

Growing up without WASH

Case study research into the effects of poor access to water, sanitation and hygiene on children in Ethiopia



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Executive summary

This report is the result of research by WaterAid in Ethiopia into the effects of poor water, sanitation and hygiene (WASH) access on children. We selected two WaterAid supported projects in Ethiopia – Konso and Hintallo – and chose to focus on children up to age 14, including both school-goers and those excluded. Fifty two in-depth interviews were conducted with care givers and children, and six focus groups were held involving 52 participants. We categorised the information gathered into community and school-level findings and made recommendations based on the results.

At the community level, poor WASH provision was found to jeopardise:

- Health, with children frequently suffering from water and sanitation-related diseases.
- Care, as caregivers were otherwise occupied with water collection.
- Physical wellbeing, as carrying water over long distances has resulted in long-term injuries to the waist, neck and shoulders. Collecting water from unsafe sources also subjects children to the risk of physical injuries.
- Leisure and play, with children instead spending time collecting water.
- Safety, in instances where water conflicts arise.
- Economic stability of caregivers, having a knock-on effect on children.

At the school level, it was shown that poor WASH affects:

- Attendance, as students miss school because they suffer from water and sanitation-related illnesses,
- Girls in particular are absent due to water-collection duties and the lack of toilets and menstrual hygiene facilities at school.
- Learning, as children's concentration is affected by dehydration and the need to go to the toilet.
- Teachers, who find it difficult to teach in schools without water or toilets, and look for alternative employment as a result.

The control sample taken from an area with improved WASH showed marked benefits to the health, wellbeing and education of children. However, further attention needs to be paid to

- Sustainability,
- Accessibility,
- The need for separate toilet blocks for boys and girls.

Our recommendations include:

- Disseminate the findings of the study to development sectors especially to education and health.
- Raising the profile in the development sector of the negative effects of poor access to WASH on children.
- Any WASH provision should prioritize the WASH need of children
- Making WASH provision integral to attempts to improve the learning environment for children.
- Improving the accessibility of school WASH facilities for children and separate blocks for girls and boys.
- School communities need to take the lead in making WASH services sustainable.
- Ensuring budget is allocated for sustainable school WASH.
- WASH sector actors should work closely with policy makers to ensure sector policies address the issue of children

Introduction

Children are among those most affected by a lack of access to safe water, sanitation and hygiene (WASH) in the world's poorest communities. In addition to affecting their health, poor WASH in the community and at school has an impact on children's wellbeing and development. To explore these impacts in detail, WaterAid in Ethiopia initiated a study of the effects – direct and indirect – of a lack of access to WASH on children. The results would be used to strengthen our work on equity and inclusion and mainstream the WASH needs of children in future interventions.

We selected two WaterAid supported projects for the study: Hintallo and Konso. The Hintallo project is located in Tigray regional state, in Hintallo woreda. It is an extension of a project implemented in the Adwa area, and was launched in 2001 in five kebeles – Hareqo, Hiwane, Adi Aweni, Meja and Bahri tseba. The project has so far benefited approximately 5,600 people. The Konso project is located in the Southern Nations, Nationalities and People's Region (SNNPR), in Konso special woreda. The project was established in 2007 and encompasses projects in six kebeles (sub localities) of the district (Woreda): Tebela and Kuchale, Kelkele and Kolmale, Maderia and Gizaba, Borkora, Jarso, and Aba-Roba. It has so far benefited 4,950 people in the six kebeles with improved water and sanitation, and 4,100 people outside the project area.

The average family size in these areas is seven to nine children per household. Most of the caregivers and children out of school are illiterate or have limited reading and writing skills. Agriculture is the economic mainstay in the study areas – largely managed by the men who sell big income cash crops while the women take charge of domestic chores and exchange small income cash crops for household consumables. In Konso, women also sell Cheka, a traditional drink.

We put together a research team to study these areas, consisting of a Learning and Communications Coordinator, the Assistant Project Coordinator of the Konso project, the Sanitarian of the Hintallo project, and the Senior Equity and Inclusion Officer at WaterAid.

The team used qualitative methodology, taking small but focused samples and using a range of data collection methods:

- In-depth interviews with 20 caregivers – 10 in each of the projects – and a total of 32 children – both school-goers and those excluded (the latter were split by gender). The caregivers selected were mothers aged 18-65 (married, widowed and divorced), the children were between the ages of seven and 14.
- Interviews with key informants – government and non-government service providers (including the health and water, and education bureaus and organisations working with children) and school teachers and heads.
- Focus group discussions with 12 caregivers in WASH provision and non-provision areas (six in each), 24 children in non WASH provision areas (six children per group split by gender and educational status) and 12 children in

WASH provision schools in both research sites (split by gender), making a total of 52 participants.

- A literature review on children and WASH internationally and in Ethiopia, mainly using online resources (see Annex 1).
- Observation of children, including their water and sanitation conditions.
- Sampling – we took two sets of samples: a purposive sample (the out of school children and their caregivers in non WASH provision areas) and a control sample (part of the community with WASH provision). We selected school children from different grades, of both genders and different ages. The purposive sample participated in in-depth interviews and focus group discussions, whereas the control sample was involved only in focus group discussions.

Findings

Children in non WASH provision communities and schools

Findings at the community level

Health

Children are particularly vulnerable to the health impacts of a lack of access to safe water and sanitation. WASH-related diseases are the cause of high rates of mortality and morbidity in children. In all the households interviewed across both of the project sites (the Konso project in particular) there was significant evidence that children are affected by diarrhoea, typhoid, skin and eye diseases – on average every two weeks – contributing to malnutrition and low weight. This was confirmed by the health bureau in the woredas.

“My name is Hereyet Meresa. I am married and a mother of three children. We don’t have safe water source in our area. This resulted in ill health of our children. Sometimes my children get flu. But eye problem is common especially during the dry season. When I take them to the clinic they give me ointment for the eye and syrup for the flu. They also told me the eye problem comes from dust and say I have to wash the eyes frequently with water and soap. I spend up to eight Birr to visit the clinic – the eye ointment is given to us for free.”



“My name is Ayto Geleba. I am 36 years old. I gave birth to 10 children but only six of them are alive. The rest of my children died due to various sicknesses; most of it is diarrhoea, vomit, fever and pneumonia. I took all of them to the health centre and the people at the hospital told me to boil the water before giving them, though I was not able to do this for various reasons. Even the existing children are sick most of the time again mainly diarrhoea and vomit. Sometime in the past we used to receive Wuha Agar (a water purification tablet) and the effect was very high, the kids’ health improved a lot. Now the provision has stopped and the situation becomes the same. I most of the time spend my time taking care of them when they are sick. I sometimes stay for a month in the hospital in Arba Mich hospital. The whole household drinks water from the Sariti River that takes me around two hours trip; if there is a long queue, it might take me half days.”



Care

Poor WASH provision also affects the care children receive as caregivers are burdened with walking long distances to collect water. Women have to spend an average of three hours walking for water in Konso and one hour in Hintallo as there is a spring nearby that is relatively clean. In addition to water collection, the women are responsible for the household chores and community work, like dam keeping in Hintallo. In both areas, women leave their babies with their grandmothers, neighbours or locked in the house. There is usually a long queue at the water source, which can extend a return trip to half a day.

When interviewed, all of the mothers with small children said they never have enough time to relax, breastfeed and take care of their children. The children cry for hours as they are starved and weak, and are prone to accidents as a result. Most of the mothers in the Konso project said they bath their babies once a month and given the high temperature of the place their bodies became severely scratched and peeled. We observed that the babies in Konso in particular had poor hygienic conditions. Due to the lack of water, babies' nappies do not get washed – instead, they are dried in the sun and re-used. They become smelly; the dry cloth scratches the babies' bodies and the lack of hygiene results in illnesses such as flu.

“Time is not enough for everything. Especially when my husband is away, I have to lock up after my children and the cattle when I go for water. But I can't get relief till I see them again. I think of all sorts of bad things that I know and feel happening to them. What if they fell? What if the cattle step on them? It really is very difficult. If I get up very early, I can bring the water before my husband leaves for farming. There is no time to plan for breastfeeding. I just have to do it when I hear the baby cry if I am home. That sometimes is even done simultaneously with other activities. When I feel the activity has a risk for the baby, like when I make Injera [flatbread], then I have to stop making it. If the child starts crying when I'm about to finish making injera, I'll try to divert his attention to other things 'til I finish my work so that I can give his food in peace.”

A mother from Konso

Economic impacts

Children's ill health places an increased burden of care on the women and girls who look after them, adding to their already heavy workload and giving them little time to earn money through agricultural work. Taking care of sick children also imposes a great economic burden on families. The families interviewed said they spend at least 50-100 Birr a month on medication per baby.

“My name is Zegaye Arkaydo. I am married and a mother of seven. The younger ones are twins and are a year and half years old. We get our water from the Sariti River. I travel an average of three hours to get water. My children also get water from the same place. They are frequently sick with diarrhoea; I can say almost



every two weeks. When we take them to the hospital, there they told me to boil the water for the children. Medication is also prescribed and we buy them bottle of syrup that costs about 50 Birr. We spend around 100 Birr every month for the medication. As the doctors told me, due to their frequent sickness both of the babies have low weight and have malnutrition.”

Physical effects

Water sources in both of the research sites are located far from the villages, requiring children, in particular girls, to travel through treacherous terrain to reach them. In the mountainous projects of Konso and Hintallo, girls as young as 10 take responsibility for drawing and carrying the family's water. During the wet season, children often have accidents while scaling steep and muddy hillsides going to and from springs. Of the 32 girls interviewed in the community and at school, 95% have had injuries due to falling (see picture).



Some also have long-term physical damage due to carrying 20 litre buckets of water on their backs. Regularly carrying such a heavy weight is particularly damaging to the neck, shoulders, spine and legs.

“My name is Teko. I am nine years old. I am the older child in my family. I have two younger siblings. Water collection is my main responsibility. My mother fully handed over this role when I was seven when her leg was broken collecting water. It’s a very heavy task for me. I do it twice a day. Each trip costs me lots of energy and takes about two hours. I carry 25 litres of water. As it is daily activity, it hurts much. My waist has got spots and my health situation is not good. My right leg and neck also is aching me badly. When I feel the sickness, I will take some rest in between and feel a little better but then I will get back to it again and again. I have no alternatives. Fetching water is a heavy task. Especially during night time, it is too risky. Stones smash our toes, and sometimes snakes scared us.”



Leisure and play

Play is so important to child development and wellbeing that it has been recognised by the United Nations High Commission for Human Rights as a right of every child. Child labour takes away the time and energy children need to play. Girls in particular are burdened with water collection but boys are often tasked with collecting water for cattle. Boys in Konso also said they avoid playing in school because it makes them thirsty.

“My name is Birhanu. I am 11 years old. I am a drop out from grade one due to my father’s decision for me to keep the cattle. My father in addition wanted me to help the family doing many activities at home. This includes cattle food preparation and water collection when my sisters go to the school. In general, I am very busy with all activities. The hard thing is taking the cattle to search for water, especially during the dry season. Going far away doesn’t only thirst the cattle but myself as well. I hardly get time to play with my age mates. Actually most of them are serving their families, shepherding their cattle. If we are lucky enough we might play at Bealat days where working is forbidden in our religion. I always feel sad for myself when I see other kids in the towns playing and going to school.”



Conflict

During the dry season water scarcity creates conflict between communities. Children have to wait in line for water for long periods and as tensions rise, physical and verbal abuse can occur. Most of the girls we talked to had experienced such conflicts and of those, three of them had become direct victims.

“My name is Ayana. I am nine years old. Currently I am living in Antitemo kebele in Konso. I fetch water from 'harota ' stream with a vessel that contains 20 litres. It takes me around three hours. I use the water for drinking, cooking, taking care of my younger siblings and for animals as well. Because my mother is not strong enough physically and my three sisters got married, fetching water is my responsibility. Fetching water for boys culturally is not accepted. I always wake up early in the morning at five am to go to the stream. Most of the time and particularly in the dry season there is a long line of people around the water source. As a result people fight over queue. Quarrelling, scolding and fighting are very common. Once I had been victim and get wounded. For other times to avoid this I, personally, prefer to wait long for my turn patiently rather than fighting.”



Tseganesh, another girl from Konso, told us,

“Disputes arise due to line up. At the source, the big ones fight throwing stones but the small ones will be hurt. I have faced people who have been badly injured and unable to walk. Fortunately, I personally have never faced such things so far.”

Findings at the school level

Clean water and sanitation are essential to learning. Without these basics, children have trouble paying attention and many have to miss class due to illness. Schools across Ethiopia have been reported to have very poor WASH environments. In the schools that we visited there was no, or insufficient, water supply, sanitation or hand-washing facilities. At Shekena elementary school in Konso, which only has sanitation facilities, these are dirty, unsafe and inaccessible for children. At Alem Asegde elementary school in Hintallo, WASH facilities are non-existent.

Learning

Almost all of the students interviewed in Hintallo and Konso told us that the lack of water at school highly affected their learning. They said when they are thirsty or dehydrated, they feel unable to concentrate, weak, sleepy and suffer from headaches, all making learning difficult.



School children in Hintallo



School children in Konso

“My Name is Kele. I am 12 years old and a grade three student. There is no access to water in our school. Every student brings water to school. I do the same. Accidentally, if I forget to bring water, I will stay thirsty till I get back to home. Lack of water in the school has greater impacts on me and my friends. Especially on sunny days, we become so thirsty we lose interest to follow the lesson attentively. We feel sleepy and bored. To minimise our thirst we avoid playing during break time, but however bad it is I do not dare to ask my teachers to go out and drink water.”

Attendance

Students from remote areas have to walk for around three hours to fetch water, making them late for class or causing them to miss school altogether. If students are late for class they are often punished severely, making them go home instead to avoid punishment. The head of Shekena school in Konso said small children usually interrupt their lessons and go home when they feel thirsty.

“I am Kelalit. I am nine years old and a grade two student. I am learning at Alem Asegeda Primary School. One of the biggest problems that we face at the school is lack of water and toilets. We don’t have a water tap at school. We usually carry five to ten litres of water every day from home. Some of us live very far from the school and the surroundings are hilly too. That makes carrying water from home very tiring. The water we bring to school is used for drinking, to water the plants and to clean the classrooms. In our school each student is responsible to take care of at least one tree which is newly planted. If the tree dies, we have to report to the school so that another tree can be planted and we take the responsibility taking care of it. Luckily, my parents live nearby. During break time, I hurry home to drink water and return to school before it is too late. I got this scar on my chin from falling hard while I was running back to school from home. When I can’t go home and get thirsty, my attention drifts away from the classroom and think about how I can get water to drink. My throat as well as my lips gets dry and swallowing and concentration gets really hard. Whatever the case, bringing water to school for the tree is a must. If we fail to do so, we will be punished.”



“My name is Mebrat. I am 12 years old and first grade student. There is no water in the school. During the break time, we run to other places and come back quickly before the break time finishes. If we feel thirsty during the class hours, we have to resist it. There is no other option. Since we don’t have water at home, I don’t bring water like the other students. Sometimes I ask other students to give me some, at other times will go to the handpump [nearby]

and beg some of the ladies to give me some. They are not always willing to give because we go in group and they have to wait in the queue. Sometimes, we get only weaker by travelling there and coming back to the school without getting a drop of water.”

Sometimes when the need to go to the toilet is intolerable for students, they have no choice but to go in the nearby bushes. This is particularly problematic for girls.

“There is no latrine in the school. We go to the field. Sometimes, the boys throw stone and make fun of us. We even get bad evils there especially when we go when the sun is strong. If we feel the need at the class hours, we struggle not to ask permission from the teacher. If that is a must, we ask permission and go. Sometimes the teacher is not willing to give permission.

They think we are asking that just to leave the class and play outside. At that moment even if they don't allow, we can't give full attention to the lesson – we go home or directly run to the field. We have latrine at home and there we use paper. But in the field, we use stone and stone can be hot and give us diseases.”

Female student in Hintallo

The school we visited in Konso Tebela and Kuchela kebele had no water supply and just one old latrine for both boys and girls to share. Students are asked to bring water to school for drinking and food preparation. If students forget to bring water they don't get fed.



The children pictured are queuing for the latrine during their ten minute break. The latrine is very old, dirty and poorly maintained, so a number of the students said they would rather wait until they get back home, which can result in them needing the toilet for five or six hours.

The water that is brought into school is often dirty and unsuitable even for hand-washing.

According to interviews with students and Principals, children miss school due to sickness from diarrhoea and intestinal worms.

Health and safety

The World Health Organisation estimates that 40% of cases of diarrhoea, responsible for the deaths of 4,000 children each day, are picked up at school. The disease leads to a loss of 272 million school days each year. Schools with poor water, hygiene and sanitation are high risk environments for children and staff, and exacerbate children's susceptibility to environmental health hazards.



The water that students collect in addition to drinking and food preparation is used for watering plants and classroom cleaning. So there is not enough water to wash their hands when necessary.



“My name is Taemwa. I am 13 years old and a third grade student. I am learning in Alem Asegeda elementary school. In the school there is no pipe water. Because of that we don’t wash our hands most of the time. We eat without washing our hands. Most of my friends in the class get sick of stomach ache. When I had stomach problem, it urged me to go to the toilet now and then. If I am in the class room I will ask permission to go out and

defecate. But that is not always easy. Especially if I need to go out more than once, I get shy to do that. Since I also travel to a distant place to go to the field, it takes some time. I will miss the education. But there is no option, if I’m sick I will either have to remain at home or ask permission again and again.”

Inadequate toilets often pose health and safety risks too. The facility in Shekena primary school is an open pit latrine, which allows flies to breed and is also unsafe with a fragile mud floor. The toilet isn’t private and has an unpleasant odour which is off-putting and hazardous to health.



“We are afraid to use the latrine one because of lack of privacy and also because we are not sure if the latrine is not going to collapse at any minute.”

Student at Shekena primary school

In the Hintallo project the latrines in the community are often no better.

Girls’ education

Lack of adequate water and sanitation facilities in school affects girls’ education in particular. Through our interviews and focus group discussions with adolescent girls we learned that they generally avoid school during their menstrual periods or when they are ill, leading to high absenteeism and low educational attainment. The girls at the Shekena primary school in Konso that do attend during menstruation wear heavy and dark clothes and avoid standing in class; they enter the class first and go home last so that male students won’t see blood on their clothes.

The girls we talked to were generally responsible for water collection at home, affecting their school attendance and achievement. Some of the girls said they feel sleepy in class because they don’t get enough sleep. They usually collect water before dawn so that they aren’t late for class but in the dry season and in situations where the water point is busy they often miss lessons. In these instances they are hit with a stick and made to clean the dirty latrine. Water collection duties also prevent them from having time to do homework or study.

“We wake up early in the morning, around four am to collect water. This takes some time and leads us to be late for class. Sometimes we may miss class or be tired in the morning when we reach here. Even sometimes, it becomes very late and we directly go home.”

Student from Hintallo

Teachers

Schools without improved water facilities often fail to attract new teachers, and current teachers must waste time that could be spent teaching joining their students in water collection. According to the school head, teachers in Shekena primary school in Konso travel into town every Thursday and Monday to collect water and some remain in town for the rest of the day. In both of the schools with WASH provision there is a high turnover of teachers to better schools in town.

“When teachers are first assigned to this school they cry as if they are buried.”

Head of Shekena primary school

Children in WASH provision communities and schools

Findings at the community level

The presence of WASH facilities at the community level markedly improved the health situation of children. In Hintallo, the community agreed that the wellbeing of children is considerably better now than before and according to information from the health bureau of the woreda, the incidence of diarrhoea and other diseases has been reduced by 33% since implementation of the WASH project. In our focus group discussions, mothers also told us that they now have time to feed their children, wash their clothes and bath them daily. Mothers in Hintallo also said that they are now able to feed their children properly with vegetables from their gardens. The research team also observed that the hygienic condition of the children looked very good.



Child washing their hands
In the Hintallo project

Findings at the school level

Good WASH facilities, such as clean toilets, hand-washing areas and drinking water points, also contribute towards an effective learning environment where children's health, dignity and safety is safeguarded at school.



“Our school has now a water tap and a latrine. We can get water whenever we want and use the toilet during break time. Now we don't have to bother about carrying water all the way from home for drinking and for the trees. We don't feel thirsty. We also do not defecate outside and aren't scared of boys teasing us. Now what we can think of is about our education. The break time that we used to spend is now used for playing. We also do not come late and get punished

by the guard of the school. The water tap and latrine makes our stay in the school pleasant. We are now free of worrying what to drink and where to go to the toilet.”

Female student

The research team visited two schools with WASH facilities in Hintallo and Konso. The school in Hintallo had a water point and a block of latrines for both boys and girls, and in Konso there was a water point and two separate toilet blocks – one for boys and one for girls. According to a study conducted by a teacher (Titho, 2000) at the Tebela and Kuchela school in Konso, before the WASH improvements the lack

of facilities was one of the main reasons for the low attendance and high dropout rate of girls. According to data from the same school in Konso, the students' enrolment has shown a marked increase after implementation of the school WASH project. The enrolment rate of students during 2007 was 369 but then increased by twice as much as the 2003 figure to 647. The number of female students increased by around 50% between the years.

One of the major factors contributing to this increase was found to be WASH provision. The same was also found in the school in Hintallo where the dropout rate was reduced by 22%. In previous years the main cause for dropping out was students being expelled because of absenteeism as a result of coming late to school from water collection, and not collecting water for the school.

In our discussions, the students said that they now enjoyed school more, found it easier to learn and were absent less often.

“In the past there was only one block of latrines with four rooms, one for teachers, one for girls and two for boys. The toilets had no doors and there was an opening between the rooms for the boys and the girls. There used to be a long line up to the toilets during break time. The boys followed us and laughed at us when they saw us in the toilet. So it was not definitely usable for girls. The new toilet is so nice. It has six rooms and is separated from the boys so now we can use it happily.”

Female student at the school in Konso

In Hintallo, the toilet is cleaned and maintained by the students, teachers and various clubs, such as the sanitation club and the Anti-AIDS club.

Even though significant improvements have been made to WASH provisions in these schools, there is still room for improvement in a number of areas.

Separate toilet blocks for boys and girls

The school in Hintallo has just one toilet block for both girls and boys. The girls said that even though the idea of the latrine is very good there is still a problem of privacy and safety. Some of them mentioned that sometimes the boys locked the girls in the latrine, so they have to go in pairs.

“My name is Tekle. I am 14 years old and a fifth grade student. In the past we had no toilet and used to go outside. The surroundings were very dirty and exposed all of us to flu. Now we are lucky to have a water point as well as a latrine. The only problem is our latrine is next to the boys'. We don't feel ok to use the latrine during break time where there will be many boys around the toilet. We don't feel safe to use it in front of them. This is because sometimes the boys get into our latrine when theirs is busy and sometimes they lock the doors while we are in.”

Sustainability

The school WASH project in Konso is based on roof catchment technology which failed to provide water just months after the completion of the project. The main reason for this is the poor quality of the taps and the school’s lack of budget for operation and maintenance. Poor management of the facilities is also to blame.

According to the Head teacher, the community already contributes around 5,000 Birr for running the school programme and it would need to be consulted if the school was to use the money to maintain the WASH facilities.



Non functional faucets in a school in Konso

Accessibility

The WASH facilities of the school project in Konso are generally accessible for all, including students with disabilities. One room in each block has a ramp, wide space and rails for support. Currently, one student with a disability is making good use of the facilities.



Accessible toilet



Water points at different heights

The school WASH project in Hintallo is totally inaccessible for small children and pupils with disabilities. The water point height is very high and the entrance of the latrine is raised. This reveals the need to create awareness and lobby for the inclusion of accessible designs in school WASH.



Inaccessible water points and latrines in school in Hintallo

Number of students per WASH facility

There are not enough WASH facilities in either school to meet the needs of the number of students. There are 470 students in the Hintallo school and only four taps and four toilets for both students and teachers. Long queues form at break times and ethical and civic clubs are needed to monitor use and prevent conflict.

Weak software (education)

Good school WASH requires a combination of hardware – physical and technical components – and software – such as hygiene education which is essential to produce a healthy school environment. In the schools we visited in Konso, we found the software components to be weak and in need of further consideration. This had a negative impact on the effectiveness and sustainability of the school WASH projects.

Recommendations

We recommend the following measures are taken to improve the situation of children both at the community and school level:

- Dissemination of Key findings of the study to development sectors especially to education and health.
- The evidence that WASH has direct and indirect effects on the health and wellbeing of children needs to be considered in any development project.
- Any WASH intervention should give attention to or prioritize the needs of children
- WASH provision should be an integral part of any school interventions to improve the learning environment. This can be achieved through collaboration between those responsible for education and health.
- School WASH facilities should be accessible and child-friendly. Existing projects should be assessed and improved to create more inclusive designs. There is also a need to create awareness and lobby for the inclusion of accessible designs in school WASH
- School communities need to take the lead in making WASH services sustainable by establishing and strengthening hygiene and sanitation clubs.
- Adequate budget should be set aside by schools for implementing, managing and maintaining WASH facilities.
- WASH sector actors should work closely with policy makers to ensure that sector policies adequately address the issue of children at different levels.

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Annex 1

Literature review

- 1 *Children and WaterAid*, WaterAid (2008) summarises the efforts of some WaterAid country programmes to alleviate the problems of children both in school and the community.
- 2 *Children and water, sanitation and hygiene: the evidence*. Human Development Report, office occasional paper (2006) reviews the provision of WASH from a children's health and education perspective. According to the document the only way to reduce the burden of repeated diarrhoea episodes and related serious long-term health consequences is through improved water, sanitation and hygiene. Poor WASH contributes to many diseases and disorders. The document further shows that water availability in households is an important factor in the enrolment, attendance and dropout rates of children.
- 3 *Water, sanitation and urban children: the need to go beyond 'improved provision'* (2005) reviews the implications of inadequate provision of water and sanitation for children's health and general development, especially in urban areas. It considers, in particular, the higher vulnerability of children to sanitation-related illness, the links between unsanitary conditions and malnutrition, the impacts for mental and social development, and the practical day to day realities of poor provision for children and their caregivers in urban areas. It argues that health education and health care, while essential components to proper provision, can in no way be considered alternative solutions. The true costs for children of a failure to respond to this on-going emergency lend another dimension to discussions of the cost-effectiveness of various solutions.

- 4 *Children: the marginalised forgotten community in the sanitation debate* (2009) looks at WASH provision from an accessibility point of view. According to the article, existing latrines are often inaccessible for children and the technology used does not cater for children's needs. It argues that children are the forgotten community in the provision and design of latrines. The author further expresses her feeling by saying the sector should target this growing population that is sometimes voiceless and is often not given an opportunity to articulate their specific needs through our efforts made to meet our sanitation target.
- 5 Various reports by UNICEF which have also shown the impact of WASH provision on the wellbeing and development of children, as well as its implication on their educational performance, enrolment and dropout situations, especially considering the case of girls.
- 6 *A WASH guideline on strengthening WASH in schools* (2010), joint publication by IRC, UNICEF and WSSCC has information that can be used in various ways, for planning, designing, implementing and/or monitoring WASH in school programmes.
- 7 *Assessment of the health impacts of WaterAid Ethiopia's Ticho-Kella and the surrounding communities WASH project* (2010) report assessed the impact of WASH projects in improving the education of schoolchildren and reducing WASH-related diseases. The result of this study indicated that combined water supply, sanitation and hygiene interventions can improve WASH-related knowledge and hygiene practice and substantially reduce the prevalence rates of intestinal parasites and WASH-related skin and eye diseases.