



**RESEARCH PAPER**

**An Empirical Analysis of Access to Sanitation Facilities in Schools: A Case Study of Thar Desert in Pakistan**

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**ABSTRACT**

Thar Desert is widely known as most water scare region of Pakistan. It is a district having fragile health, food insecurity and poor sanitation status. Whereas School sanitation is tragically deprived of proper latrines, hygiene practices, access to safe drinking water and solid waste management mechanism. Poor sanitation practices, open defecation and ground water consumption, have emanated multifarious health hazards, coercing school children to stay at homes. Furthermore, adolescent girls are denied of menstrual hygiene management, for it being age-old taboo. Poor sanitation has scuttled girls' education, for the hardships they face during menstruation, at schools. It is worth to garner a few incredible interventions undertaken by local and international NGOs as school sanitation activities, child to child approach to promote hygiene, awareness on menstrual hygiene management, rainwater harvesting structures and WASH advocacy campaigns. The paper concludes that such these interventions need promulgation and replication in entire district.

**Keywords:**      Menstrual Hygiene Management, School Sanitation, WASH in Schools

**Introduction**

Thar is most backward district in Pakistan on various socio-economic indicators; likewise other poor living conditions status of school sanitation is miserable too. Only 37% of schools have toilets facilities out of the total 4152 (629 girls and 3523 boys' primary, middle and high) schools in the district. As per the data of reform support unit-RSU report 2015-16 around 70% of school lacks toilet facilities and more than 60% of schools don't have safe water storage facilities.

WASH (Water, Sanitation & Hygiene) programmes are crucial for schools to address the most pressing issues relating to the provision of potable water, improved sanitation, and better hygiene conditions. Poor sanitation and hygiene conditions deteriorate the health of school children. Hence, the findings of the study conclude that WASH programmes are crucial to improve overall WASH conditions in schools (Baig et al., 2018). Education is a fundamental right of every child and so is the access to clean drinking water and improved hygiene conditions. If school children not provided with safe water and good hygiene then it results illness and finally drop out from the schools (Javeed, 2020). The implementation of WASH programmes is as important as nutrition and / or other health-related programmes in schools. Schoolchildren having access to better water, sanitation and hygiene conditions can get an education well. Otherwise, all invested resources will go in vain (Raihan et al., 2017).

Pakistan ranks much lowest on global index for healthy children. The children are under-underweight with other complications including stunning and malnourishment (Nuruddin and Hadden, 2015). Inadequate and dearth of WASH facilities affects the health of school children badly and provokes spread of various contagious diseases. This results in absentees and dropping out, especially by girls (McGinnis, 2017). School-based water

sanitation and hygiene programmes are fit for a healthy and conducive school environment. The attendance is found to be increased in such schools where WASH programmes are implemented (Duijster et al., 2017).

WASH assessment in schools depicts that 90% of rural schools in District Thar do not have access to safe drinking water, causing school children to fetch water from dug wells (having contaminated water). Tragically, 90% of the underground water of the district is brackish and contaminated. It is condemnable that one in twenty households is doing any treatment such as boiling (11.4 %), filtration with cloth & sand (5%), exposure to sunlight (3.4%). Various diseases including fluorosis, hepatitis and kidney failure are caused by availability of heavy TDF in drinking water in Thar. Rainwater harvesting is believed to be a good option for drinking in District Thar if harvesting structures bio sand filters are provided.

More importantly, menstrual hygiene education is age-old taboo, hindering girl students to attend schools for not being aware enough to manage their menstruation during school timings. There are serious critical issues related to menstruation among adolescent girls (school students). Additionally, the information provided to girls was need based and related to occurrence of menarche, no prior information was shared regarding it as a taboo. There seems no space available for these unmarried girls to sit together and discuss amongst themselves the problems and issues related to puberty. The objective of this paper is to present school sanitation status in district Tharparkar, Pakistan, with a key focus of prevalence of sanitation structures in schools, practice and hygiene practices and access to hygiene education. In addition to that, portray menstrual hygiene problems, faced by adolescent girls and their access to menstrual management information. The paper outlines commendable interventions in regard to sanitation dilemma in the schools. The scientific approach was adopted for data collection at primary stage, a total of 15 random selected schools were visited for this purpose. Six union councils in district Tharparkar were part of this survey. Necessary literature review was part of this exercise to cross check primary data finding.

A local NGO with its international partner has undertaken an initiative to benefit 13,500 students (8100 boys and 5400 girls) in 45 rural schools of District Thar. These interventions include provision of child friendly toilets, rainwater harvesting structures, bio-sand filters, and hand washing facilities in service delivery components. Whereas, capacity building of teachers & school management committees, dissemination of hygiene education to school children through formation of school WASH clubs, hygiene campaigns, advocacy events, video shows, theatres, in capacity building component. The collaboration and support of officials from the Education Department has been ensured through a formal Memorandum of Understanding between local NGO and the Education Department. It resulted in close coordination and support from the District Government to promote these interventions.

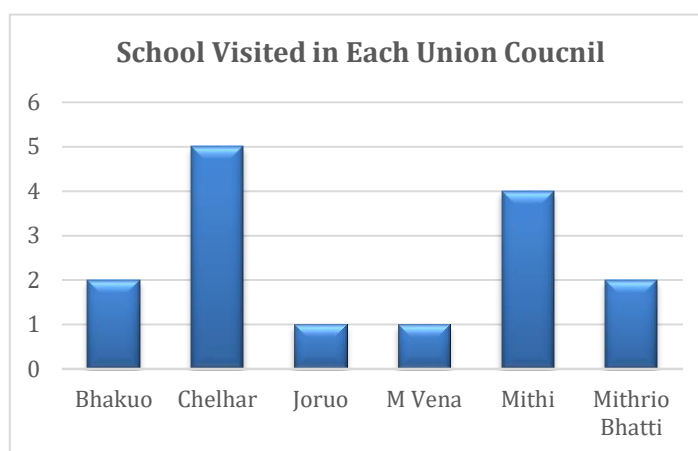
An additional 4500 girls (of 15 girls' middle schools) are being benefitted through menstrual hygiene education, formation of school hygiene clubs, provision of hygiene kits, capacity building of schoolteachers, school management committees and students. Local NGO has undertaken an effective communication strategy to encourage adolescent girl student to share about feminine complications with female teachers, nominated as focal person in respective schools. A concrete series of training is conducted in the girls' schools to discourage the usage of unhygienic rugs during menstruation.

Advocacy events and dialogues are taken to motivate school management committees and Education Department to allocate respective funds for improved water and sanitation access in schools. All WASH interventions in Schools are taken based on Child-to-Child Approach – from experience this approach is found to be an effective means for implementation and replications of WASH interventions in schools. It is different than

routine WASH interventions because children more easily accept and adopt information from their peers.

### Material and Methods

A rapid assessment was conducted to get handy information on key WASH indicators including open defecation, usage of dug-well water, hand washing practices, solid waste disposal, hygiene education and availability of WASH infrastructures as child friendly toilets, access to information relating menstrual hygiene management etc. Rapid assessment is a very useful method to collect data within a short span of time. This is also a cost-effective method which enables us to get handy data for quick assessment and analysis. This method is useful where epidemiological classical surveys are not possible (Marmamula et al., 2012). Rapid assessment methods are very useful in the areas where either data is required very quickly or data is deficient to use other method (Braulik et al., 2018).



Therefore, for this study purpose rapid assessment method was adopted in which a total of 15 schools were randomly selected out of 06 different union councils in district Tharparkar. Random selection is done in rapid assessment approach to ensure that unbiased samples are selected for data analysis and interpretation purposes (Goyal et al., 2015; Kryvasheyev et al., 2016). The selected schools were visited and interviewed as shown in figure 1. Besides, secondary information was collected through literature review to cross check and verify with primary data collections.

### Results and Discussions

WASH in school in district Tharparkar Pakistan needs stringent attention, it not only causes poor health of students but also provokes drop out. Furthermore, school sanitation is condemnable, 80% of schools either do not have latrines or they are not functional. Available latrines are either not fully functional or partially damaged coupled with the unavailability of washroom doors. It results in children's disinclination to use these. Even the meagre prevalence of toilets is spared for teachers' usage.

**Table 1**  
**Overall WASH Status**

#	WASH Status	%age
1	Open Defecate	87%
2	Dug well Usage	100%
3	Poor Hand Wash	98%
4	Soap Usage for Handwashing	80%
5	Throw Garbage in Open	95%
6	Unaware to Hygiene Education	93%

Consequently, 80% of school children defecate in the open, aggravating the menace of harassment and snake-bite risks in the fields. Ironically, girls are coerced to stay at home during menstruation. Safe drinking water inaccessibility aggravates school sanitation further. Hence, dug-well water, the only available source, is brackish and polluted with heavy TDF.

The majority of the visited school children highlighted that access to drinking water is a key problem faced by them during FGDs with school children. Drinking water is generally fetched from the nearby water sources including dug wells. Water fetching responsibility lies with school children usually in 85% schools whereas in 15% schools' peons are doing this job. Only 13% of schools have underground water storage tanks but they are not functional hence all the schools store water in small pots.

Almost all the visited school children shared that available water is not safe to drink for being brackish and dusty which usually cleaned with filtration cloth, no other filtration method as water boiling, sand filtration is adopted. This also results in poor health and water borne diseases in the visited schools.

It is pertinent to mention here that all the visited school children were aware of the importance of clean drinking water and water borne diseases, although 83% of school children never attended directly any health hygiene related training session. This awareness is because of local NGOs constant interaction and international funding on WASH initiatives in the area. More than 80% of children shared that they are aware of hand washing importance, yet no one really depicted accurately proper hand washing.

More than 90 percent school children compelled to open defecate for the unavailability of latrine and 35 percent does not wash their hands regularly with soap after defecation, 50 percent wash occasionally and 15% reported that they have latrines but half of them are not functional, hence, 90% school children are compelled to open defecate for the unavailability of latrine. It is even miserable that among 10% functional toilets most of them are not cleaned properly. Only 5% have water availability for latrine usage. Interviewers did not find any designated place for hand washing or soap keeping in and /or near school toilets.

Nowhere in all the visited schools open defecation is considered safe. During probing on the question "why open defecation is not considered safe for girls" around 75% responded that culturally it is not considered good for the girls to defecate in open, while 25% shared that girls have different challenges like fear, harassment during going out to defecate. It was also added that usually there are no designate places for girls / women to defecate out. Upon sharing the consequences, 60% were aware that open defecation is a direct cause to prompt diseases – 40% were of the idea it results in environmental contamination.

School children FGDs ensured that no school WASH committee does prevail at school or village level. Children were not aware whether the importance of WASH practices and knowledge is ever discussed at village level or not, but they ensure no such discussion is ever triggered in their homes. A few schooling children shared teachers rarely share the necessity of personal hygiene as bathing, nail cutting, clean clothes during their lectures – otherwise it is the subject deemed less important to encompass in school education.

Similarly, teachers FGDs highlighted around 25% have latrine constructed in the premises but half of them is not functional. Among the total 15% available cum functional latrines most are being used only teachers. On average less than 15% of children use school toilets whereas 85% are compelled to open defecate, since available latrines are not child friendly.

None of the schools do have drinking water facilities available in the school; usually children have to go to fetch water from nearby dug wells or homes. An estimated 80% of

schools do not have any water storage facility like underground water storage tanks in the school, whereas available underground tanks are also damaged.

Around 80% of schoolteachers do not use any hygiene awareness education in their teachings, and this percentage was not even aware of the importance of hand washing and personal hygiene. 20% teachers of visited schools sometimes share the importance of personal hygiene to children. But they were not much aware about how many children do know cum have adopted personal hygiene practices and hand washing in their routine lives. However, all the schoolteachers were of the idea that hygiene awareness based on hygiene sessions or teachers' direct lectures in classroom can contribute significantly to improve personal hygiene practices in school children. For this, most of them insisted teachers training cum availability of personal hygiene literature are mandatory.

None of the visited schools had any school or village committee or any children's group to address WASH issues. To ensure the effective WASH practices teachers expressed the dire need of close coordination among WASH key stakeholders, villagers, school children and teachers are required. IEC Material and AKU Booklets are the best available sources in their idea. FGDs also highlighted that parents can contribute significantly in ensure proper WASH approaches adopted by the children in schools cum villages. It was also added that WASH approaches can sustain based on continuous and long-term WASH awareness, rallies, regular session and stakeholders' close coordination.

## **Conclusion**

Although concrete measures are taken in targeted schools to address school sanitation issues. A total of 45 rural schools are piloted through WASH interventions including provision of child friendly latrines, hygiene education and solid waste management. Besides, menstrual hygiene management is ensured in 15 girls' schools. More importantly, innovative approaches including child to child approach to promote WASH education and introduction of rainwater harvesting models are widely accepted at communities.

The study found that still open defecation practice is a major challenge. Around 40% of intervened schools either do not have latrines or they are not functional. Available latrines are either not cleaned properly, partially damaged and/or not child friendly – resulting in children's reluctance to use school toilets. Even the minute number of available latrines is being used by teachers only. Thus, provision of child friendly latrines in all schools is a key milestone to addressing WASH issues.

Hand washing practices and more importantly the availability of hand washing facilities is another area that needs to be addressed along with the provision of child-friendly latrines. Hand washing knowledge through concrete hygiene awareness interventions along with availability of hand washing facility is mandatory.

For greater sustainability of the intervention organizing of hygiene awareness campaign is recommended in schools (consisted of video shows, theaters performances and media activities) in order to raise the awareness and inculcate children avoiding open defecation, washing their hands with soap on critical timings, properly collecting, storing and handling the safe water, and water filtration methods etc. Besides, awareness raising/hygiene promotion could be exercised through schools and children as well. For this a WASH children focal person group may be trained in each school for continuous awareness in school and village. Off course teachers and SMC training will play vital role in sustaining WASH initiatives.

However, this meagre piloting to be promulgated in whole the district to obliterate sanitation issues in entire district. This savage dilemma must be thwarted through stringent approaches.

### **Recommendations**

The paper presents the following recommendation for scaling up WASH in schools.

- Scaling up of school WASH activities as child friendly toilets, hand washing facilities, water harvesting structures and school bio sand filters
- Formation of school hygiene groups and clubs- engaging school children in school led total sanitation (ensuring school premises open defecation free)
- Introducing guidelines for menstrual hygiene education in girl's schools, introducing school hygiene kits
- Train schoolteachers to deliver health/hygiene education through Child-To-Child Approach – undertaken innovative approaches as video-movie shows, village walks & rallies, drawing competitions, hand washing demonstrations, celebrations of sanitation week, World Water Day, World Toilet Day, Global Hand Washing Day
- Mobilizing District Education Department to allocate funds for school sanitation and inclusion of WASH education in syllabus
- Mobilizing School Management Committees to allocate funds to improve WASH status in Schools and maintenance and replication of WASH interventions

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