't come, and they think they're pregnant because they don't know otherwise and they aren't informed. ... If they are pregnant their families abandon them or...blame them.

The girl cries, "Am I sick or what? Am I pregnant or what."...she feels bad about herself...a girl could even commit suicide. She could come to that...if it was a single girl [she asks herself], "And now what am I going to do? What am I worth?" In this situation, many poison themselves...and many times you're not pregnant, only that the blood has stuck together, that clot. ...It's in vain that they have worried.

Potential risk 4

Infections

Girls spoke of washing menstrual cloths in hidden places and drying them under other clothes, not directly in the sun. Doctors were concerned about the poor care of menstrual cloths and generally poor personal hygiene of women, including risks for vaginal infections.

One doctor remarked: "So they are stained and they keep bleeding and they don't wash themselves either...obviously it's also because in their communities there aren't even stores or anything. Some [women] that I have seen, they put some *trapitos* or pieces of old cloth that aren't even clean. That can cause another illness. Let's say it's contaminated. There are mites that can be stored in the cloths that could easily give them scabies or something, or get infected and give them a vulva vaginitis due to the irritation, because the material used in the vaginal area isn't ideal, because the genital area is humid and predisposed to infections" (Doctor, KII, Tacopaya).



Summary of key findings

Determinants of menstruation-related challenges appear at multiple levels of the social ecology and will require efforts at multiple levels to achieve sustained impacts. This summary outlines key research findings for the five factors shown in figure 3.

At the societal level – There is tremendous energy at the national level for improving WASH, but no policies, budgets or standards are currently in place to guide and support menstrual hygiene management.

Rural schools serve dispersed communities, and many parents are migrant workers – requiring girls to travel long distances in order to attend school or to live in the school community without their parents during the week. Menstruation remains a taboo topic within families and is discussed too late in the school curricula. Menstruation education does not include hygiene management.

Programmes should consider local contextual factors to ensure acceptability and feasibility, with attention to community WASH access, the role of parents, available resources, and the distance between home and school.

At the environmental level – Attention needs to be given to creating an enabling school environment. Most schools are not equipped with adequate facilities girls need to manage menses effectively and discreetly. Facilities need to be built and maintained for sustained use, and education on proper use is also required.

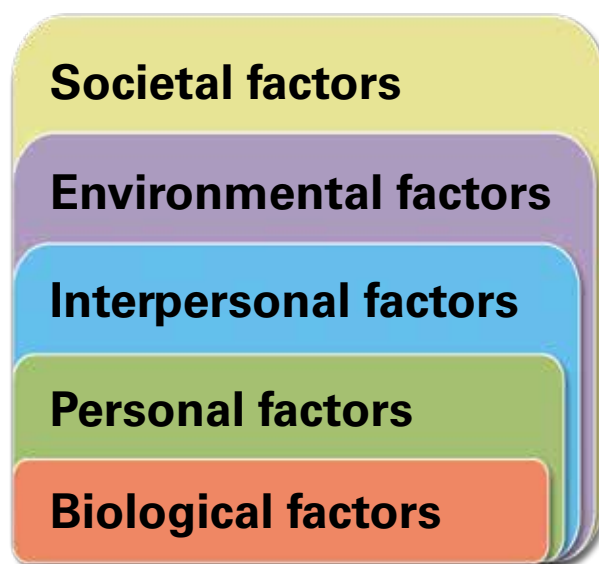
At the interpersonal level – Girls need a positive social environment. They tend to be isolated or teased during menses, despite their need for support. Girls are afraid to discuss menstruation with family members and teachers, especially men, and some girls only confide in their closest friends. Girls feel insecure discussing menstruation, making them less likely to seek support from others and inhibiting their ability to access resources and information.

At the personal level – Most girls are not equipped with the appropriate knowledge or skills to manage menses effectively. Because girls are provided with conflicting information on menstruation from educators and family members, they hold a combination of traditional and modern beliefs and practices, some of which are harmful to their health. Most girls have negative attitudes about menstruation and consider it a to be burden.

At the biological level – Girls experience menstruation differently and do not understand that differences in cycle, symptoms and pain can be normal. Girls lack strategies to treat pain and track their cycle so they can better prepare for and manage menses.

Programmes should simultaneously aim to address gaps at multiple levels. Recommendations for improving girls' experiences with menstruation and their abilities to successfully manage menstrual hygiene are presented in the following section.

Figure 3. The social-ecological model



Recommendations

Broad engagement from a wide range of stakeholders – including the Government of the Plurinational State of Bolivia, non-governmental organizations, schools, teachers and parents – is essential to ameliorate girls' challenges in school during menstruation. This section provides a summary of key recommendations, based on the findings of the MHM assessment.

Key recommendation 1

Enable girls to have concrete practical skills that allow them to manage menstruation:

These skills should enable girls to practise menstrual hygiene management safely and effectively, using WASH facilities available to them in school, and with the confidence and ability to support themselves when teachers or family are not present. To advance these goals, it is recommended that:

- a. Education is provided to girls in primary school pre-menarche (between ages 9 and 10), including the basic biology of menstruation, physical and emotional changes, and practical guidance on using absorbent materials and WASH facilities.
 - i. Girls learn how to properly use the WASH facilities available in school while managing menses, including showers, latrines and trash cans.
 - ii. Girls learn how to track menses to better plan for their menstrual cycle and pregnancy (fertility awareness methods).
- b. Stakeholders at the national, municipal and community levels create a network that strengthens teachers' capacities and equips them with tools to provide in-depth and medically accurate information to students in a safe learning environment.
 - i. Create a system for experts in reproductive health and WASH to provide training for teachers in carrying out lessons in their schools, or create a system in which mobile health workers teach reproductive health and WASH directly to students.

Key recommendation 2

National and local governments should have policies and mechanisms that encourage proper use and facilitate maintenance of WASH facilities in schools:

- a. Develop mechanisms to maintain existing WASH infrastructure to ensure:
 - i. Timely receipt and response to requests for WASH repairs.
 - ii. Regular preventive maintenance of WASH facilities and systems.
 - iii. Sewage removal from school latrines.
 - iv. Latrine cleanliness and daily maintenance, including environmentally appropriate trash collection and disposal.
 - v. Regularity of WASH education on correct latrine and shower use, and verification of teacher and student adherence.
- b. Develop and practise practical and sustainable water conservation strategies for schools in water-scarce regions.
- c. Prioritize construction and repairs in schools with poor basic WASH facilities over schools with better facilities.

Key recommendation 3

Schools should have policies, facilities and resources in place that allow girls to discreetly manage menstruation in school:

- a. Norms for WASH facility use during school hours are adjusted to facilitate discreet management of menses for girls.
- b. Basic WASH consumables and resources are provided to schools, including:
 - i. Toilet paper available in each latrine stall.
 - ii. Covered trash cans present in each latrine stall.
 - iii. Soap available at each hand-washing station.
 - iv. Each latrine stall has a functional lock inside and outside, and the door closes completely.
 - v. Latrine pit drying materials (ash, woodchips, sand) are available in urine diverting toilet stalls.

Key recommendation 4

Girls should have access to absorbent materials:

These materials are necessary to prevent stains and odour and to manage menstrual accidents, allowing girls to participate confidently in school activities and interact easily with classmates. To advance these goals, it is recommended that:

- a. Sanitary pads or other appropriate materials are available for free to girls in cases of emergency need at school.
- b. Sanitary materials are always available to girls in school for purchase or, preferably, are made available for free or at a reduced cost.

A comprehensive and detailed list of recommended programme components, organized by key determinants, is presented in annex 1. This list may be used as a means to evaluate which components individual schools already have in place and to identify the gaps that need to be addressed. Specific recommendations contributed by the participants who were engaged in this research are described in annex 2.

While all of the assessment recommendations are evidence-based, the evidence comes from a small sample of schools in Cochabamba, Bolivia. Stakeholders should consider what is feasible in their specific context and test various strategies for action at a small scale to discern what is most effective.

Annex 1. Comprehensive recommendations

Annex 1 presents a holistic and detailed set of recommendations that are inclusive of the recommendations provided by the stakeholders involved in this assessment. All data were analysed collectively to identify a wide range of programmatic recommendations to ameliorate the challenges girls face when managing menstruation in school. The recommendations are organized by three topics: menstruation knowledge and education; WASH facilities in schools; and absorbent materials.

Information on the current situation is presented in the introductions for the tables. The 'vision for change' – what we expect or hope will result from the recommendation – appears at the top left of the tables. Recommendations to enable change, which include the detailed recommendations, appear in the middle column; these recommendations are formatted with checkboxes and may be used as a quick evaluation sheet. Finally, community assets – the programmes, systems, organizations and initiatives that are already in place and are important to get recommendations into motion – are shown on the far right column of each table.

Menstruation knowledge and education

Girls do not understand the biology of the menstrual cycle, nor do they possess the skills to safely and privately manage menstruation in school. Girls learn traditional practices for menstruation from female relatives who never reached secondary school. They learn to manage menses in communities that lack any WASH facilities or do not have stores that sell absorbent materials, and they are not educated on how to use WASH facilities during menstruation. The information girls gain in school is delivered late and can contradict the traditional practices they learn in the home. Details on recommendations for improving girls' access to knowledge and education are presented in table A.

Table A. Recommendations on menstruation knowledge and education

Vision for change	Knowledge and education recommendations to enable change	Community assets
<p>Girls understand the biology of menstruation, the normal changes taking place in their bodies, and what indicates infection.</p>	<p>1.0 Reproductive health and hygiene education materials that integrate essential menstruation-related components are developed or updated.</p> <p>1.1. Girls are taught the biology of menstruation, including:</p> <p><input type="checkbox"/> What to expect during the menstrual cycle, for example.: typical emotional and physical signs of menstruation (quantity of blood flow, pain, discomfort); normal vaginal discharge during the cycle; how to identify a vaginal infection.</p> <p><input type="checkbox"/> The menstrual cycle as a normal bodily function.</p> <p><input type="checkbox"/> The relationship between the menstrual cycle, fertility, pregnancy and reproductive health.</p> <p><input type="checkbox"/> The changes of menses throughout her lifespan.</p> <p>1.2. Girls are provided with practical guidance for menstrual hygiene management needs that explain:</p> <p><input type="checkbox"/> Which absorbent materials can be used and where they can be obtained.</p> <p><input type="checkbox"/> How to properly use school WASH facilities while managing menses, including showers, latrines and trash cans.</p> <p><input type="checkbox"/> How to hygienically wash, dry and store home-made menstrual cloths.</p>	<p>✓ Bolivia's education curriculum promotes building life skills.</p> <p>✓ Natural sciences curriculum has a human reproduction component and briefly overviews menstruation in secondary school.</p> <p>✓ UNICEF and the Government of Bolivia have a system and cohort of trained Tecnicos DESCOMS* who provide WASH training to schools.</p> <p>✓ Female teachers give menstrual hygiene 'tips' and promote bathing to adolescent girls.</p>

<p>Girls possess concrete practical skills that allow them to manage menstruation: (1) safely and effectively; (2) with the WASH facilities available to them in school; and (3) with the confidence and ability to support themselves when teachers or family are not around.</p>	<p><input type="checkbox"/> How to properly change and dispose of absorbent materials.</p> <p><input type="checkbox"/> How to prevent and prepare for accidents (keeping pads and/or cloths, toilet paper and underwear on hand).</p> <p><input type="checkbox"/> How to make effective home-made menstrual cloths.</p> <p>1.3. Girls are given clear explanations about which traditional practices and beliefs are safe and which may be harmful, specifically:</p> <p><input type="checkbox"/> That regular personal hygiene to reduce odour and prevent vaginal infections is important.</p> <p><input type="checkbox"/> That girls can perform the same activities and eat the same foods when they are menstruating as when they are not.</p> <p><input type="checkbox"/> That menstrual blood is not dirty and can not cause self-contamination, cancer or other sicknesses.</p> <p>1.4. Holistic inter-sectoral workshops are created that integrate multiple adolescent health issues, such as puberty, sexuality, reproductive rights and mental health.</p>	<p>➤ Primary-school curriculum promotes basic hygiene practices.</p> <p>➤ Quechua communities are more trusting of traditional medicine and have greater access to it.</p> <p>➤ Local and international NGOs work in Cochabamba on reproductive health and child protection issues.</p>
<p>2.0 Menstruation education that is age-appropriate, culturally sensitive and interactive is delivered on a continuum throughout primary and secondary schooling.</p>	<p><input type="checkbox"/> Education is provided to girls in primary school, pre-menarche – between ages 9 and 10 – and includes: the basic biology of menstruation; physical and emotional changes; and practical guidance on using absorbent materials and WASH facilities.</p> <p><input type="checkbox"/> Classes and discussions on menstruation are gender-separated.</p> <p><input type="checkbox"/> Programmes are developed that empower girls to gain and share MHM knowledge and provide support for each other (peer education or girls' groups, educational radio campaigns).</p> <p><input type="checkbox"/> Classes are provided several times a year to ensure that all girls receive menstruation education and recognize menstruation as an appropriate topic for discussion in school.</p> <p><input type="checkbox"/> Lessons to all students emphasize respect for girls who have reached menarche and who are menstruating.</p> <p><input type="checkbox"/> Lessons integrate dynamic learning activities and mechanisms for girls to ask anonymous questions.</p> <p><input type="checkbox"/> Learning aids are available to explain complex bodily functions and the organs involved in menstruation.</p> <p><input type="checkbox"/> Menstruation education is provided by female instructors to female students.</p> <p><input type="checkbox"/> Secondary-school lessons reinforce information learned in primary school and introduce sexual and reproductive health.</p>	
<p>Girls learn medically accurate information on menstruation: (1) in a safe learning environment; (2) from a person they trust; (3) in a manner that facilitates asking questions; and (4) that is age appropriate for their comprehension.</p> <p>Girls learn that menstruation is normal and respect themselves and others during menstruation.</p>	<p>➤ Rural schools receive yearly visits from hospitals and postas (health centre or clinic) on other health topics.</p> <p>➤ Girls are receptive to menstruation education from female teachers, health workers and mothers.</p> <p>➤ Girls and boys highlight the need to respect the topic of menstruation and girls who are menstruating.</p> <p>➤ Natural sciences curriculum has a human reproduction component and briefly overviews menstruation in secondary school.</p>	

Table A Continued

Vision for change	Knowledge and education recommendations to enable change	Community assets
<p>Systems exist that provide teachers with the tools to teach menstruation education and create a safe learning environment.</p> <p>Stakeholders are accountable for implementing MHM training for teachers in Bolivia.</p>	<p>3.0 Stakeholders at the national, district and community levels create a network that strengthens the capacity of teachers and equips them with tools to provide in-depth and medically accurate information in a safe learning environment.</p> <p><input type="checkbox"/> Create a system for experts in reproductive health and WASH to train teachers to carry out lessons in their schools, or create a system in which mobile health workers teach reproductive health and WASH directly to students.</p> <p><input type="checkbox"/> Ensure that a female teacher from each school or nucleo specializes in menstruation education.</p> <p><input type="checkbox"/> Provide courses to teachers that introduce strategies for discussing sensitive issues with students.</p> <p><input type="checkbox"/> Create a work plan to track training provided for each school community and who received the training.</p> <p><input type="checkbox"/> Develop and provide instruction guides that contain medically accurate MHM content and learning activities.</p>	<p>✓ Schools receive yearly visits from hospitals and <i>postas</i> on health topics.</p> <p>✓ UNICEF and the Government of Bolivia have a system and cohort of trained Tecnicos DESCOMS who provide WASH training to schools.</p> <p>✓ Hospitals and local governments collaborate with NGOs and UNICEF.</p>
<p>Parents are involved in MHM education and are given information and practical skills to discuss menstruation accurately and to reduce stigma surrounding the topic.</p>	<p>4.0 Menstruation education is provided to community members to de-stigmatize the topic and promote education within families.</p> <p><input type="checkbox"/> Organizations currently providing health workshops to mothers integrate menstruation-related education and activities into workshops that enable mothers to share the information with their daughters.</p> <p><input type="checkbox"/> Trained teachers offer parents information sessions on menstruation and the importance of appropriate hygiene for increased school participation and reduced risk of infection.</p>	<p>✓ NGOs and community-based organizations provide health information to women in rural areas.</p> <p>✓ Mothers value secondary education for their daughters.</p>

* Tecnicos DESCOMS are Community Development Managers who work with UNICEF and the Government of Bolivia to implement community education and training on water and sanitation projects in hard-to-reach areas.

WASH facilities in schools

Girls do not have access to the facilities, consumables and other materials necessary to safely, comfortably and privately manage menstruation in school. In most schools, students and teachers share WASH facilities that are in poor condition and are not suitable for the water-scarce environment. Schools lack support from local authorities to make repairs to WASH infrastructure and systems, creating larger student-to-latrine ratios. The existing functional WASH facilities were not built with girls' MHM needs in mind and lack the basic materials required for menstrual hygiene.

Details on recommendations for improving WASH facilities in schools that will facilitate menstrual hygiene management are presented in table B.

Table B. Recommendations on WASH facilities in schools

Vision for change		WASH recommendations to enable change	Community assets
		1.0 Systems for WASH facility maintenance are developed and repairs are prioritized.	
<p>National and local governments have policies and mechanisms that encourage the proper use and facilitate the maintenance of school WASH facilities.</p> <p>Schools have water conservation strategies in place to ensure personal hygiene practices and facility cleaning are maintained and water consumption is sustained.</p> <p>All teachers have access to functional basic WASH facilities while residing on school grounds and can enforce positive WASH habits with students.</p>	<p>1.1. Mechanisms are developed to maintain existing school WASH infrastructure and ensure improvements in:</p> <p><input type="checkbox"/> Timely receipt and response to requests for WASH repairs</p> <p><input type="checkbox"/> Regular preventive maintenance of WASH facilities and systems.</p> <p><input type="checkbox"/> Sewage removal from school latrines.</p> <p><input type="checkbox"/> Latrine cleanliness and daily maintenance, including environmentally appropriate trash collection and disposal.</p> <p><input type="checkbox"/> Regularity of WASH education on correct latrine and shower use, and verification of teacher and student adherence.</p> <p><input type="checkbox"/> Proper care and use of urine diverting toilets, especially management of facilities and dry compost sections of the latrine.</p>	<p>1.1. Mechanisms are developed to maintain existing school WASH infrastructure and ensure improvements in:</p> <p><input type="checkbox"/> Timely receipt and response to requests for WASH repairs</p> <p><input type="checkbox"/> Regular preventive maintenance of WASH facilities and systems.</p> <p><input type="checkbox"/> Sewage removal from school latrines.</p> <p><input type="checkbox"/> Latrine cleanliness and daily maintenance, including environmentally appropriate trash collection and disposal.</p> <p><input type="checkbox"/> Regularity of WASH education on correct latrine and shower use, and verification of teacher and student adherence.</p> <p><input type="checkbox"/> Proper care and use of urine diverting toilets, especially management of facilities and dry compost sections of the latrine.</p>	<p>✓ Bolivia is dedicating efforts to improve national school WASH conditions.</p> <p>✓ UNICEF and the Government of Bolivia have a system and cohort of trained Tecnicos DESCOMS who provide WASH training to schools.</p> <p>✓ Most schools have basic WASH facilities in place.</p> <p>✓ Private Catholic schools have additional support systems in place to repair facilities that can serve as models to other schools.</p> <p>✓ Teachers and older students know how to care for WASH facilities.</p>
	1.2. Practical and sustainable water conservation strategies for schools in water-scarce regions are developed and practised.		
	1.3. Construction and repairs in schools with poor basic WASH facilities are prioritized over schools with better facilities.		

Vision for change	WASH recommendations to enable change	Community assets
<p>Schools have policies, facilities and resources in place that allow girls to discreetly manage menstruation in school.</p>	<p>2.0 Current school-level WASH policies and facility conditions are improved.</p> <p>2.1. Norms for WASH facility use during school hours are adjusted to facilitate discreet management of menses for girls.</p> <p><input type="checkbox"/> Allow girls to bring their book bags to the latrine with them to access menstrual supplies privately.</p> <p><input type="checkbox"/> Grant girls permission to leave class to use the latrine as needed.</p> <p><input type="checkbox"/> Provide students longer break times to use WASH facilities, particularly when there are few latrines available.</p> <p>2.2. Basic WASH consumables and resources are provided to schools:</p> <p><input type="checkbox"/> Toilet paper is available in each latrine stall.</p> <p><input type="checkbox"/> Covered trash cans are present in each latrine stall.</p> <p><input type="checkbox"/> Soap is present at each hand washing station.</p> <p><input type="checkbox"/> Each latrine stall has a functional lock inside and outside, and the door and closes completely.</p> <p><input type="checkbox"/> Latrine pit drying materials (ash, woodchips, sand) are present in urine diverting toilet stalls.</p> <p>2.3 All students are taught and practise how to correctly use showers in primary school.</p>	<p>✓ Bolivia is dedicating efforts to improve WASH in Schools conditions nationally.</p> <p>✓ Many schools have basic WASH facilities in place.</p>
<p>Girls have functional, clean and private WASH facilities that provide the resources to safely practise personal hygiene in school and practise the MHM skills learned in the classroom.</p>	<p>3.0 The needs of menstruating girls are incorporated into future WASH infrastructure design:</p> <p><input type="checkbox"/> Covered trash receptacles are provided in each latrine stall.</p> <p><input type="checkbox"/> Latrines are constructed with adequate space for a girl to change absorbent materials or clothes, and a trash can for safe absorbent material disposal.</p> <p><input type="checkbox"/> The environmental context, particularly water scarcity, informs design and construction of all WASH infrastructure, e.g., no pour-flush toilets are built in areas that do not have sustainable, year-round access to water on school grounds.</p> <p><input type="checkbox"/> Adequate WASH facilities are constructed to accommodate the school population and prevent overuse and breakdown.</p> <p><input type="checkbox"/> Hand-washing stations are built in or near the bathrooms.</p> <p><input type="checkbox"/> There are separate hand-washing stations for boys and girls.</p> <p><input type="checkbox"/> WASH facilities are constructed to maximize use of natural sunlight and improve ventilation.</p> <p><input type="checkbox"/> Latrine doors have hooks on the inside of the door to hold personal belongings and facilitate girls' ability to change pads or clothing.</p> <p><input type="checkbox"/> Water systems are built to provide water at the point of need, separating water used for consumption and hygiene.</p> <p><input type="checkbox"/> Gender-separated showers are constructed in all rural schools, with showers for boys and girls on different sides of the school.</p> <p><input type="checkbox"/> Showers are constructed with solar panels to provide warm water, particularly in cold regions.</p> <p><input type="checkbox"/> Showers are constructed with adequate space for girls to change and with hooks to hang clothes for drying.</p>	<p>✓ Bolivia is dedicating efforts to improve WASH in Schools conditions nationally.</p> <p>✓ UNICEF is already building urinary diverting toilets in water-scarce areas.</p> <p>✓ UNICEF currently builds showers with solar panel technology.</p>

Absorbent materials

Girls do not have regular access to absorbent materials that allow them to manage menstruation in school. Schools do not provide girls with sanitary pads on a regular basis for cases of emergency, and communities may not have local stores where sanitary pads can be purchased. Sanitary pads are too expensive for many girls and families to afford. Details on recommendations for improving girls' access to absorbent materials for menstrual hygiene management are presented in table C.

Table C. Recommendations on absorbent materials

Vision for change	Materials recommendations to enable change	Community assets
1.0 Systems are established at the school or in the community that enable girls to access absorbent materials.		
<p>Girls have access to absorbent materials to prevent stains and odour and manage menstrual accidents, allowing them to participate confidently in school activities and interact normally with classmates.</p> <p>Girls have support from schools to easily access sanitary pads without leaving school.</p>	<p><input type="checkbox"/> Sanitary pads are available for free to girls in cases of emergency in school.</p> <p><input type="checkbox"/> Sanitary pads are available to girls in school for purchase, or preferably are available for free or at reduced cost.</p> <p><input type="checkbox"/> Workshops are offered that teach girls to make safe and effective reusable absorbent materials.</p> <p><input type="checkbox"/> Sanitary pads are sold in surrounding school communities.</p> <p><input type="checkbox"/> Parents buy or make safe absorbent materials for their daughters.</p>	<p>✓ Larger rural communities have regular transportation to urban areas.</p> <p>✓ School administrators and teachers regularly travel to urban areas.</p> <p>✓ Private Catholic schools require parents to provide absorbent materials for girls.</p>

Annex 2. Specific recommendations, by research participant population

Girls, teachers, mothers, boys and health workers made recommendations to improve girls' experiences at school during menses. The tables in annex 2 summarize the recommendations that were provided during data collection. These contributions were incorporated into the comprehensive recommendations listed in annex 1.

Table A. Education

Recommendations	Girls	Teachers	Boys	Mothers	Health workers
Classes and training led by trained female teachers, nurses or doctors	x	x	x	x	
Gender-separated classes	x	x			
Boys need equally in-depth information on menstruation	x				
Earlier education on menstruation – starting in primary school for girls at age 9	x	x	x		
In-depth, relevant and up-to-date reproductive health and menstruation education	x				
Tips during menses – clarity on correct practices (bathing, food and other activities)	x		x		
How to use sanitary pads	x		x		
Preparation for menstruation – having sanitary pads, menstrual cloths and underwear on hand	x				
Understanding the menstrual cycle – regularity and changes throughout a woman's life	x			x	
Adolescence		x			x
Reproductive/adolescent rights					x
Puberty					x
Pregnancy prevention/family planning	x	x	x	x	x
Sexually transmitted infections		x	x		x
Learning materials and activities should be provided for girls and teachers					
Audiovisual materials		x			
Models to scale – reproductive system		x			
Guides for teachers		x			
Drawings, posters, photographs	x	x			
Books	x	x			
Brain teasers and interactive activities		x			
Mechanisms to anonymously raise questions		x			
Integrate menstruation education into <i>transversales</i> (cross-cutting themes in the curriculum)					
Teacher training on menstruation, menstrual hygiene and teaching techniques		x			
A specialized and dedicated person in each school to teach menstruation and related topics to girls and the surrounding community		x			

Table B. Training and workshops

Recommendations	Girls	Teachers	Boys	Mothers	Health workers
Community/parent training and sensitization to menstruation	x	x			
School staff and community training for maintenance of UDD toilets and clear role of municipal government in the process		x			
UNICEF and health centre collaboration					x
Municipal governments – with technical support from UNICEF and other NGOs – provide direct follow-up with schools that is related to menstruation education and WASH innovations implemented in schools		x			
Workshops and ‘chats’ with girls given by community health workers (2–6 times a year)	x			x	
Implemented during school hours		x			
Regularity and follow-up	x	x	x		
Multidisciplinary workshops with a psychologist, doctor and lawyer to provide knowledge about adolescence and adolescents’ rights – including pregnancy prevention (morning-after pill), rape and abuse; available hospital services; and physical and emotional changes of growing up		x			x

Table C. WASH facilities in schools

Recommendations	Girls	Teachers	Boys	Mothers	Health workers
Latrines					
Safe and private – with locks	x	x			
Trash can	x				
Toilet paper	x				
Soap	x				
Water available on school grounds	x	x			
Showers on school grounds					
Safe – with locks and privacy	x				
Warm water	x				
Gender-separated	x	x			
Multiple stalls	x	x			
Stalls are more distant from classrooms	x				
Space to change clothes	x				
A room for menstruating girls to manage menstruation containing water, hand-washing stations, storage cubicles, trash cans, locks (from the inside), soap and towels, and having a dedicated cleaning person	x				
Yearly preventive maintenance visits from local government to review facilities, make repairs and provide guidance to teachers	x	x			

Table D. Consumables

Recommendations	Girls	Teachers	Boys	Mothers	Health workers
Sanitary pads are available to girls	x	x	x		
The local government should build a school store or community store that sells sanitary pads, among other items	x				
Female school staff member (janitor, secretary or trusted teacher) sells pads to girls	x				
Pads available in the principal's office					
Pads distributed for free and regularly to girls by local government	x				
Parents purchase pads for daughters	x				
Sanitary pads available from the school in cases of emergency	x	x			
Pain relievers available at school	x				
Toilet paper provided in latrines by the school	x				

Table E. Additional recommendations

Recommendations	Girls	Teachers	Boys	Mothers	Health workers
A long-term network organized to build capacity and support teachers who are teaching menstruation and related topics		x			
Girls' peer-education groups		x			
Older girls receive training to teach and act as mentors to younger girls – training repeats every school year		x			
Small groups, led by trusted female teachers, set up to answer girls' questions		x			
Girls who know about menstruation should teach their friends how to care for and manage menstruation	x				
Educational radio campaigns for girls and mothers in rural Bolivia				x	
Student services card available to students to receive free/reduced health services from the local medical facility		x			

References

1. Abioye-Kuteyi, E. A., 'Menstrual Knowledge and Practices amongst Secondary School Girls in Ile Ife, Nigeria', *Journal of the Royal Society for the Promotion of Health*, vol. 120, no. 1, March 2000, pp. 23–26.
2. Irinoye, O. O., A. Ogungbemi and A. O. Ojo, 'Menstruation: Knowledge, attitude and practices of students in Ile-Ife, Nigeria', *Nigerian Journal of Medicine*, vol. 12, no. 1, January–March 2003, pp. 43–51.
3. Sommer, Marni, 'Ideologies of Sexuality, Menstruation and Risk: Girls' experiences of puberty and schooling in northern Tanzania', *Culture, Health & Sexuality*, May 2009, vol. 11, no. 4, pp. 383–398.
4. Ten, Varina Tjon A., editor, 'Menstrual Hygiene: A neglected condition for the achievement of several Millennium Development Goals', Europe External Policy Advisors, Zoetermeer, Netherlands, 10 October 2007.
5. Sommer, Marni, 'Where the Education System and Women's Bodies Collide: The social and health impact of girls' experiences of menstruation and schooling in Tanzania', *Journal of Adolescent Health*, vol. 33, no. 4, August 2010, pp. 521–529.
6. Sommer, Marni, 'Putting Menstrual Hygiene Management into the School Water and Sanitation Agenda', *Waterlines*, vol. 29, no. 4, 2010, pp. 268–278.
7. Montgomery, Paul, et al, 'Sanitary Pad Interventions for Girls' Education in Ghana: A pilot study', *PLOS ONE*, vol. 7, no. 10, October 2012, e48274.
8. McMahon, Shannon A., et al., '“The Girl with Her Period Is the One to Hang Her Head”: Reflections on menstrual management among schoolgirls in rural Kenya', *BMC International Health and Human Rights*, vol. 11, no. 1, 2011, pp. 1–10.
9. Crofts, Tracey, and Julie Fisher, 'Menstrual Hygiene in Ugandan Schools: An Investigation of low-cost sanitary pads', *Journal of Water, Sanitation, and Hygiene for Development*, vol. 2, no. 1, 2012, pp. 50–58.
10. Ministry of Education, 'Currículo base del sistema educativo plurinacional y lineamientos generales del subsistema de educación regular', Government of the Plurinational State of Bolivia, La Paz, 2011.
11. Ministry of Education, 'Educación Secundaria Comunitaria Productiva: Campos de Saberes y Conocimientos – Vida Tierra Territorio', Government of the Plurinational State of Bolivia, La Paz, 2011.
12. Naturaleza educativa (Nature Education), 'Portal educativo de Ciencias Naturales y Aplicadas: Anatomía humana', Asociación Española para la Cultura, el Arte y la Educación (ASOCAE O.N.G.D.), www.natureduca.com/anat_indice_educasex5.php#inicio, accessed 10 September 2013.
13. Ministry of Education, 'El proyecto “Una computadora por docente” cumple con docentes cochabambinos', Government of Bolivia, 2012, http://computadora.educabolivia.bo/index.php?option=com_content&view=article&id=128:el-proyecto-una-computadora-por-docente-cumple-con-docentes-cochabambinos&catid=77:noticias&Itemid=608, accessed 14 September 2013.
14. WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation, 'Meeting Report of JMP Post-2015 Global Monitoring Working Group on Hygiene', JMP, Washington, D.C., May 2012.
15. United Nations Educational, Scientific and Cultural Organization, *World Atlas of Gender Equality in Education*, UNESCO, Paris, 2012.
16. Sistema de Información de Educación (Education Information System), 'Bolivia Education Statistics', Government of Bolivia, 2009.
17. Ministry of Education Information Management System (SIE) data set, Bolivia, 2009.
18. WASH in Schools, 'Country Profile: Bolivia', 2011.
19. Lujan, Alejandro, 'Estrategia para Llevar a Escala el SANTOLIC: En base a la experiencia piloto, 2010–2011', United Nations Children's Fund, La Paz, Bolivia, 2011.
20. National Institute of Statistics, Bolivia, 2006, www.ine.gob.bo/indice/visualizador.aspx?ah=PC100101.HTM, accessed 14 September 2013.
21. United Nations Children's Fund, *WASH in Schools Monitoring Package*, UNICEF, New York, April 2011.
22. Freeman, Matthew C., 'Module 1: Introduction to WASH in Schools', *The WASH in Schools Distance-Learning Course*, United Nations Children's Fund, New York, 2012, pp. 8–13.
23. Caruso, Bethany, 'Module 8. Special Topics for Girls', *The WASH in Schools Distance-Learning Course*, United Nations Children's Fund, New York, 2012, pp. 38–43.
24. Rivera, Roberto, et al., *Research Ethics Training Curriculum*, Family Health International.

Abbreviations

FGD	focus group discussion
I	interviewer
IDI	in-depth interview
KII	key informant interview
MHM	menstrual hygiene management
NGO	non-governmental organization
no.	number
P	participant
SENASBA	National Service for Sustainability of Basic Sanitation Services
UDD	urine diverting dry (toilets)
WASH	water, sanitation and hygiene

From the research in Bolivia ... participants share their experiences

There is no bathroom, we usually go far over there, under the bushes. That is the reason we're late sometimes, and the teachers lock the door on us.

– A girl from Independencia

I learned about sanitary pads from my best friend. When I wear them it's easier to go to school, but they're expensive and I can't ask my mom to buy them. Sometimes I save pads for my heavy days or I only use them at school. I still have to wrap them up and take them home because there's no trash can in the school latrine.

– A girl from Cochabamba

I still go to school when I have my period, but I avoid going to the chalkboard when I'm in class.

– A girl from Tacopaya



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An Assessment of Menstrual Hygiene Management in Schools

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