

Sanitation



WaterAid/John Spaul

Around 2.6 billion people do not have somewhere safe and clean to go to the toilet. The majority of these people live in Asia where just over half the population (52%) do not have adequate sanitation.

Poor sanitation means bad health. Bacteria, viruses and parasites found in human waste are responsible for the transmission of cholera, typhoid and other infectious diseases that kill millions of people every year.

Yet, basic latrines combined with knowledge and understanding about the connection between hygiene and diseases can save lives, so much so, that Mahatma Gandhi once said, *“Sanitation is more important than independence.”*

What is sanitation?

Sanitation can be defined as access to excreta disposal facilities. In the developing world, this often means access to an ‘improved’ latrine like those that WaterAid and its partners promote. In addition adequate sanitation means a clean, private environment, as well as knowledge and understanding about the connection between hygiene and disease.



WaterAid/Jon Spaul

The problem

Women and children

It is often women and children who suffer the most from poor sanitation, especially in the world’s poorest communities where malnourished children are more vulnerable to disease. Diarrhoea is the second biggest killer of children under five worldwide (after pneumonia) but in most cases it can be prevented through safe water, sanitation and hygiene education.

The lack of adequate sanitation facilities prevents girls from attending school, particularly when they are menstruating. Of the 104 million children currently not enrolled in school worldwide, 62% are girls. Girls’ attendance at school is

increased through improved sanitation. For example, in Bangladesh, a school sanitation programme has increased the enrolment of girls by 11% per year since it began in 1990.

In many cultures, women who have no access to a latrine must wait until it is dark to go to the toilet or they have to walk long distances to find an isolated spot. This exposes them to the danger of sexual harassment, assault and animal attacks, never mind discomfort and sometimes illness. These problems can all be prevented by having a safe, clean toilet close to home. Enabling women’s voices and problems to be heard in the decision-making process is not easy, but a crucial part of the solution.

Pollution and urbanisation

Sewage pollution is the largest and most common type of pollution. For example every minute 1.1 million litres of raw sewage are dumped in to the Ganges River in India. The pollution of surface water, rivers and groundwater by sewage spreads disease and causes environmental degradation.

The problems are exacerbated by rapid urbanisation as every day 160,000 people move to cities from the country. At least 600 million urban dwellers in Africa, Asia and Latin America live in squatter settlements. The number of people living in these settlements is expanding so rapidly that Governments are unable to

keep up with the necessary infrastructure development.

Because of the increasing problem in urban areas, WaterAid is now expanding its work in these areas to help address this growing need.

Economics

Poor health resulting from inadequate sanitation has a knock-on effect on the family economy. This results in a severe drop in income and a negative effect on the whole family’s nutrition. A study in Karachi found that people living in areas without adequate sanitation who had no hygiene education spent six times more on medical treatments than those with sanitation facilities.

Poor sanitation also affects the national economy: significant funds are spent on health care and medicines to combat disease, while many school and working days are lost to ill-health resulting from poor sanitation. Water-related diseases (the consequence of a combination of lack of clean water supply and inadequate sanitation) cost the Indian economy 73 million working days a year.

Sanitation – a dirty word?

Sanitation can be an embarrassing subject. It can be a taboo, regarded with horror or ignored. It takes time to create an environment of trust where people will speak with complete strangers about such intimate matters as going to the toilet.

This is why hygiene education is so important in WaterAid projects. While it is often a lack of privacy that makes people initially want a latrine, once they understand the links between diseases and the lack of sanitation people are more likely to ensure that all family members use them hygienically.

WaterAid's sanitation work

WaterAid, through its partners, helps communities plan and construct hygienic latrines. WaterAid uses technologies that are low-cost and appropriate to local financial and geographical conditions. These can be a variety of designs, using different materials with different costs. Yet, given a little technical help, all can be built and maintained by communities or families themselves.

In rural areas all of these latrines are pit latrines, usually lined to prevent collapse (unless they are shallow ecological sanitation latrines), covered with a concrete squat slab with a structure made of local materials built around it for privacy. Outside simple washing facilities are also constructed so that users can wash their hands after using the latrines.

In urban areas different solutions are often needed. Pit latrines can be inappropriate as they fill too quickly and the large numbers needed can eventually pollute underground water supplies. In some cases septic tanks are used but where possible, WaterAid is helping community groups build sewerage systems that can be linked to the city's systems and treatment works. WaterAid also helps these groups to build and manage communal toilets and washing facilities.

However in all cases it is vitally important that latrines are used hygienically so that the maximum health benefits are maintained. A new latrine will only significantly reduce incidences of diarrhoea if:

- Everyone uses the latrines so that no human waste is left in the open which can pollute the environment and water sources
- Children's waste is disposed of safely

- Latrines are properly maintained or cleaned
- Hands are washed by everyone at all critical times including before eating, after going to the toilet and before preparing food
- Food is thoroughly cleaned, properly stored and heated through to prevent the spread of germs

Because integrating water, sanitation and hygiene education is so essential WaterAid carries out all three of these elements in its projects. Investments in water quality and quantity can reduce diarrhoeal diseases by 15%, whereas sanitation can reduce them by 36% and hygiene by 35%.

The wider view

On a personal scale, improved hygiene behaviour and sanitation services lead to better health. This in turn gives the poor more time to work to earn more money to support their families. On a larger scale, improved water supply and sanitation infrastructure and services attract industries and investments into a community.

There is increasing recognition of the links between poverty and poor sanitation. At the World Summit on Sustainable Development in 2002, all UN Governments agreed to a target to halve the proportion of people without sanitation by 2015. This is now one of the Millennium Development Goals set in an aim to halve world poverty by 2015. The other targets on achieving universal primary education, reducing mortality rates for infants and children and reducing maternal mortality are unlikely to be met if the global sanitation problem is not addressed.

Factfile:

- **At any one time, 1.5 billion people suffer from parasitic worm infections stemming from human excreta and solid wastes in the environment**
- **Children in developing countries commonly carry up to 1000 hookworms, roundworms and whipworms at a time causing anaemia, stunted growth and other debilitating conditions**
- **One gram of faeces can contain: 10,000,000 viruses, 1,000,000 bacteria, 1000 parasite cysts and 100 parasite eggs**
- **The simple act of washing hands with soap and water after going to the toilet can reduce diarrhoeal diseases by over 40%**
- **Safe disposal of children's faeces leads to a reduction of nearly 40% in childhood diarrhoea**

The types of latrines that WaterAid and its partners promote in rural areas include:

- **Dry pit latrines**
- **Ventilated improved pit (VIP) latrines (that have vent pipes to take smells and disease carrying insects away from the latrines)**
- **Pour flush latrines**
- **Ecological sanitation (eco san) latrines (which safely renew human waste as compost)**

The faecal-oral route

Latrines are vital to provide a barrier to diseases carried in faecal matter. These pathogens can enter people's mouths via a number of routes including water, soil, flies and fingers. This is called the faecal-oral route. When used in conjunction with hygiene education WaterAid technologies block this route and so reduce the likelihood of diseases being transmitted.



WaterAid/Jon Spaul

Working together

Rosemary Mande is part of a team of six latrine builders in the focus village of Sichiyanda, Zambia, where the community have worked together to dig a well and family latrines. "There are three men and three women in our team", she explains. "I helped build our family latrine first – so we showed we could do it. It was a family affair, the boys helped to dig too. It took us about four days to dig it and two days to build the structure around it. We are really happy that we are able to do it ourselves – we have shown that we can do it, and it means that it is not difficult to change.

I have a VIP latrine now. Before I just used to use the bush, but since having the latrine it is so much cleaner. Flies used to land in the bush and then follow us back to the village bringing the dirt with them. Now this doesn't happen – and it is cleaner and safer.

Everyone here is happier now and we have all become involved in the project. I did a lot last year and this year we hope we can help everyone else build latrines as well. Twenty-eight households now have them. Being able to do this makes us feel really good and positive about our futures."



WaterAid/Martin Punaks

Cleaning up the streets

In Pakistan WaterAid and its partner (Anjuman Samaji Behbood or ASB) work with poor communities living in densely populated areas to gain access to sanitation and clean water. Before the streets of the Hasan Pura district of Faisalabad were filled with sewage and rubbish. Now, though, life has changed thanks to a vast ASB/WaterAid project which laid underground piping to safely take the waste to the main municipal sewer line.

Mrs Shahda Parveen describes the differences the project has made to her family. "I have been here for over ten years and when we arrived the streets were not clean and we were unable to walk along many streets because of the waste.

When ASB/WaterAid started getting involved in the area I was impressed when I heard about the benefits of sanitation and I asked my landlord to get involved. I was very impressed when I saw the initial construction and realised that this was the only way life could get better.

My children used to play in the dirty streets and become filthy amongst open sewers. Many children are healthier and no longer get sick. Now water is piped to our home from the municipal supply. The landlord pays for the water and for the sewerage bill. Now my younger children will start school and they will be able to be schooled for longer than the older children were – now we can afford it as now we don't pay for so much medicine."



WaterAid/Jon Spaul

Compost for free

Mwenyenguzu Alifa is married with three children and lives in Mzalule village in the Salima district of Malawi. In March 2001 he built his own ecological sanitation (eco san) latrine. "I heard about WaterAid's idea to build eco san latrines. These latrines can have two pits where you let the contents of the first pit decompose whilst you use the second pit. By the time the second pit is full the first pit can be dug out and the compost used for our gardens.

WaterAid has told me how to line my pits with concrete rings and will help with the costs. This is an idea I was very compelled to take up as my old pits were lined with wicker and kept collapsing because of the sandy soil.

I'm the first person to try digging up my disused latrine pit. WaterAid told us about how it was possible to use the decomposed contents of our old latrines for compost. I was amazed that the contents of my old pit was just like compost, not at all smelly and maggoty like I thought it would be. I quickly saw the advantage of using compost from old pits as my plants would benefit.

I also walk up to 6km a day trying to spread the word of eco san and show how we can build these latrines. The benefits to our area will be immense if we can all grow healthier plants because of the compost. The soil here is not the best so having free compost is a revelation. I want everyone to have eco san."



WaterAid – water for life

The UK's only major charity dedicated exclusively to the provision of safe domestic water, sanitation and hygiene education to the world's poorest people.

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