

Implementing Gender and Differently-able Friendly School Toilets in Nepal

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A detailed analysis of water, sanitation and hygiene facilities in four Nepali schools revealed that they have poor water and sanitation facilities and unhygienic environments both in terms of quantity and quality. Inadequate knowledge of the concept of 'child-friendly' sanitation facilities, absence of user involvement in the planning and design process, and lack of training and orientation among members of School Management Committees, Parent Teacher Associations and Child Clubs are the main reasons behind this. To reverse this trend, toilet facilities were constructed at the 'Sangam' Primary School not only to demonstrate the process of planning 'child, gender and differently able friendly' sanitation facilities but also as a training tool for the concerned stakeholders. Lessons learned from this process have been incorporated into sanitation booklets and training programmes for non-government organizations, District Sanitation Steering Committees, and local masons to raise awareness, make monitoring at the district level more effective, and widen the network of partners working on school sanitation. In this way, a combination of bottom-up and top-down approaches as well as parallel building up of hardware and software components have led towards sustainable sanitation.

Keywords: *Child friendly toilet, Water, Sanitation, Hygiene, Children's participation, School, Differently-able, gender*

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Contextual Background and Study Objectives

Water supply, latrine and hand washing programmes were started in Nepal only after UN declaration of International Drinking Water Supply and Sanitation Decade: 1980-1990. In 1987 UNICEF Nepal partnered with Department of Water Supply and Sewerage (DWSS) to design and implement a water supply and sanitation programme. Formulation of sanitation policy in 1994 and establishment of a national level sanitation steering committee in 1998 and development of Basic Sanitation Package and implementation of water supply project throughout 75 districts in the succeeding year has clearly demonstrated the government of Nepal's commitment towards water and sanitation. Since 2000 UNICEF has been supporting School Sanitation and Hygiene Education Program (SSHE) which is a component of Decentralized Action for Children and Women (DACAW) Program being implemented in 15 districts of Nepal. An assessment of the SSHE program in 2006 found the program successful not only in bringing sanitation and hygiene behaviour and decrease in morbidity and mortality of children but also contributing favourable physical environment for both children and teachers through construction of toilets and drinking water facilities.

This study is focused to identify numerous shortcomings such as, lack of ownership among the stakeholders, insufficient support from district level stakeholders in coordination, monitoring and supervisors, inadequate attention to child friendly elements in the design of sanitation facilities and insufficient efforts to improve children participation in the design and implementation of their own programs (UNICEF, 2006a). To address these weaknesses, UNICEF, Nepal has envisaged a Project on Building District Capacity to Scale-up School Water, Sanitation and Hygiene Education Program (SWSHE: 1997-2010)² aiming to address the above mentioned deficiencies particularly focusing on

² Two team separately conducted detail study of Tanahun (mountain district) and Nawalparasi (terai region) in the first phase (2007-2009) and those studies were combined in the second phase of implementation (2009 – 2010). The author has been actively involved from the beginning to now (almost at the end).

children's participation in designing of child friendly sanitation facilities and broaden the network of partners supporting this program. The whole program was carried out in four major stages: (a) global search and field study, (b) drafting of processes, tools and materials, (c) development of training modules designed for NGOs DSSCs, Teachers and Tradesmen, and (d) conduction of the training program.

This paper based on the experiences gained in the last three years, presents the experiences of implementing child, gender and differently able friendly toilet and hand washing facilities in schools in Nepal. It has four main objectives. First, it explains the emerging concept of child friendly and need of children's participation in construction of child, gender and differently able toilets in schools. Second, it conducts detail case studies of four schools in rural parts of Nepal to find out the current practice of health and hygiene behaviours and condition of toilet and drinking water facilities. Moreover, it also presents numerous weaknesses on them. Third, it demonstrates the process of designing child, gender and differently able friendly toilet and hand washing facilities taking the case of *Sangam* Primary School in *Tanahun*³ district and then identifies major challenges faced during the implementation process. Fourth and last, it draws a conclusion and presents some challenges before assessing the field visit of toilets and training activities.

Concept of Child Friendly Sanitation Facilities

Water, Sanitation and Hygiene in Schools refers to a combination of technical (hardware) and human development (software) components. Construction of toilet, hand washing and drinking water facilities in and around the school compound and their right practices that help to prevent water and sanitation related diseases and worm infestation is essential. It has multiple impacts on students and school environment (Figure 1).

³ Tanahun: A hill district, one of the 15 working DACAW districts of UNICEF, and lies in the western development region of Nepal.

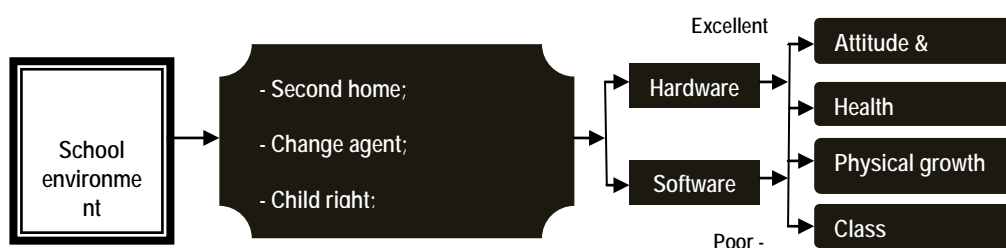


Fig. 1. Importance of water, sanitation and hygiene environment in school

Schools are a second home after the family to many children and they spend a significant amount of time there. Provision of toilet, hand washing and safe drinking water together with clean school environment is the ‘right’ of all children. As children are far more receptive to new ideas and can be influenced to cultivate the habits of good personal hygiene, schools can be considered as ‘education and information centres’ for safe water, sanitation, health and hygiene that can link teacher to child, child to child, child to parent, and parent to community (DOE *et al.*, 2006). Children develop leadership quality due to rise in health and hygiene awareness as well as communication with other members of society and community. They will get the opportunities to take responsibility, to practice leadership and adult role, and to learn the skills of participation (Murphy *et al.* 1985, Henry, 1994) resulting in better pupil behaviour, better attendance, less delinquency and higher achievement (Rutter *et al.* 1979).

High incidence of communicable diseases in Nepal, particularly among children, is due to poor personal hygiene practice, unsanitary environment as well as unsafe drinking water. It also affects children’s attitude, behaviour, class attendance and performance at school (UNICEF, 2004). Girls and boys, including those with disabilities, are likely to be affected in different ways by inadequate water, sanitation and hygiene conditions in schools, and this may

contribute to unequal learning opportunities (Adams *et.al*, 2009). If school children have access to clean and appropriate toilets, functioning hand wash facilities with soap, sufficient and safe drinking water and have developed adequate skills on hygiene, those children will be healthier, perform better in school, and learn about equal division of hygiene related tasks (cleaning of toilets, fetching and boiling water, taking care of sick people) (Mooijman *et al*, 2009). Moreover, girls students will learn about menstrual hygiene and physical and emotional changes during puberty which will stimulate the girls to come to school during menstruation and will avoid menstrual odour, discomfort and potential urinal and vaginal infections. It will have an even greater positive outcome for girls who often stay away from all dropout of school which do not have toilet facilities.

The child friendly approach to school hygiene, sanitation and water aims to design, construct and maintain facilities that are part of the learning environment, are hygienic and safe to use and can be sustained and maintained by the school community itself. Various aspects of child, gender and differently-able friendly sanitation facilities in school can be divided into three groups: space planning and construction detail, operation and maintenance and participation of the concerned stakeholders and users (Table 1).

Table 1. Various parameters of child, gender and differently-able sanitation facilities in school

<i>Space planning and construction detailing</i>	(a) Interactive spaces that stimulate children’s learning and development, (b) Appropriate dimensions and features for children, (c) Gender and differently-able related needs and roles, (d) Well considered location, (e) Enough capacity and minimal waiting time, (f) Affordable cost without compromising quality, (g) Environmental friendly and seismic resistant
<i>Operation and</i>	(a) Have operation and maintenance plan, (b)

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<i>maintenance</i>	Encourage hygienic behaviour
<i>Participation of users and stakeholders</i>	(a) Participation of child, SMC, PTA and communities including girls students and ladies teachers

Children are smaller and less strong than adults and therefore facilities for children require different dimensions than those for adults. For young children the weight of doors or hole covers, or strength needed to open tap or operate pump can make difference. Location of the facilities require considerations of site context, orientation and cultural aspect, in addition to users' view, otherwise even a well designed facility may face the risk of not being used. Adapting designs for children is about making facilities accessible and comfortable for them. Women and girls attending schools that do not have adequate sanitary arrangements (i.e., separate toilets for girls and boys, privacy, physical facilities to dispose of sanitary items or safe and clean facilities to wash sanitary cloths) are excluded in many ways. Many girls feel embarrassed to be in school during this time if the physical facilities are not there, the sanitary products are unaffordable and if the embarrassment is too much to bear. Too often special provisions for menstruation hygiene and differently-able needs are simply ignored in design of sanitation and water facilities. No separate facility is required but inclusion of their needs with little extra cost is possible. When there are not enough facilities, children search for other places to urinate and defecate, 'forget' to wash their hands, throw garbage on the ground or drink water from unsafe sources. Particularly in a school environment, the hygiene and sanitation facilities can provide the opportunity for the interaction and are a potential extension of the learning environment.

A good operation and maintenance plan will not only indicates who is responsible for cleaning, maintenance and the costs involved, it will also ensure involvement of children, teachers, parents and the community in the continuous process of monitoring and improving hygiene practices at school. Hygienic behaviour comprises several small actions, each with its own range of necessary preparations. In particular for children, the complexity of these actions does not

always enable and encourage hygienic behaviour without school rules and help from seniors. When properly coached and guided, potential users are perfectly able to assess their existing practices and find acceptable solutions for their own needs. Application of standard design can ignore the local site context and specific cultural needs. Therefore, water and sanitation facilities must be simple to use, provisions for hand washing and anal cleansing should be integrated into the entire package of facilities, and water and soap should be available at all times.

Children being the main users of sanitation facilities in school, their active participation in planning, design and operation are essential. In fact, participation is a child right guaranteed by the UN Convention on the Rights of the Child to have their opinions on matters that affect them. Moreover, it will not only help in empowering them in planning, construction, monitoring and resource finding activities but also enhance their analytical, negotiation and planning skills. Children will learn the accountability of duty bearers and equally be aware on their own responsibilities. Finally, good design of sanitation facilities and effective action is impossible without participation of users (children). In addition to these, commitment from the government, non-government organisation, donor agencies and active participation of school management committee, parent teacher association including local communities is essential to achieve child friendly school environment (Zomerplaag & Moorijman, 2005).

Though the government of Nepal has been including health education in the curriculum and text-books from the last 30 years, it was only from the late 1980s that various materials and manuals regarding sanitation and health have been published for schools by various public and non-governmental organisations. The concept of child and gender-friendly water supply and sanitation facilities for schools was first initiated in Nepal by the SSHE programme implemented in UNICEF supported districts from 2000 (UNICEF, 2005). Although water and sanitation facilities are recognized as fundamental to proper hygiene behaviour and children's well-being (UNICEF & DWSS, 2000; DOE, 2004; UNICEF, 2006b), in practice, many schools in Nepal particularly in rural areas are confronted with extremely poor sanitary facilities. Conditions vary from

inappropriate and inadequate facilities to the outright lack of toilets and safe water for drinking and acceptable hygiene practices. A national baseline survey of 1994 reported toilet coverage of 12 per cent compared to 6 per cent coverage in 1990 (Adhikari & Shrestha, 2008). Currently the figure is 46 per cent. Just over 40 per cent of schools report having at least one toilet facility, 26 per cent providing a separate toilet for girls (17 per cent adequate) and 30.2 per cent having a separate facility for teachers (GoN, 2009). About 55.1 per cent of schools have access to drinking water facilities. Many water and sanitation facilities that already exist are in disrepair and or not being used or maintained. Many teachers and students are not trained on sanitation and hygiene behaviours issues. Thus, this project is not only significant in contributing to achievement of the Millennium Development Goal (MDG) and reaching national objective of Total Sanitation by 2017 but also meaningful in addressing another MDG goal of promoting gender equality and empower women.

School Case Studies

Four schools were selected as case studies: *Shree Chandika* Primary School (SCPS), *Tanahun*; *Saraswoti* Primary School (SPS), *Gadhi, Makwanpur*; *Janjyoti* Lower Secondary School (JLSS), *Kavre*; and *Shree Saraswoti* Lower Secondary School (SSLSS), *Kavre* (Table 2). Selection criteria included schools having poor hygiene conditions, high enrolment, availability of water facilities, and showing an interest in the programme including a recommendation from the DSSC.⁴

⁴ DSSC: Formed in all the 15 DACAW districts with representation from District Education Office, Water Supply and Sanitation Division/ Sub-Division Office, Nepal Red Cross Society, District Women Development Office, District Public Health Office and other potential NGOs in the district. The committee is chaired by the Local Development Officer of District Development Committee.

Table 2. Different parameters of case study schools

<i>Particulars</i>	<i>SCPS</i>	<i>SPS</i>	<i>JLSS</i>	<i>SSLSS</i>
Location	Byas-4, Tanahu	Gadhi, Makwanpur	Menchey-1, Bhojang, Kavre	Badal Gaun, Kavre
Established year	1968	1971	1977	–
Students (boys/girls)	93 (51/42)	267 (108/159)	234 (118/116)	238 (107/131)
Teachers	5	8	8	11
Grade levels	1–5	1–5	1–6	1–8
Attendance on visit day	79	267*	225	214
Sanitation facility supported by	UNICEF	Plan Nepal	Save the Children US	District Education Office

Note: * = examination day

Sanitation Facilities

All four schools had a drinking water facility but it varied in its degree of convenience and water quality. For SCPS and SPS, water from a nearby natural pond or river was collected in plastic buckets or aluminium pots and kept in the headmaster's office. Most students felt uncomfortable entering the headmaster's room and found it inconvenient to drink water from a steel (or plastic) jug. As a result, they drank water from a tap inside the toilet, which was not hygienic. Students at JLSS and SSLSS drank water directly from a tap stand located outside the academic block. The adequacy, availability and source of water were also poor. SCPS had no plan for developing a permanent source of water;

collecting water at SPS was difficult during the rainy season; and the quantity of water supplied at JLSS and SSLSS was insufficient—the tap at SSLSS had dried up. The provision of water in all cases was more convenient for teachers than for students. Indeed, students at SSLSS had to go to nearby settlements to drink water during breaks, whereas the school management had arranged for bottled water to be delivered to school for teachers and other staff. None of the schools used filters or other methods for purifying water. Buckets and plastic jugs used by students to drink water at SCPS and SPS were often dirty, due to the unsanitary environment and unhygienic practices for handling and cleaning.

Hand-washing facilities available at all schools were unsatisfactory. In all four cases, taps were positioned at the same height for all students regardless of the differing age groups; younger students found it difficult to open and close these taps. Soap and towels were only available in the wash room at SPS. Mirrors - essential for personal grooming - were missing in all cases. Except for SCPS, no school had a wash basin. This tended to result in students not washing their hands, as water splashed on to the floor when using taps. At SPS, the floor of the wash room was slippery due to lack of regular cleaning and proper drainage. At SSLSS, the facilities had not been used for several weeks due to lack of water. In all cases, the toilet block with urinal and hand-washing facilities was separate from academic buildings: near the entrance of the building for SCPS and SPS and at the back of the building at JLSS and SSLSS (with inconvenient access). These locations - directly exposed to the main pathway in SCPS and SPS and too isolated in JLSS and SSLSS - made girl students feel uncomfortable. Using these facilities during the rain was also difficult due to a lack of covered pathways. None of the toilet blocks was disabled-friendly: they all lacked ramps, space for wheelchairs, and fixtures needed for the disabled to use them.

Separate toilet facilities for boys and girls existed in all cases. However, there was wide variation in terms of adequacy, hygienic conditions, and user-friendly design. The number of toilets was inadequate in all schools, except for the girls' toilet at SPS (Table 3). For example, the number of boys sharing one toilet ranged from 55 at SCPS to 89 at SPS, and the number of girls ranged from

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44 at SCPS to 67 at SSLSS (even though the standard prescribes 20 girls per toilet). As teachers also shared the same toilets (except at SPS), there were even fewer toilets available for students.

Table 3. Number of toilets and urinals in the existing case study schools


<i>Particulars</i>	<i>SCPS</i>	<i>SPS</i>	<i>JLSS</i>	<i>SSLSS</i>
Total no. students (Boys – Girls)	93 (51-42)	267 (108- 159)	234 (118- 116)	238 (107- 131)
Total no. of staffs (Teachers & assistants)	6 (5+1)	10 (8+2)	10 (8+2)	13 (11+2)
Gender distribution (Male & female staffs)	4 (male) 2 (female)	9 (male) 1 (female)	6 (male) 4 (female)	11 (male) 2 (female)
Total no. of toilets	1-boys 1-girls (teacher & students share)	3 (boys & girls combined) 1 (teacher)	2 (boys) 2 (girls) (teachers & students share)	2 (boys) 2 (girls) (teacher & student share)
<i>No. of toilet/no. of students</i> <i>[Standard: 1/40 - boy and 1/20 - girl]</i>	1/55 - boy 1/44 - girl	1/89 - students 1/10 - staff	1/62 - boy 1/60 - girl	1/59 - boy 1/67 - girl
<i>Menstruation hygiene facility</i>	No	No	No	No

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<i>Urinal nos.</i>	4 - boys 4 - girls	Toilets are also used for urinal	One separate room for boys only	One separate room for boys only
<i>Hand wash</i>	1 hand wash inside the urinal room	Separate hand wash room	Separate hand wash room	Separate hand wash room

A separate urinal room was available for girl students only at SCPS; in the remaining cases, the same toilet was used for multiple purposes. Toilets in all cases were built for adults, with dimensions not compatible to children. The size of the squatting pan, height of the tap inside the toilet, and position of lock and handle on the toilet door were not convenient for children (Table 4). Moreover, the plastic buckets kept inside the toilets were inconvenient for students of lower classes and also dirty and unhygienic. Absence of a flushing system and inadequate water supply combined with a simple plastered floor resulted in rooms being damp, smelly and unhygienic. Separate urinals were unhygienic in all cases, except for SPS. The room at SCPS was damp and smelly due to the absorption of urine into the upper part of the wall, and girl students found it inconvenient to use due to the absence of foot pads. Nonetheless, the provision of partitions and flushing system using waste water from hand-washing had maintained privacy and hygiene levels to some extent. Both the toilet and urinals at JLSS and SSLSS were damp, dirty and smelly due to a combination of poor maintenance and the absence of water. The absence of a flushing system and the use of the toilet as a urinal had resulted in similar conditions at SPS.

Table 4. Toilet and urinal facilities in case study schools

<i>Particulars</i>	<i>SCPS</i>	<i>SPS</i>	<i>JLSS</i>	<i>SSLSS</i>
Toilets for students and teachers were not user-friendly				
Urinal facility was unhygienic, lacked water, and was smelly				

Daily Sanitation Practices

Personal health and hygienic practices were checked through a structured questionnaire as well as through observation, including discussion with the headmaster and other teachers (Table 5). Children at SPS and SSLSS were neatly and cleanly dressed without runny noses, those at SCPS were more mixed, and personal hygiene at JLSS was generally poor. Hand-washing practices at all schools were not satisfactory mainly due to lack of soap, towel and child-friendly sanitation facilities. Personal hygiene items, such as comb and nail cutter, and first aid boxes were missing at SPS and JLSS, whereas at the other two schools these items were kept in the headmaster’s office. Similarly, sports equipment, needed for students’ physical and mental development, were not available at SPS and SSLSS, and were kept in the headmaster’s office at SCPS and JLSS.

Table 5. Personal health and hygienic practices in the case study schools

<i>Particular</i>	<i>SCPS</i>	<i>SPS</i>	<i>JLSS</i>	<i>SSLSS</i>
<i>Cleanness of dress, shoes</i>	Generally yes but most students use sleeper	Generally yes most students use sleeper	Generally no	Yes
<i>Free from body discharge (salvia, snot) and boils and infection</i>	Generally yes	Yes	Not all the students	Yes
<i>Hand washing practice at school (before eating and after using toilet)</i>	Not all the students practise it (more than 50% do not)	Most students use soap (during the school visit)	No (toilet and hand washing facilities are poor)	No (soap, towel, mirror, etc. are not available)
<i>Personal hygiene stuff (comb, nail cutter, etc.) and first aid box</i>	Yes but kept at headmaster's room	Not available	Not available	Only first aid box available at headmaster's room
<i>Sport facility</i>	Yes but kept at headmaster's room	Not available	At headmaster's room	Not available

Students of all schools were involved in health- and sanitation-related activities in different ways. They cleaned their classrooms and toilets on a rotation basis, and had developed songs (related to health and sanitation) to sing on different days based on their extracurricular programmes. For example, the

children at SCPS performed songs every Sunday, and students of SSLSS cleaned their classrooms during their environment education class. As children of Grades 1 and 2 were not yet capable of participating in cleaning, Grade 5 students helped them to keep their classroom neat and clean. At SSLSS, teachers demonstrated cleaning techniques and students followed them. A duty roster or 'job chart' for each student was kept in each classroom. At SPS, students organized quiz and poetry contests on health and sanitation for various occasions. Students also discussed personal health and sanitation issues with teachers and learnt how to prepare oral rehydration solution for control of diarrhoea. However, the frequency of such activity varied; it was higher at SSLSS (where teachers had received training from *Rato Bangla* School in Kathmandu) and lower at JLSS. At SCPS, students gathered at 1:00 p.m. on the 25th of each month (Nepali Calendar) for cleaning purposes. They also visited their communities in teams once in a month and shared experiences and information on the existing situation with their teachers. Such practices had improved the personal health of students as well as the cleanliness of school premises. After learning about personal health and hygiene, students tried to keep themselves neat and clean whenever they came to school. Students also shared knowledge on health and sanitation with members of their family, and cleaned their own houses and toilets. This had contributed to changing the attitude and behaviour of family members and the community at large. Moreover, as boys and girls were equally involved in the various activities at school unlike at home where girls were mainly allocated this work, girls and boys learnt more about gender equality and disseminated this to their family and community.

Major Weaknesses in the Existing Case Study Schools

A detail analysis of the four existing schools reveals that the major weaknesses are threefold. First, the concept of child, gender and differently able toilet and drinking water facilities is missing in all the cases. Also, lack is the facility for female during menstruation period. Those facilities are not only inadequate in numbers but also poor in terms of their location, space planning and building detailing. Funding for maintenance and repair work is usually not

available, while daily operation of facilities is poor. Above all, those toilet facilities were built either by donor agencies using their standard design scheme or with decisions from headmaster and teachers. Child clubs, SMCs and PTAs are usually not involved in planning and designing of facilities. In many cases, construction is supervised by non-technical persons resulting in design modifications on an *ad hoc* basis at the site. Despite having drinking water facility at SCPS, students were unable to use this facility fully due to poor school management whereas lack of maintenance of urinal room at JLSS had forced students to urinate outside the toilet block.

Second, although regular meetings of the School Management Committees (SMCs) and Parent-Teacher Associations (PTAs) have been conducted, capability for effectively planning and sustaining a programme on child-friendly sanitation facilities remains low due to lack of training and awareness (Table 6). Most educational information on sanitation, health and hygiene is in the form of posters, calendars and stickers, developed and distributed by UNICEF and the Department of Education are usually displayed in the headmaster's office (which also houses the school library and sports equipment). These materials are often considered to be decorative items rather than for awareness promotion. The opportunity for informal learning, by displaying these materials along the students' movement network, is lost. Only at SSLSS were teachers trained, child club members more active, and one or two teachers assigned to SWSHE related activities. In addition, students planned, conducted and managed extracurricular activities with teachers' guidance. In the remaining three schools, students simply followed the programme designed by their teachers.

Table 6. Institutional capability of the case study schools

<i>Particulars</i>	<i>SCPS</i>	<i>SPS</i>	<i>JLSS</i>	<i>SSLSS</i>
Frequency of meeting of SMC and PTA	Generally 15 times a year but not regular	Nine times for SMC and three times for PTA	Yes, with teachers meeting regularly	Frequently

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Record of meeting of teachers and child clubs	Yes	Yes	Yes, but not with child clubs	Yes
Development of school and community action plans	Yes, but not regular	Yes	Yes, but school only	Yes
Training taken by teachers on sanitation and hygiene	Three days orientation training, only one teacher	Two days orientation training, all but one teacher	Three days child-friendly training (one teacher), others received subject matter training	10 months training, on child-friendly elements
Availability of notice board	No, <i>ad hoc</i> display on walls as needed	Displayed only in headmaster's office	No, <i>ad hoc</i> display on walls as needed	No, <i>ad hoc</i> display on walls as needed
Operation and maintenance of facilities	Yes, both materials and funds available	No, but funds available	No, and no fund	No, and no fund

Third, institutional weaknesses also contributed to the poor sanitation facilities and unhygienic conditions in case study schools. Concerned stakeholders particularly the school administration and management committee have poor technical and managerial capability. Water and sanitation facilities are not a high priority compared to, for example, roofing for classrooms and other basic needs. As water supply and toilet facilities in the community are not widely available, students and teachers tolerate inconveniences in such facilities at school. Despite programmes related to sanitation activities at school, students are

scarcely able to practice such activities in their daily life due to poor sanitation facilities at school and home. As a result, they view sanitation activities as events rather than daily issues of good health and sanitation: students tend to be more influenced by examples in their daily life rather than those in a textbook or story told by others. Existing building bylaws and sanitation guidelines offer little on child friendly sanitation facilities or child psychology. Moreover, such guidelines are in many cases suggestive rather than mandatory. Existing building bylaws do not require any building permit in terms of building layout and sanitation facilities prior to new construction (except for a simple permit from the local Village Development Committee).

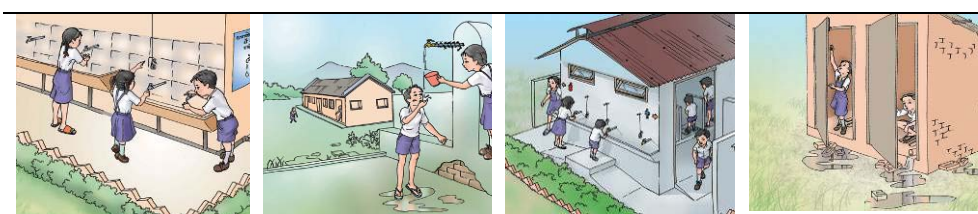
Design Process for Planning and Constructing Child, Gender and Differently-able Sanitation Facilities

Preparing a sustainable planning and construction process for child, gender and differently able friendly toilet and drinking water facilities comprises not only the development of tools and materials for the design process but also the inclusion of a component to raise awareness among students, members of PTAs and SMCs, and the staff of various NGOs involved in school sanitation. Ensuring that the process is practicable also requires a field trial followed by analysis and revision. As the *Sangam* Primary School in *Tanahun* had made plans to construct a toilet, the process was trialled at this school.

As key stakeholders, including children, had limited knowledge and information on child-friendly sanitation features, the first task was to build their awareness through brainstorming. For this, 4-5 students (both boys and girls, particularly those involved in the child club) were selected from each class along with members of the SMC and PTA. The brainstorming session started with a general discussion by separate groups on participants' understanding of child-friendly features. All issues were noted down on a large piece of paper. Participants were then divided into four small groups and each group was given a different case study (story) related to sanitation facilities in which to identify issues for group discussion and draw up lessons. At this stage, both students and members of the SMC and PTA were able to identify existing problems in the

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toilet and drinking water facilities rather than identify the child-friendly elements. To widen their vision of child-friendly features, two sets of sketches of different sanitation facilities (toilet, hand-washing, etc.) - one good example and one bad-were shown to the groups (Photo 1). These sketches were based on both international case studies of child-friendly facilities and the current situation in Nepali schools, and had been developed following intensive discussion among members of the study team (comprising an architect, school education specialists, and a sanitation and hygiene specialist) and feedback from other relevant persons. When students and members of the SMC and PTA were shown these sketches, their reactions changed: they were able to picture child-friendly facilities much more readily rather than focusing only on problems. Participants were again asked to write down what sanitation facilities they felt were necessary. As boys and girls and men and women have different needs, interest and experiences, they worked in separate groups to address gender issues. All the ideas and views expressed in each subgroup from the two exercises were presented by the facilitator in a plenary session. These were then prioritized through a 'pocket voting chart'. Each priority was thoroughly discussed in the plenary session for consensus. Working in small groups and then bringing the ideas together in a larger group not only allowed the sharing of ideas and views among participants but has also enhanced their sense of ownership.



Hand-washing
(good)

Drinking water
(bad)

Toilet (good)

Toilet (bad)

Photo 1. Different set of pictorial drawings on sanitation facilities for awareness building

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The second stage of the process was the involvement of users (children and teachers) in the planning and design of sanitation facilities as well as the improvement of existing infrastructure. The first task was to identify the required number and size of toilet and urinal facilities as well as provisions for hand-washing and drinking water. As both students and members of the SMC and PTA are non-technical, it would be too difficult for them to recommend an exact number of facilities needed. Instead, they were asked indirectly whether the existing sanitation facilities were convenient. As in the previous exercise, they were asked to write down (a) which existing facilities were in good condition; (b) which facilities needed to be improved; and (c) what new or additional facilities should be expected. Boys and girls discussed their personal needs in separate groups. Based on the outcome of this exercise together with Department of Education standards, site constraints and the scale of existing toilets, the required numbers of toilets and urinal facilities (including hand-washing) were tentatively identified. The next task was to identify the location and layout of facilities (urinal, toilet, hand-washing, etc.). Students and teachers (and parents) were asked in different groups to identify the best locations within their school premises for three facilities—toilet block, drinking water tap, and waste disposal container (Photo 2).



(a) Student participation

(b) Group discussion

(c) PTA discussion

(d) Ladies consultation

Photo 2. Planning and design process of sanitation facility

The study team had prepared various small wooden models of toilets, urinals, squatting pans, partition walls, hand-washing items, etc. These were given to the groups along with colouring sets and drawing sheets to facilitate the

layout plan of different facilities. The students particularly enjoyed using these wooden blocks for making various layouts quickly. Each student tried to convince others regarding his/her layout plan by explaining the concept or usefulness, and there were many vigorous discussions within the groups. The use of three different media for developing layouts meant that students who were unable to express their idea one way were able to use a different format to explain their proposal. Students showed an overwhelming response not only by providing extra drawings for different options but also by identifying existing sanitary problems such as poor access to toilet blocks, insufficient numbers of toilets, lack of urinal facilities, and bad odours around drinking water facilities due to close proximity of toilets.

In the plenary session of the student group, the layouts of individual subgroups were presented for about 5-10 minutes for comment by other groups and the facilitator. This discussion was also lively with vigorous debate and discussion regarding the location of sanitation facilities as well as their internal layout. In each case, the facilitator along with other member of the study team expressed their views on the positive and negative aspects of various proposed layouts. Students were convinced about improvements in some details. Not only did the students enjoy the discussion on various alternative proposals but the team members including the facilitator also learned a lot from them. During the discussion, one student expressed his fear of bombing (and vandalism) while using the existing toilet due to its location next to the police post, and a girl student showed concern about the unsafe entry door of the toilet.

Similar activities also took place in the PTA and SMC groups. They also enjoyed developing different layout options with the wooden blocks. A female member of the team (architect) facilitated the discussion with female teachers and other members of the SMC. She also drew many sketches along with the layout plans to obtain views regarding sanitary pad washing and disposal areas. The lack of sanitation facilities in the school for females during their menstrual period was a particular concern. In this session, the output of the students' session was also discussed so that teachers and parents could understand the ideas expressed by the students. After reviewing all proposed layouts, the

principal architect drew up a tentative layout for toilet, urinal and hand-washing facilities, by incorporating the views expressed during the discussion. This helped facilitate progress towards finalization of the conceptual layout plan. Before the exercise, teachers had been preoccupied with the position of toilets and the internal layout. However, following this exercise, teachers were strongly convinced of the need for a child, gender and differently able friendly outcome. In this session, the study team also discussed the roles of the SMC and PTA in the implementation of the project as well as in the daily operation and regular maintenance of the facilities. The study team shared the water, sanitation and hygiene situation of the case study schools with participants and urged them to keep hygiene items such as comb, nail-cutter, towel and soap in areas that are convenient and easily accessible for students (rather than in the headmaster's office).

This tentative layout plan was then refined and adjusted with the exact site plan, which was measured during the site visit. The principal architect incorporated three sets of information: (i) that expressed by the users during the participatory exercise; (ii) the site plan and surrounding context; and (iii) knowledge gained from literature review on child-friendly features. The proposed layout plan along with its details (height of wash basin, door lock, etc.) was discussed among team members before submitting to UNICEF for comment. After meeting with UNICEF staff, the plan was finalized. Its estimates and working drawings were prepared for implementation of the project. The new design proposal consisted of many child-friendly elements such as (i) provision of three functions under one roof (squatting pan, urinal, and hand-washing facilities) in both boys' and girls' toilets; (ii) cross ventilation and natural light in both toilets; (iii) sanitary pad washing area and incinerator in girls' toilets; (iv) variation in fixtures (pan size, height of the door latch, etc.) for teachers and students; (v) foot-washing facilities; and (vi) display of educational materials at appropriate locations (Figure 2). Moreover, soap case, towel and mirror were also provided in hand-washing areas. Provision for disabled persons was incorporated by including a ramp and special toilet room.

Two workshops were also organised – one for members of DSSCs and other for different NGOs and community organisation (Rural Empowerment Society, Junior Volunteer of *Tanahun* Services Committee, Nepal Red Cross Society, district chapter, etc) – to build their capacity in facilitating school personnel, SMCs, PTAs, Child clubs and Village Development Committees (VDCs) through partner NGOs the children’s participation in planning and designing of sanitation facilities in schools. In both cases, the programme focused firstly on extensive literature review including international case studies of child-friendly features in water and sanitation facilities. Participants were also shown the existing situation in the four case study schools. Such activities helped them to recognize the gap between good practices and the present situation in most Nepali schools. As a part of the training, they were asked in a short exercise to produce a layout of sanitation facilities considering child-friendly features. Features required by female teachers (and students) during their menstrual period were also highlighted in both theory and practical work. Participants in both programmes were convinced of the need for planning of child friendly sanitation facilities as well as for providing extra provisions for females during menstruation. Moreover, they also realized the importance of their active involvement not only in that planning phase but also in the monitoring and evaluation of such facilities. Another separate training programme was also conducted for masons and carpenters involved in the construction of sanitation facilities. Finally, a typical design with details of numerous sanitation facilities - comprising both technical drawings and three-dimensional sketches along with salient features of each design - was prepared. This design is to be used as a guideline for future child-friendly sanitation facility design (Figure 2). Both technical and non-technical persons will benefit, and the practice of *ad hoc*, on-site design changes should be reduced.

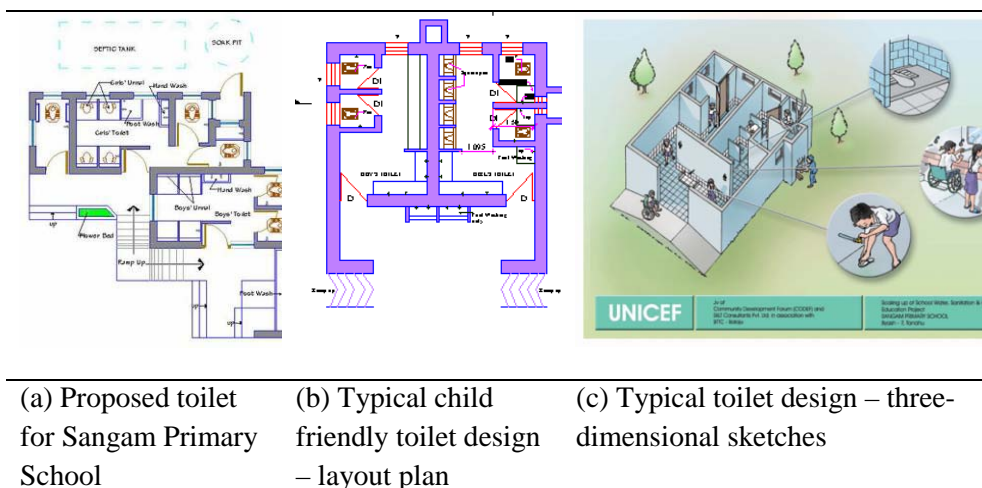


Fig. 2. Typical design of child, gender and differently able friendly toilet and hand washing facilities

In addition to preparation of this toilet and drinking water facilities, training manuals with processes, tools and materials of various activities to involve students, teachers, SMC and PTA in planning, designing, implementation, monitoring and supervision were also prepared. Accordingly, various training programs were conducted targeting three groups of human resources – (a) Child club, SMC, PTA and teachers (9 days), (b) DSSC and various NGOs at local and district levels (3 days), and (c) masons, plumbers and carpenters (30 days). Various criteria based on the past performance, commitment to work in school sanitation including interview were used to select five different NGOs and twenty three tradesmen for the training purposes, expecting them to implement the scale up project activities on school water, sanitation and hygiene education in the schools. Women, different disadvantaged and ethnic groups were also included in the selected group.

Conclusions and Recommendations

Lack of awareness of the need for child-friendly facilities, absence of user participation in planning and design process, lack of information, education and

communication materials, and poor managerial and technical capability of SMCs and PTAs resulted in poor water, sanitation and hygiene environments in four case study schools. As a result, despite the active involvement of students in sanitation-related extracurricular activities in all schools, they were unable to practice these in their daily lives. Nonetheless, the UNICEF-supported programme on ‘Capacity-building at District Level for School Drinking Water, Health and Hygiene Education’ has not only developed the processes, tools and materials for child participation in designing school water and sanitation facilities but has also demonstrated their application through the construction of toilet and hand-washing facilities for *Sangam Primary School* in *Tanahun District*. Moreover, this program through combination of ‘hardware’ and ‘software’ together with training to various stakeholders was successful in raising awareness on child, gender and differently able sanitation facilities as well as getting commitment from those development partners for long term sustainable school sanitation. Formulation of simple design guidelines to ensure child friendly elements in planning phase, continuation of capacity building of school community to ensure children’s participation in planning, construction and operation phase, and cooperation and coordination among district level stakeholders to avoid duplication of programs but construction as per school’s priority are essential. To ensure these objectives, a mechanism that includes child friendly features has to be developed for funding school sanitation in future. Finally, the following areas still need more attention from the concerned stakeholders for the long term sustainability.

(a) Despite using innovative planning and design according to site context and local climate, use of locally available materials and construction technology, the cost of child, gender and differently able toilet facilities is about 33 per cent higher than the normal construction. This amount is much higher than the budget allocated to school for construction of toilet by Department of Education and Department of Water and Sanitation office at district level. Hence, alternative approach in planning, mass construction and research on building materials is required to reduce the present cost;

(b) Only civil engineers or overseers are involved in designing and construction supervision of toilet facilities in school at present. In most cases particularly in the remote areas, supervision and monitoring by qualified technical person does not exist. Involvement of architects in space planning and detail design guidelines for mass replication shall be developed to suit in hilly, mountain and *terai* regions;

(c) As the role of school communities (SMCs, PTAs, Teachers and Headmasters) is crucial, they need to be continuously capacitated not only to ensure child participation in planning, design and operation of sanitation facilities but also to coordinate with district level partners for fund raising and collaboration of activities in the schools. Their old attitude and behaviours shall be changed by combination of different means: more training activities, syllabus changing and incorporating such activities in their daily works. Need of child, gender and differently able toilet facilities can be set as a precondition for getting funding in the school;

(d) A mechanism has to be developed among development partners to coordinate the sanitation program and funding not only to avoid duplication of works but also for effective planning, construction, monitoring and evaluation. If there is cooperation and coordination among three different development partners namely policy makers at central level, monitors and evaluators at district level and users at school level, such mechanism can work effectively despite its lack of legal status.

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