24. The Importance of School Water Supply, Sanitation and Hygiene (WASH)[24]

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Introduction

A lack of water supply and basic sanitation and hygiene (WASH) kills thousands of children and vulnerable people every day and leads to poor health and malnutrition for many more. 10% of the global disease burden can be attributed to inadequate access to WASH. For example, an estimated 88% of diarrhoeal disease is caused by unsafe WASH[i]. An estimated 2.5 billion people, representing 38% of the Worlds population lack access to improved sanitation facilities while 1 billion of the World's population lack access to safe water[ii]. This has a profound effect on the ability to meet development targets such as the Millennium Development Goals and in particular in ensuring access to education and gender equality and empowerment for women.

WASH and Education

Education is vital in supporting individuals and communities to escape the cycle of poverty and ensure sustainable development. Many schools in developing countries have inadequate WASH facilities or serve communities which have a lack of access to adequate WASH. This leads to poor health, absenteeism from school, low academic performance, and unequal access to education for girls and those who are particularly vulnerable such as the disabled. Schools often lack drinking water, hand washing or sanitation facilities or facilities are of inadequate design and insufficient in quality or quantity.

Poor health as a result of helminth (worms) and diarrhoea caused by inadequate WASH hinders the ability of children to participate in school and denies them their right to basic education. Sustained exposure to water related health hazards such as chemical contamination of water from lead and arsenic, diarrhoeal disease and malaria infections results in absence from school and in the case of arsenic can limit cognitive development[iii]. Poor environmental conditions in school buildings and grounds also affect the ability to teach and learn effectively. Girls and female teachers are significantly disadvantaged if there is inadequate provision of WASH, particularly when they are menstruating. Inadequate WASH design can mean a lack of dignity and girls and women at risk of abuse. This may result in absence from school or dropping out from schooling altogether.

Children are often responsible for collection of household water requiring them to walk considerable distances in the morning and evening. While the average distance people walk to collect water in Africa and Asia is 6 km, seasonal shortages and inadequate maintenance

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of infrastructure can mean that in practice children walk further[iv]. This can prevent them from attending school and limit their concentration and academic performance once they are there. Poor WASH will continue to affect children and teachers if the wider community does not support school WASH initiatives. Yet, school WASH can act as a springboard (alongside other initiatives) in support of community WASH initiatives. It is clear that the provision of adequate school WASH is essential for access to sustainable, equitable education and to ensure that the benefits of any development intervention are realised.

The cultural and religious significance of WASH

Water has great cultural and religious significance and this is often reflected in rituals, stories and religious beliefs. For example, in Japan a ritual prayer is held each spring at the shrine of Takaokami, the god who brings rain[vi]. Many religions highlight the importance of water and the link between cleanliness and godliness both in their rituals and their religious texts. For example,

"Then will I sprinkle clean water upon you, and ye shall be clean"
The Bible, Ezekiel 36:25.

The Qur'an and Hindu texts such as the Bhagavad Gita also make this connection,

"God loveth the clean"
The Qur'an, Sura 9.

"One may cleanse himself daily by taking a bath in water, but if one takes a bath even once in the sacred Ganges water of Bhagavad Gita, for him the dirt of material life is altogether vanquished."
Gita-mahatmya, 3.

Many religious texts describe water as a gift from god emphasising an imperative to look after water resources. This is often reflected in the belief that water should be available to everyone and not bought and sold as a commodity[v]. Cultural values such as this can have a significant impact upon appropriate strategies for WASH development.

3.1 How culture and religion affect WASH

Religious and cultural beliefs also shape behaviour in relation to WASH. For example, the Bunna of Ethiopia believe that anything from the ground is dirty and will drink contaminated surface water in preference to uncontaminated from a borehole source[vi]. Diseases are perceived to be caused by deceased ancestors and not contaminated water. This demonstrates the importance of ensuring that development of WASH policy, programmes and infrastructure takes account of the religious and cultural context.

Cultural and religious beliefs are often intrinsically linked and both impact upon water use and sanitation and hygiene behaviour. It is also recognised that humans have an innate sense of disgust that probably has its roots in disease avoidance. We tend to value cleanliness and avoid things considered to be dirty or associated with dirt and this is often reflected in cultural beliefs and practices. These beliefs can be useful in shaping positive sanitation and hygiene behaviour but may also lead to embarrassment and avoidance when discussing some aspects of hygiene such as menstruation. Cultural taboos surrounding contact with menstruating women and a belief that they should be segregated can

accentuate this. It is therefore important to recognise not only environmental sustainability but also the cultural suitability of WASH practicesvi (see Box 1).

Box 1

The impact of cultural and religious preferences on community water supply (CWS): Case study from Machaki village in North West Frontier Province, Pakistan[vii]

Discussions with 20 village elders regarding sanitation and dirty washing water and urine in the streets proved to be the starting point for development of a CWS programme in Machaki. Open defecation was a common practice and thorough discussion on the health impacts led them to conclude that they would like improvements. Nawab highlighted several cultural and religious factors affecting technology choice and hygiene behaviour. These included:

- A desire to keep body and clothes clean for prayer as ordained by the Koran and hadiths (Sayings from the prophet Mohammed (Peace Be Upon Him).
- Sayings from the Prophet Mohammad PBUH stating that toilets should face away from Mecca.
- Strong psychological and religious concern regarding the impurity of faeces.
- The council of male elders who were responsible for village decision-making.
- Cultural taboos meaning women were unable to discuss sanitation with men yet women were responsibility for household sanitation.
- A wastewater use decree from the Council of Leading Islamic Scholars (CLIS) in Saudi Arabia.

As a result, the community designed a unique water supply system. This included a wetland treatment system and household latrines demonstrating a flexible context specific community designed response to CWS.

WASH in schools

4.1 Best Practice

Implementing effective and sustainable WASH activities in schools involves attention to physical infrastructure and support for institutional development as well as cultural and religious beliefs which affect who is educated, where and how. The following areas represent some factors for consideration:

Gender equity and dignity. This means ensuring that gender equity is considered throughout WASH design, implementation and review. For example, from planning appropriate locations of latrines to sustainable provision of materials to aid girls and women in managing their menstruation.

Access for all. Access for all regardless of sex, social status, age, physical and mental ability. This may mean consideration of technical designs, training and sensitisation within schools and awareness raising.

Institutional capacity and cross-sector communication. Communication within and between different organisations and government sectors is integral to success of WASH.

Hygiene and sanitation education. This must recognise that sanitation and hygiene behaviours are social phenomenon as much as technical challenges. With this in mind, cultural and religious acceptability and appropriate social marketing techniques are important considerations.

Appropriate physical infrastructure. This includes technology choice, location and operation and maintenance as well as consideration of when and how technology is introduced with a view to phased incremental improvements in WASH.

Monitoring, evaluation and action. A monitoring and review process that allows for correction in the system and continued improvement.

Sustainability. This refers to the environmental, financial and operational sustainability of any system. This means consideration of whether the environment can support the system and whether people are able to finance and maintain it. Additional to this might be institutional sustainability meaning attention to the social structures required to ensure long-term functioning of WASH.

These measures need to be implemented within the context of a positive policy environment at local, national and regional level which encourages WASH strategies that pay attention to cultural and religious beliefs and promote equity of access for all. This might be demonstrated through setting school specific standards and defining steps on the path to WASH supported by planning and assessment of needs both by government and school communities. Government goals cannot be achieved without local support and involvement and so roles and responsibilities of government, donors, schools and communities must clearly be defined and links between different sectors encouraged.

Gender equity and dignity

Gender equity is a question of dignity and rights. Women and girls have the right to safe, appropriate water and sanitation facilities to enable them to practice menstrual hygiene. Lack of support for girls to manage their menstruation is linked to the dramatic decrease in girls' attendance at school from puberty onwards (see Box 2). Cultural and religious values will impact upon the hygiene behaviour of women and girls and affect WASH development. For example, girls and women may be forbidden from discussing their needs in public or with men. Women and girls may also experience segregation and seclusion when menstruating or may face prohibitions on using sanitation facilities which are in public view. However, there are positive lessons to learn from cultural traditions surrounding menstruation. For example, Gumuz women in Ethiopia use pounded tree bark as disposable sanitary pads. These are more hygienic than cloth strips, environmentally friendly and free[viii]. Tackling gender equity within schools must involve men through a focus on encouraging male teachers to educate children in hygiene and sanitation and lead by example in safe water and sanitation practices even if these practices are considered to be women's work.

Box 2

Schoolgirls, health, wellbeing and dignity in Africa
It is estimated that half of all girls in Sub-Saharan Africa who drop out of primary education do so because of poor water and sanitation facilities while it is estimated that a further 10% of school-age girls in Africa do not attend school during menstruation or drop out completely at puberty because they have no access to clean, private sanitation facilities at school[ix]. In 2005 WaterAid conducted a study in Benishangul-Gumuz Regional State (BGRS), Ethiopia. Of the 32 schools studied, latrine to student ratios ranged from 1 latrine per 46 students to 1 for 386[viii]. Where facilities were available, broken or non-existent toilet doors, a lack of dedicated male and female toilets, and few female teachers hindered their use. Girls and women teachers were often culturally limited to using toilets at night or felt there was insufficient privacy to use available facilities.

Access for all

Facilities should also be accessible to all regardless of sex, social status and physical or mental ability. This means attention to design and use of facilities. For example, consideration of the proportions of facilities to ensure they are comfortable, not intimidating and easy to use. Modifications might include reducing latrine wall height, making the latrine drop hole smaller to tackle phobias related to falling down[x], fitting handrails or ropes, providing 'tippy taps'25 [xi]The location of facilities must also take account of ease of physical access along with cultural considerations and awareness that children may be vulnerable to bullying or abuse if the location and monitoring of facilities is inappropriate. Other adaptations might include modifications to taps to make them easier to use for those with missing limbs. Adaptations such as this are generally low cost but make a big difference in ensuring access to facilities and so to school education[xii].

Institutional capacity and cross-sector communication

Paying attention to institutional capacity means ensuring that there is a positive policy environment that enables standards setting and creation of guidelines to improve WASH. This involves ensuring that appropriate support is available to all involved in ensuring long-term sustainability of WASH facilities including access to further information for sanitation and hygiene promotion as well as support for maintenance of physical infrastructure.
Schools are usually the responsibility of Ministries of Education while sanitation and hygiene policy tends to sit within Health Ministries and water supply often in a third separate Ministry. Therefore, coordination between different sectors and ministries within a country and between different donor agencies is vital in order to ensure that WASH is mainstreamed into development initiatives and efforts are coordinated.

Hygiene and sanitation education

While infrastructure such as toilets and taps are important, it is equally necessary to ensure that behaviour change is part of any WASH strategy. Schools have a responsibility to educate children in life skills under which sanitation and hygiene fall. There is recognition that sanitation and hygiene behaviour are largely social phenomenon and so attention to social marketing tools and practices within schools is important[xiii]. Children can be powerful communicators of health messages in support of good hygiene and sanitation practice in their communities[xiv]. Key to ensuring that WASH messages are communicated accurately and appropriately is ascertaining school and staffing and training requirements.

Appropriate physical infrastructure

Appropriate physical infrastructure refers to technology location, choice, operation and maintenance as well as the way in which technology is introduced. For example, where possible latrines should be made from locally available materials facilitating easy repair and replicability[xv]. This goes hand in hand with monitoring and evaluation as continual review of facilities should lead to changes in physical infrastructure where appropriate. This approach allows for phasing technology adoption to allow for incremental improvements as demand

[25] A tippy tap is a small suspended jerry-can with modified, moulded handles that provide a limited flow of water when tipped.

increases and resources become available. Physical infrastructure should be affordable and easy to use and maintain. This is especially important in a school environment where physical structures must be robust and able to support rigorous use yet easy to fix without specialist knowledge in the event that they break down.

Monitoring, evaluation and action

Monitoring and evaluation is the long-term continual assessment and review of WASH facilities and services being provided. It is integral to ensuring success of school WASH in the long term. Monitoring and evaluation of school WASH ideally involves coordination from school to national level. This will involve support in establishing school health committees and a monitoring system with easy to observe and report indicators. Ideally, this activity will be supported by the local environmental health department. The following areas are suggested for assessing WASH provision in schools: institutional capacity, water quality, water quantity, access to facilities, Hygiene promotion, Toilets, Disease control, Cleaning and waste disposal and Food storage and preparation[xvi]. Monitoring and evaluation ideally leads to action to remedy any problems when they occur.

Sustainability

Sustainability refers to the long-term success of the WASH project in achieving its targets. These might include reduced diarrhoea incidence and improved awareness of the importance of WASH. Like gender, sustainability cuts across all aspects of water management and the design, operation and maintenance of facilities. Sustainability of WASH is especially important for schools as the long-term success of WASH depends on a combination of physical and social infrastructure and appropriate institutions and support structures to ensure continuity in provision and incremental improvements in WASH standards.

DFID's experience

The UK Department for International Development is committed to supporting the provision of WASH in schools. This is in the context of enabling attainment of the Millennium Development Goals (MDGs). MDG 2: Access to universal education and MDG 7, target 10: To reduce by half the proportion of people without access to safe drinking water and sanitation are both relevant to WASH in schools (See Box 3).

It will not be possible to achieve universal education without equitable access for all to water and adequate hygiene and sanitation. DFID's 2008 Water Policy Document recognises this and includes an aim to *"ensure that every school and health clinic has a safe water supply and well maintained toilets, separate for boys and girls"*[xix]. DFID also recognises that it is necessary to integrate sanitation in health and education programmes in support of national policies on WASH in schools. This approach is also supported by DFID's 2006 Girls Education Strategy within which DFID made a commitment to make sure that gender equity and support for promotion of clean water and sanitation facilities are part of education sector plans. DFID recognises that the introduction of WASH in schools can lead to improvements within local communities while local community support is integral to ensuring the success of school WASH initiatives[16].

Box 3

The Millenium Development Goals (MDGs): WASH and Education

In 2000 the international community committed to the millennium development goals with the aim of attaining the targets contained within them by 2015. They focus on the most pressing global development challenges. Two key goals relate to WASH and education:

MDG 2 is to achieve universal primary education. A key target under this goal is for all girls and boys complete a full course of primary education.

MDG 7 is to ensure environmental sustainability. MDG 7, target 10 is to reduce by half the proportion of people without sustainable access to safe drinking water and basic sanitation [xvii].

In addition, **MDG 3** is to promote gender equality and empower women. Two key areas that will enable this goal to be attained are gender sensitive WASH and access to education. DFID is supporting the Global Framework for Action on water and sanitation which seeks to build political support for the WASH sector and to improve the allocation and targeting of finance[xviii].

Promoting female education

In Malawi and Nigeria, DFID supports the construction of separate latrines for girls and boys in schools. In India, support to UNICEF's Child Environment Programme has resulted in the proportion of schools with minimum School Sanitation and Hygiene Education (SSHE) facilities increasing from 41% to 73% between 2004 and 2008/9. Concurrently, the proportion of households adopting essential hygiene practices rose from 26% to 45% over the same period. Hygiene education has now become a critical aspect of life skills education in many schools.

Community involvement

DFID has been involved in further researching Community Led Total Sanitation (CLTS), piloting the approach in Yemen and allocating resources to researching the opportunities for scaling up the success of CLTS. There are clear benefits of community involvement in WASH and these are reflected in DFID's support to Yemen (see Box 4). Ensuring that school sanitation is linked to the community has yielded positive results in Malawi where school sanitation clubs have been effective in maintaining school and community support for WASH.

Box 4

Yemen – Education benefits from improved water collection[xix]

Despite traditional rainwater harvesting practices, Al-Qatab village in Yemen suffered from seasonal shortages of water with cisterns running out of water in the driest part of the year. As a result, villagers had to travel 2 hours by foot to the nearest source. A new cistern, hand-pump, precipitation tank and livestock water basin was provided via the DFID funded Social Fund for Development. This has made water collection easier. As this was the responsibility of women and children, school enrolment has increased and hygiene and environmental health has improved.

Cross-sectoral links

In Kenya, DFID provided support in developing a WASH strategy for schools. Provision of adequate water and sanitation facilities in schools is now a key strategy in the DFID supported Kenyan Ministry of Education's Sector Support Programme. As part of a sector wide approach (SWAP) for WASH, a pilot involving the provision of sanitary napkins in schools is being undertaken.

Faith based organisations

In many parts of the world, faith based organisations are the only institutions with a consistent presence. Therefore, they are often well placed to provide continual support for WASH. DFID also recognises the value of faith-based organisations in implementing WASH activities at national and local levels in country. This is reflected in DFID's work both directly and indirectly with many faith based organisations (See Box 5).

Box 5

DFID's support for International Faith Based Organisations

DFID knows that Faith based organisations have a valuable and vital role to play in supporting WASH initiatives in education. DFID has public partnership agreements with several Faith based organisations including Islamic Relief, Christian Aid, World Vision and CAFOD as well as other international non-governmental organisations such as WaterAid who work closely with faith based groups in developing countries. Core funding to faith based international organisations for 2008 to 2011 totals £67,280,000.

DFID Funding

DFID partners with and provides funding for several organisations that implement WASH activities. This includes partnering with UNICEF the World Health Organisation (WHO) and the Water Supply and Sanitation Council (WSSC). In Africa alone, DFID has committed £1 billion to the water sector between 2009 and 2014 which is expected to result in water and sanitation provision for up to 25 million more people. In addition to this DFID has committed funds for WASH provision in schools to activities in countries. Examples of DFID's support to country WASH in education initiatives:

Burundi – From 2008 – 2011 DFID has committed £6 million to improve education through support to the National Education Plan. More than 200 latrines have been rehabilitated and there are plans for 75 new schools with water and sanitation facilities including separate toilets for boys and girls.

Kenya – DFID is currently contributing to the water sector through £55 million committed from 2005 – 2010 to provide support to infrastructure and water and sanitation development via the Kenya Education Support Programme. This will cover over 4,500 primary schools. School based hygiene promotion will form the basis of support for maintenance of the infrastructure installed.

Pakistan – In Pakistan, DFID education programmes in Punjab and Balochistan involve significant WASH activities including improvements to school infrastructure and a particular focus on access for girls.

Malawi – £2.5 million has been invested by DFID in school water and sanitation as part of its funding to the education sector over the last three years resulting in sanitation delivery to 400 schools.
Nigeria – DFID works in partnership with UNICEF in Nigeria. This joint initiative has focused on water and sanitation in schools via a water and environmental sanitation programme which provided water points, sanitation facilities and training for hygiene skills in 400 schools.

DFID country involvement

Kenya: Universal Education and WASH demand

The introduction of Universal Primary Education in Kenya resulted in a 39% increase in the number of children in primary schools between 2002 and 2007[xx]. This has strained existing WASH facilities considerably and unavailable or poor infrastructure has been identified as a major constraint to improving education access[xx]. DFID is working with the Kenyan government and other development partners in Kenya as part of the Education Sector Support Programme. This has a budget of £24 million to develop primary school infrastructure including sanitation and hygiene promotion. The programme aims to improve child health, attendance, performance and retention of all learners including girls, boys and those with special needs[xxi].

The Kenyan government has chosen to allocate £6 million for WASH promotion alone. This includes a variety of different activities from latrine design, grants for schools and strategy development to teacher training on the subject. The Kenyan Ministry of Education WASH Promotion Strategy advocates adoption of cultural practices that enhance positive WASH behaviour and support for culturally appropriate facilities. The long-term sustainability of this initiative is being strengthened through development of a baseline survey by the Ministry to ensure that the needs of schools are being met and to identify those in most need of support.

India: WASH in support of school attendance

While there has been rapid economic growth in India, 400 million people still live in absolute poverty. The Government of India has been successful in reducing the number of children aged 6-14 remaining out of school from 25 million in 2003 to 5 million in 2009. However, there is still further to go. DFID works with UNICEF and the Indian Government to improve access to education, with particular emphasis on girls. This is through support to the Government's elementary education for all programme, Sarva Shiksha Abhiyan (SSA) and expansion of the Education for Women's Equality programme, Mahila Samakhya. Critical to the success of both programmes is support in tackling violence against women and barriers to women and girls' access to education. Many girls experience violence at school or must leave school early if there are no WASH facilities. Support for WASH in schools is integral to overcoming these challenges. The project has contributed to an increase in provision of girls' latrine facilities. 28% of schools in India had separate girls latrines in 2003-2004. This increased to 37% of schools in 2005-2006. While in the district of Andhra Pradesh, provision of sanitary napkins and disposal facilities has been shown to increase school attendance while support for self-help groups making sanitary napkins has proved successful in enabling women and girls to manage their own menstruation in an affordable sustainable manner.

Nigeria: Girls education

In 2004 7 million children of primary school age were not attending school. Of these 4.3 million were girls. To tackle this situation the Nigerian Government committed to improving girls education. In response, DFID contributed £25 million to a joint Government of Nigeria, DFID and UNICEF partnership Girls Education Project. In 2007 this involved a commitment of 1 billion naira for borehole and latrine construction. Separate toilets for boys and girls along with hygiene education also formed part of the project. As a result of the project, girls' primary school enrolment in Katsina, Sokoto and Niger states has risen 82% from 24,001 in 2004-2005 to 46,567 in 2007-2008[xxii]. The inclusion of WASH in the project has been critical to achieving this.

Conclusions

A reliable clean water supply and access to facilities to practice sound sanitation and hygiene are essential to long-term poverty reduction underpinning good health, food security, economic growth, education and environmental sustainability. Education is vital in breaking the cycle of poverty. However, without adequate WASH that pays attention to equity of access and environmental, financial and operational sustainability access to education and the benefits of WASH are severely compromised. It is clear that critical attention needs to be given to water, sanitation and hygiene in international policy and local action. Schools are an ideal place in which to promote good WASH practice and to introduce measures that will enable the broader benefits of WASH and education to be realised for the whole community.

19. Micro solutions have macro effects

EMF. Allerd Stikker, Ecological Management Foundation, the Netherlands

In 2000, the Millennium Development Goals for drinking water were established during a ministerial UN conference in New York. In 2002, those for sanitation water were added during the UN conference on Development and Sustainability in Johannesburg, ten years after the first conference on this theme was held in Rio de Janeiro. The Millennium Development Goal for water is to halve by 2015 the number of people in the world without sustainable access to safe drinking water and sanitation in 2000. Taking into account the ongoing growth of the world population – around seventy-five million per year – and predominantly in developing countries, this means that in those fifteen years, of which nine have now already passed, an additional one and a half billion people should have access to safe drinking water and an additional two billion access to sanitation water by 2015, as compared to 2000. These are monumental targets, affecting the so-called "bottom of the pyramid".

When one discusses the scarcity of clean water in the World with a Westerner, his or her response is often one of disbelief. To many people in our society the problem of water scarcity seems complex and distant. Most of us don't even know what they pay for the