

CELEBRATING WORLD WATER DAY 2008
THEME: SANITATION MATTERS!

An Advocacy Guide

**5 Steps for Planning and Evaluating
World Water Day Activities**

*Updated version of the WHO Advocacy Guide for Water for Life prepared
by WHO in cooperation with UNICEF and WSSCC.*



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Introduction

Sanitation Matters!

The theme/slogan puts at centre-stage the various links and communicates a sense of urgency and immediacy. The theme is also "open-ended" and lends itself to creative visual and textual interpretation for expressing a multiplicity of individual/collective human emotions and contexts. The theme can also be interpreted relatively easily into different contexts, cultures and languages. Sanitation Matters! can be interpreted in many different ways, based on regional and national priorities/contexts. The public-at-large, civil society and the media are the primary audience. National governments and policy-makers are the secondary audience.

The theme is a call to reach out beyond the community and to link with worldwide efforts of international agencies, non-governmental organizations (NGOs), governments and the community-at-large. It is an opportunity to capitalize on the energy and commitment of people, and to achieve a common goal: to bring global and local attention and to galvanize action, so that every person on the planet is less vulnerable to water stress, water-related disasters and poor water quality.

All actions planned for World Water Day 2008 will work towards raising awareness of the general public and bringing about a positive change in public opinion, which in turn influences policy-makers. A range of activities in every country will make the difference.

World Water Day is a unique opportunity to draw attention and to create momentum that compels governments, the international community, civil society and individuals to take action. On the day, it is anticipated that your organization will be one of the hundreds of organizations around the world hosting events related to Sanitation. It is expected that each country will celebrate World Water Day in its own manner. Join us now in planning a successful day.

Getting started

Transform your local/national statistics into key messages and stories; use statistics to develop a list of key messages and stories that can be used depending on the target audience. The messages and stories should support successes, identify gaps and set out the next steps in your Sanitation campaign. After all, your campaign is a media event, so work with them and assess your impact.

5 Steps for Planning and Evaluating World Water Day Activities

- Collect and analyse information
- Develop key messages
- Mobilize others and plan events
- Work with the media
- Assess impacts of your efforts.

1. Collect and analyse information

Gather local information (e.g. sanitation coverage, related diseases, responsible agencies, existing policies and programs) from the following possible sources:

- Government statistics on sanitation coverage , e.g. from census, demographic and health surveys, multiple indicator cluster surveys, Joint Monitoring Programme on Water and Sanitation
- Research on sanitation funded by donor agencies
- Academic dissertation and thesis with topics on sanitation and hygiene
- Media updates on disease outbreaks related to sanitation and hygiene that occurred in the localities

Analyse the data

- Which areas have low sanitation coverage (e.g. lower than 50%) ?
- Which areas have high cases of sanitation related diseases?
- Which areas have often visited by sanitation-related disease outbreaks (e.g. cholera, diarrhoea, dysentery, typhoid)
- What are the barriers of these areas in implementing sanitation interventions (e.g. inadequate government policies, lack of funding, fragmented institutions, unacceptable people's attitude/behaviour)?

2. Develop the message

Package the message

Once you have collected and analysed data, transform it into something everyone can relate to. Sound bites (short, catchy facts) are the best for this purpose, but remember that the message may need to be changed to fit the target audience.

Box 1: UN General Assembly Declares 2008 as the International Year of Sanitation

The UN General Assembly resolution strongly urges communication and social mobilization at both the global and national levels. While much of global and regional water and sanitation communication to date has been directed, quite successfully, at mobilizing resources and strengthening political and governmental commitment, there is an urgent need to intensify these efforts that are specifically directed at increasing societal commitment and participation. Much more still needs to be done. Adequate sanitation to protect health are considered fundamental human rights. As of today, there are still almost 2.6 billion people who have no appropriate sanitation.

The International Year of Sanitation (IYS) has developed 5 key messages aimed to highlight the importance of sanitation to human development and environment .

- Sanitation is vital for human health.
- Sanitation generates economic benefits.
- Sanitation contributes to dignity and social development.
- Sanitation helps the environment.
- Improving sanitation is achievable

- Annex A contains the 10 things you need to know about sanitation.
- Annex B has the fact sheets on sanitation prepared by WHO
- Annex C shows the Sanicon posters updated by WHO
- Annex D provides an example of packaged messages for sanitation prepared by UNICEF.
- Annex E are examples of posters prepared by WSSCC

Below are a few examples of short messages that could be used under different conditions.

- Without a sharp acceleration in the rate of progress, the world will miss the sanitation target by [0.6 billion people](#).
- An estimated [2.6 billion people](#) — half of the developing world — lack access to improved sanitation.
- Urban & rural population globally using improved sanitation in 2004: [80% \(urban\) vs. 39% \(rural\)](#)
- Despite major progress in South Asia, little more than a third of its population use improved sanitation; access to adequate sanitation in [sub-Saharan Africa is only 37%](#).
- According to UNICEF, number of children under 5 living in households without access to improved sanitation facilities: [280 million](#).
- [1.8 million people](#) die every year from diarrhoeal diseases (including cholera): 90% of all deaths caused by diarrhoeal diseases are children under 5, mostly in developing countries.
- [88% of all diarrhoeal deaths](#) is attributed to unsafe water supply, inadequate sanitation and hygiene.
- Improved sanitation is estimated to reduce the risk of contracting diarrhoeal diseases by [32%](#)
- Hygiene interventions including hygiene education and promotion of hand washing can lead to a reduction of diarrhoeal cases by up to [45%](#).
- Hand washing with soap is estimated to reduce the risk of contracting diarrhoeal diseases by [42-47%](#)
- Improving access to safe water sources and better hygiene practices can reduce trachoma morbidity by [27%](#).
- An estimated 160 million people are infected with schistosomiasis; basic sanitation reduces the disease by up to [77%](#).
- Benefits in achieving the MDG target on sanitation for "off track" countries can be valued at up to [US \\$ 9 for every US \\$ invested](#).
- [11% increase in girls' enrolment](#) mainly due to the provision of sanitary latrines

3. Mobilize others and plan events

What groups to mobilize?

Approach local partners with an outline of activities and events for World Water Day and ask for their involvement and support. Explain how their participation shows enlightened self-interest: as well as supporting a good cause, it will increase their profile and visibility in the community.

Discussions, forums, seminars and courses are useful for exchanging information with the public, NGOs, policy-makers and decision-makers, and with associations for physicians, teachers, children and environmental health. You can discuss the implications if no action is taken, and state what can and should be done to improve the situation in a water emergency.

Boxes 2 to 5 provide checklists of actions you might choose to take, and examples of people/organizations you may want to involve.

Box 2: Policy-makers and decision-makers

- identify the relevant sanitation policies and legislation, and the individuals in government responsible for them;
- assess information on sanitation and ensure priority issues get the necessary high-level attention;
- ensure that government budgets for environment, health and other sectors are adequate to support programmes to improve sanitation;
- promote linkages between sanitation, water, hygiene, and health and environment policies;
- raise awareness among stakeholders of the dangers from sanitation-related diseases, disasters, the impact on economy, health, human rights, etc.

Box 3: Local authorities, mayors, NGOs, communities, individuals

- pressure authorities to provide better services;
- build community awareness about sanitation, health, development, environment and similar issues;
- influence local and national policies, and hold authorities accountable for their actions and for the services they provide.

Box 4: Health and social workers; environmental health officers

- promote recognition of the main hazards related to sanitation;
- assist community groups to create healthier places;
- evaluate the impact of the actions taken.

Box 5: Private sector

- involve the private sector in preparedness and in vulnerability reduction by forming public-private partnerships;
- create institutional and management arrangements that ensure that the private sector will be involved in an effective response when a disaster disrupts sanitation infrastructure.

Organize events

Parades, competitions, street events and quizzes using the World Water Day 2008 theme all create media attention and get the message out to large numbers of people in an entertaining and stimulating way. This is a good way to reach people who might not be attracted to more traditional events, such as seminars or meetings.

It is also a good idea to involve celebrities as spokespersons, but remember it takes time and preparation to get celebrities involved. See box 6.

Box 6: Involve celebrities

- choose individuals who are well known and respected within the country or community and who can bring positive attention to World Water Day;
- invite personalities in music, film, sports and politics to talk about the issues;
- engage a well-known person or politician who lives nearby or is from your area — they may provide “local support” for your event;
- celebrities are often not aware of the causes and consequences of the subject matter, so make sure they are briefed in advance — specify clearly to celebrities or their agent/manager how you want them to contribute and the message you hope to put across.

4. Work with the media

The media is potentially the most effective tool for communicating a message, but to work with the media you must understand how the media works. Timing is everything and sound bites provide the best messages. Before approaching the media, prepare talking points. The title and opening line of a presentation are important, since they will determine whether you attract the attention of listeners and readers and encourage them to listen/read further. You should be an advocate for sanitation in general and share credit and visibility with partners.

News reporters will be most interested in information that is newsworthy (i.e. is new, surprising, compelling or has an impact on the public). Make sure the story you wish to present to the media is newsworthy. See box 7.

Box 7: Think about “What makes a story newsworthy?”

- a newsworthy story interests the intended audience: a personal story linked to a news event is more interesting than dry statistics;
- a newsworthy story includes only facts and figures that are accurate: every name, date and piece of information should be double-checked with a reliable source.

The news conference

Perhaps the single most effective means of winning media coverage for your World Water Day event is to hold a news conference. See box 8

Box 8: News conference checklist

- invitation list for the print press, radio, TV and others;
- call back invited press members to confirm their attendance;
- check the time and date for any possible conflicts with competing events;
- media advisory;
- photo opportunity;
- prepare a media kit that includes speeches, a press release of the main announcement, biographies, background information, fact sheet, photographs, etc;
- anticipate possible questions from the media and prepare answers;
- focus all presentations and answers on a small number (e.g. three) of key messages.

On-site arrangements include renting hotel rooms for event participants, placing name signs on the podium for speakers, and providing audiovisual equipment and refreshments.

Sound bites

- 2.6 billion people (41% of the global population) lacked access to sanitation.
- Urban to rural ratio of people globally with access to sanitation: 80% vs. 39%
- 88% of all diarrhoeal deaths are attributed to unsafe water supply, inadequate sanitation and hygiene.
- Improved sanitation is estimated to reduce the risk of contracting diarrhoeal diseases by 32%
- Hand washing with soap is estimated to reduce the risk of contracting diarrhoeal diseases by 42-47%
- \$1 investment in sanitation will give a return of \$ 9.
- 11% increase in girls' enrolment mainly due to the provision of sanitary latrines
- One of the major rewards of improving sanitation is increased privacy and dignity for woman and girls

News agencies: Don't neglect them

In addition to newspapers and magazines, you should contact the national news agencies, also known as the wire services. If they put out a dispatch on World Water Day, the story will go out to every newspaper, magazine, radio station and television network in your country.

10 important news media

Agence France-Presse (AFP)
Associated Press (AP)
British Broadcasting Corporation (BBC)
Cable News Network (CNN)
El Pais
International Herald Tribune
Le Monde
Radio France Internationale (RFI)
Reuters
Spanish News Agency (EFE).

Broadcast media: Communicating in pictures and sound

TV and radio

Hosts and hostesses of talk shows are almost always looking for people to interview on radio and television. So, just call up your local radio station, ask to speak to the executive producer of the show you're interested in, and suggest someone for an interview (ideally one with charisma and able to articulate the message).

When you have only a few seconds in front of a microphone either for radio or television, you need to use memorable phrases — sound bites — that will stay with your audience long after you have left. The best sound bites get to the heart of the problem without lengthy qualified explanations. Broadcast producers cannot resist them, and listeners and viewers remember them. The sound bites should capture and communicate the one key message you want to leave with the audience, if they remember nothing else. Try to repeat the sound bites in different way to reinforce the message during an interview with the media.

Make a splash on World Water Day!

50 ways of celebrating and promoting World Water Day with "Sanitation Matters!" as the theme

1. Organize "Sanitation Matters!" concert
2. Produce advertising spots on television
3. Create banners with a strong message for WWD
4. Produce booklets and brochures on the theme
5. Call for donations in newspapers
6. Organize children's drawing competition
7. Prepare comic strip books about WWD
8. Place commemorative advertisements in newspapers
9. Sell commemorative mugs or glasses to be sold
10. Compile a song book with a sanitation theme

11. Create and distribute CD-ROMS with sanitation messages and information
12. Create sanitation and health greeting cards
13. Produce drama groups perform plays on WWD
14. Produce film shows on sanitation and health
15. Design flags promoting the day in your city
16. Distribute flyers highlighting the day
17. Lobby for government statements
18. Organize information events at workplaces
19. Involve medical students in research
20. Sponsor a journalist award for the best article written on sanitation and health
21. Make a compilation of your committee's favourite songs on sanitation
22. Organize marathon runs with entry fees and sponsorship
23. Plan and promote media workshops for journalists
24. Produce music videos
25. Prepare new book releases
26. Encourage North–South Cooperation
27. Organize performances by musicians and artists to raise money or awareness
28. Organize photo competitions
29. Organize picture exhibitions on issues of Sanitation
30. Produce pins, T-shirts , caps, and stickers with sanitation messages to be distributed among the community to promote the day
31. Print postcards and send them to members of parliament
32. Organize poster exhibitions in banks, schools, civic centres
33. Prepare a documentary
34. Produce public service announcement on radio
35. Produce public service announcements on TV
36. Publicize WWD through a “blue and white” party
37. Perform role plays on sanitation issues written and performed by students
38. Organize round-table talks on a specific theme related to sanitation
39. Run a quiz on sanitation with sponsored prizes
40. Plan scientific conferences
41. Organize slogan competitions
42. Create stamps on Sanitation Matters!
43. Sponsor a film on sanitation
44. Produce stickers with sanitation slogan
45. Organize sports competitions to promote the event
46. Offer a University lecture on Sanitation Matters!
47. Promote and create web sites with information about WWD -Sanitation.
48. Produce bookmarks
49. Promote Sanitation Matters!
50. Evaluate progress continually.

5. Assess the impacts of your efforts

Lessons learned

In order to plan for follow-up action, find out what impact your efforts have had and assess the success of the day.

Compile a summary of events

Review successes and challenges with the planning committee to understand what was accomplished, what needs immediate follow up and what lessons can be learned. Disseminate the summary widely among your planning committee partners and other groups. This information can be useful in planning for future events.

Prepare a brief questionnaire

Key questions to ask about your planning efforts include:

- What elements contributed to your success?
- What were the main obstacles to your success?
- How many people did you reach?
- What are the main follow-up actions?

Collect news paper clippings, TV spots, radio broadcast, etc.

For record keeping and evaluation of the success of the day, collect clippings and other media sources. This is also useful for future planning.

Thank the planning committee

Organize a “Thank you” event for members of the committee. This is a way to build on the success of World Water Day and to strengthen relations between the committee members. This can lay ground for the future collaboration.

Annex A: 10 Things You Need to Know About Sanitation

1. What do we mean by "sanitation"?

The first challenge for countries seeking to solve the problem of access to sanitation is to define what "sanitation" really means. The second challenge is to decide what aspects are the most important. In other words, what aspect of the problem is going to be dealt with as a priority. This problem is not a simple one and many professionals confuse the two steps. With respect to defining sanitation most professionals would agree that "sanitation" as a whole is a "big idea" which covers inter alia:

- safe collection, storage, treatment and disposal/re-use/ recycling of human excreta (faeces and urine);
- management/ re-use/ recycling of solid wastes (trash or rubbish);
- drainage and disposal/ re-use/ recycling of household wastewater (often referred to as sullage or grey water);
- drainage of storm water ;
- treatment and disposal/ re-use/ recycling of sewage effluents;
- collection and management of industrial waste products; and
- management of hazardous wastes (including hospital wastes, and chemical/ radioactive and other dangerous substances).

For countries with very low access to basic sanitation, increasing the effectiveness of management of excreta at the household level may have the biggest health implications and it may be the biggest challenge. For this reason some countries may legitimately decide to focus their efforts at this level in the short term. In other cases, specific inter-linkages between elements of sanitation mean that a more complete solution may be better – for example in a particularly congested urban community some form of off-site (sewered) sanitation may be the only viable technical choice – in which case there will probably need to be some interventions to improve management of solid wastes and stormwater drainage – otherwise the sewers won't work. Yet other countries or communities may try for a more complete solution which includes a focus on protecting the environment from contamination (as is the case in countries which already have universal access). In some cases, it will be possible to start with an "ecological" approach to sanitation which seeks to contain, treat and reuse excreta where possible – thus minimizing contamination and making optimum use of resources.

The key issue here is that each community, region or country needs to work out what is the most sensible and cost effective way of thinking about sanitation in the short and long term and then act accordingly. Flexibility and pragmatism should be the key words – and both professionals and politicians need to try and see past "experience" and ideas which are developed elsewhere – a pragmatic local approach with an eye to wider environmental issues is likely to result in more progress than blind adherence to a rigid global definition.

2. Why focus on sanitation?

Wherever humans gather, their waste also accumulates. Progress in sanitation and improved hygiene has greatly improved health, but many people still have no adequate means of disposing of their waste. This is a growing nuisance for heavily populated areas, carrying the risk of infectious disease, particularly to vulnerable groups such as the very young, the elderly and people suffering from diseases that lower their resistance. Poorly controlled waste also means daily exposure to an unpleasant environment. The build up of faecal contamination in rivers and other waters is not just a human risk: other species are affected, threatening the ecological balance of the environment.

The discharge of untreated wastewater and excreta into the environment affects human health by several routes:

- By polluting drinking water;
- Entry into the food chain, for example via fruits, vegetables or fish and shellfish;
- Bathing, recreational and other contact with contaminated waters;
- By providing breeding sites for flies and insects that spread diseases;

3. What is the size of the problem?

In 2004, only 59% of the world population had access to any type of improved sanitation facility. In other words, 4 out of 10 people around the world have no access to improved sanitation. They are obliged to defecate in the open or use unsanitary facilities, with a serious risk of exposure to sanitation-related diseases. While sanitation coverage has increased from 49% in 1990, a huge effort needs to be made quickly to expand coverage to the MDG target level of 75%. Investing in sanitation infrastructure involves a long project cycle.

If the MDG sanitation target is to be achieved, innovative approaches need to be developed to reduce the time span from policymaking to services delivery. The global statistics on sanitation hide the dire situation in some developing regions. With an average coverage in developing regions of 50%, only one out of two people has access to some sort of improved sanitation facility.

The regions presenting the lowest coverage are sub-Saharan Africa (37%), Southern Asia (38%) and Eastern Asia (45%). Western Asia (84%) has the highest coverage among developing regions. Out of every three persons unserved, two live in Southern Asia or Eastern Asia.

4. What diseases are associated with poor sanitation?

Human excreta have been implicated in the transmission of many infectious diseases including cholera, typhoid, infectious hepatitis, polio, cryptosporidiosis, and ascariasis. WHO (2004) estimates that about 1.8 million people die annually from diarrhoeal diseases where 90% are children under five, mostly in developing countries.

Poor sanitation gives many infections the ideal opportunity to spread: plenty of waste and excreta for the flies to breed on, and unsafe water to drink, wash with or swim in. Among human parasitic diseases, schistosomiasis (sometimes called bilharziasis) ranks second behind malaria in terms of socio-economic and public health importance in tropical and subtropical areas. The disease is endemic in 74 developing countries, infecting more than 200 million people. Of these, 20 million suffer severe consequences from the disease.

Ascariasis is found worldwide. Infection occurs with greatest frequency in tropical and subtropical regions, and in any areas with inadequate sanitation. Ascariasis is one of the most common human parasitic infections. Up to 10% of the population of the developing world is infected with intestinal worms – a large percentage of which is caused by *Ascaris*. Worldwide, severe *Ascaris* infections cause approximately 60,000 deaths per year, mainly in children

Trematode infections are caused by parasitic flatworms (also known as flukes) that infect humans and animals. Infected individuals transmit trematode larvae in their faeces. In many areas of Asia where trematode infections are endemic, untreated or partially treated excreta and nightsoil are directly added to ponds, rivers, or lakes. The trematodes complete their lifecycles in intermediate hosts and subsequently infect fish, shellfish, or encyst on aquatic plants. Humans become infected when they consume the fish, shellfish, or plants raw or partially cooked. WHO estimates that more than 40 million people throughout the world are infected with trematodes and that over 10% of the global population is at risk of trematode infection.

Infection with trachoma is the leading global cause of preventable blindness: trachoma is closely linked to poor sanitation and is one of the best examples of an infection readily preventable through basic hygiene. Six million people worldwide are permanently blind due to Trachoma. Trachoma is spread by a combination of:

- poor sanitation, allowing the flies that spread the infection to breed;
- poor hygiene associated with water scarcity and poor water quality;
- lack of education and understanding of how easily the infection can spread in the home and between people.

Infectious agents are not the only health concerns associated with wastewater and excreta. Heavy metals, toxic organic and inorganic substances also can pose serious threats to human health and the environment - particularly when industrial wastes are added to the waste stream. For example, in some parts of China, irrigation for many years with wastewater heavily contaminated with industrial waste, is reported to have produced health damage, including enlargement of the liver, cancers and raised rates of congenital malformation rates, compared to areas where wastewater was not used for irrigation.

Nitrates from waste water can build up to high concentrations in water sources underground. This is associated with methaemoglobinaemia (blue baby syndrome) when contaminated water is used to prepare infant feeds. Nutrients may also cause eutrophication - undesirable excess in nutrients - in water sources. This can result in overgrowth of algae and harmful cyanobacteria. The toxins produced by some toxic cyanobacteria cause a range of health effects, from skin irritation to liver damage.

5. How does sanitation prevent disease?

For a sanitation system to provide the greatest health protection to the individual, the community, and society at large it must:

- Isolate the user from their own excreta;
- Prevent nuisance organisms (e.g. flies) from contacting the excreta and subsequently transmitting disease to humans; and
- Inactivate the pathogens before they enter the environment or prevent the excreta from entering the environment.

It is important to understand that sanitation can act at different levels, protecting the household, the community and 'society'. In the case of latrines it is easy to see that this sanitation system acts at a household level. However, poor design or inappropriate location may lead to migration of waste matter and contamination of local water supplies putting the community at risk. In terms of waterborne sewage the containment may be effective for the individual and possibly also the community, but health effects and environmental damage may be seen far downstream of the original source, hence affecting 'society'.

6. What are the options for controlling excreta?

For practical purposes sanitation can be divided into on-site and off-site technologies. On-site systems (e.g. latrines), store and/or treat excreta at the point of generation. In off-site systems (e.g. sewerage) excreta is transported to another location for treatment, disposal or use. Some on-site systems, particularly in densely populated regions or with permanent structures, will have off-site treatment components as well.

On-site disposal. In many places, particularly in areas with low population densities, it is common to store and treat wastes where they are produced - on-site. There are a number of technical options for on-site waste management which if designed, constructed, operated and maintained correctly will provide adequate service and health benefits when combined with good hygiene. On-site systems include: ventilated improved pit (VIP) latrines, double vault composting latrines, pour-flush toilets, and septic tanks. Dry sanitation or eco-sanitation is an onsite disposal method that requires the separation of urine and faeces. Building and operating these systems is often much less expensive than off-site alternatives. Some on-site systems (e.g. septic tanks or latrines in densely packed urban areas) require sludge to be pumped out and treated off-site. Composting latrines allow waste to be used as a fertilizer after it has been stored under suitable conditions to kill worm eggs and other pathogens.

Off-site disposal. In more densely packed areas sewerage systems are frequently used to transport wastes off-site where they can be treated and disposed. Conventional centralized sewerage systems require an elaborate infrastructure and large amounts of water to carry the wastes away. This type of approach may work well in some circumstances but is impractical for many other locations. The cost of a sewerage system (which can be as much as 70 times more expensive than on-site alternatives and its requirement of a piped water supply preclude its adoption in the many communities in less-industrialised countries that lack adequate sanitation. In specific circumstances, cost-effective alternatives to conventional sewerage systems have been developed including small diameter gravity sewers, vacuum and pressure sewers. Simplified sewer systems have been successfully used in Brazil, Ghana and other countries.

Wastewater and Excreta Treatment. Waste needs to be treated to remove or inactivate pathogens before it can be safely reused or disposed of safely. Many on-site waste disposal methods treat excreta by storing it for enough time to kill the pathogens. Most off-site strategies (and some on-site systems) require wastes to be treated at a facility before it can be safely used or released into the environment. In industrialised countries, one approach has been to use mechanical and biological processes (primary and secondary treatment) to remove suspended solids, biological oxygen demanding substances (BOD) and other pollutants. Pathogens and nutrients are typically only minimally removed in these processes. The problem is that these conventional or mechanical processes are expensive to operate: they require energy, skilled labour, infrastructure, and maintenance. To further reduce the pathogens and nutrients requires additional processes, which pushes up the cost still further. In efforts to reduce the cost and complexity of waste treatment, experiments have been conducted with smaller decentralised treatment units. For example in Durban, South Africa local sewerage networks have been connected to small treatment plants (baffled aerobic reactors) to cost-effectively treat more waste. In other areas where offsite treatment is required, and land is available at low cost, waste stabilization ponds have proven to be cost effective methods for treating wastewater.

7. What is the economic costs of sanitation?

The health impact of inadequate sanitation leads to a number of financial and economic costs including direct medical costs associated with treating sanitation-related illnesses and lost income through reduced or lost productivity and the government costs of providing health services. Additionally, sanitation also leads to time and effort losses due to distant or inadequate sanitation

facilities, lower product quality resulting from poor water quality, reduced income from tourism (due to high risk of contamination and disease) and clean up costs. Increases in female literacy (due to increased school attendance where proper sanitation facilities exist) contribute to economic growth.

Every dollar spent on improving sanitation generates economic benefits (about nine times) that far exceed the required sanitation investments. The cost of inaction is enormous. Achieving the MDG for sanitation would result in \$66 billion gained through time, productivity, averted illness and death. It is estimated that a 10 year increase in average life expectancy at birth translates into a rise of [0.3-0.4% in economic growth per year](#).

8. How does sanitation affect the environment?

In regions where a large proportion of the population is not served with adequate water supply and sanitation, sewage flows directly into streams, rivers, lakes and wetlands, affecting coastal and marine ecosystems, fouling the environment and exposing millions of children to disease. Particularly in the context of urbanization, domestic wastewater, sewage and solid waste improperly discharged presents a variety of concerns from providing breeding grounds for communicable disease vectors to contributing to air, water and soil pollution.

The results of poor waste management also contribute to a loss of valuable biodiversity. In the case of coral reefs, urban and industrial waste and sewage dumped directly into the ocean or carried by river systems from sources upstream, increase the level of nitrogen in seawater. Increased nitrogen caused overgrowths of algae, which in turn, smother reefs by cutting off their sunlight. Improved sanitation reduces environmental burdens, increases sustainability of environmental resources and allows for a healthier, more secure future for the population.

9. What are the reasons for slow progress on sanitation?

Many people do not realize the health and economic benefits to the individual, the community and to society from improving sanitation. The high cost of improving sanitation is often cited as a barrier to implementing sanitation projects. Improving sanitation is often low on the list of priorities. There are so many other pressing needs for the attention of governments: food supply, education, medical treatment and dealing with war and conflict. Most people are aware that poor sanitation has a health impact, but there is a lack of awareness of the extent of ill-health that it causes.

On the other hand, human society has developed very different sociocultural responses to the use of untreated excreta. This ranges from deep disgust to practical preference. While determined partly by survival economics, these cultural differences apply to many water poor countries, as well as to water rich areas of the north. For example, in Africa, the Americas and Europe, excreta use is generally regarded as culturally unacceptable, or at best with indifference. This results from the strongly held view that human excreta, especially faeces, are repugnant substances best kept away from the senses of sight and smell. Products fertilized with raw excreta are regarded as tainted or defiled in some way. These views are less rigid in the case of using excreta in compost and sludge for agriculture, but still pose a barrier to use of waste.

10. How can we achieve sanitation targets?

To achieve the targets, action must start NOW. Now is the time to act. Households, communities, local and national governments, civil society, and private companies all need to work together. Media and public opinion around the world can influence political leaders to act now. For the principal target audience of politicians and government officials (particularly aid administrators), the strategy for this year's World Water Day is designed to increase substantive awareness, ideally leading to decisive actions in support of improved sanitation. Related communication also considers the media, in developed but especially in developing regions, since the media have excellent capacities to inform the population and guide their opinions.

Key areas of action that could create impact are as follows: making political commitments; creating legislation and regulations to support improvement in access and quality of sanitation and hygiene services; bringing together more resources, having stronger institutions and better trained people; culturally sensitive and appropriate hygiene education; right choice of technology that are cost-effective and environment-friendly; giving attention to gender and equity; supporting small-scale entrepreneurs; monitoring progress; and making information flow.

Annex B : WHO Fact Sheets on Sanitation

Introduction to Fact Sheets

Excreta disposal

Human excreta always contain large numbers of germs, some of which may cause diarrhoea. When people become infected with diseases such as cholera, typhoid and hepatitis A, their excreta will contain large amounts of the germs which cause the disease. Fact Sheet 3.1 discusses excreta disposal options.

When people defecate in the open, flies will feed on the excreta and can carry small amounts of the excreta away on their bodies and feet. When they touch food, the excreta and the germs in the excreta are passed onto the food, which may later be eaten by another person. Some germs can grow on food and in a few hours their numbers can increase very quickly. Where there are germs there is always a risk of disease.

During the rainy season, excreta may be washed away by rain-water and can run into wells and streams. The germs in the excreta will then contaminate the water which may be used for drinking.

Many common diseases that can give diarrhoea can spread from one person to another when people defecate in the open air. Disposing of excreta safely, isolating excreta from flies and other insects, and preventing faecal contamination of water supplies would greatly reduce the spread of diseases.

In many cultures it is believed that children's faeces are harmless and do not cause disease. This is not true. A child's faeces contain as many germs as an adult's, and it is very important to collect and dispose of children's faeces quickly and safely.

The disposal of excreta alone is, however, not enough to control the spread of cholera and other diarrhoea1 diseases. Personal hygiene is very important, particularly washing hands after defecation and before eating and cooking. See Fact Sheet 1.

Wastewater disposal and reuse

Wherever crops are grown, they always need nutrients and water. Wastewater is often used in agriculture as it contains water, minerals, nutrients and its disposal is often expensive. Where effluent is used for irrigation, good quality water can be reserved exclusively for drinking water. Wastewater can also be used as a fertilizer, thus minimizing the need for chemical fertilizers. This reduces costs, energy, expenditure and industrial pollution. Wastewater is also commonly used in aquaculture, or fish farming. See Fact Sheet 2 and 3.

Sanitation in public places

Where a large number of people are using one area, such as a bus station or school, especially when they are eating food from the same source, there is a greater risk of the spread of diseases such as cholera, hepatitis A, typhoid and other diarrhoeal diseases.

These places vary in the number of people using them, the amount of time that people spend there and the type of activity that occurs in the area, but all public places need to have adequate sanitation and hygiene facilities. Fact Sheet 3.14 covers sanitation in public places.

Responsibility for the provision of sanitation facilities in public places is not always obvious, especially where these are informal gathering places. It is vital, however, that an agency monitors the sanitation facilities in public places on behalf of the users. Ideally, this should be part of the role of the ministry of health, or its equivalent. Special attention should be paid to the adequacy of facilities, their availability to the public, and the conditions of their operation.

There are several basic rules for sanitation in public places :

There should be sufficient toilet facilities for the maximum number of people using the area during the day. This normally means one toilet compartment for every 25 users. The toilet facilities should be arranged in separate blocks for men and women. The men's toilet block should have urinals and toilet compartments ; the women's block, toilet compartments only. The total number of urinals plus compartments in the men's block should equal the total number of compartments in the women's block.



- Toilet facilities should not be connected directly to kitchens. This is in order to reduce the number of flies entering the kitchen and to reduce odours reaching the kitchen. It is important that people using the toilet facilities cannot pass directly through the kitchen.
- There must be a handwashing basin with clean water and soap close to the toilet facilities. There should be separate, similar facilities near to kitchens or where food is handled.
- There must be a clean and reliable water supply for handwashing, personal hygiene and flushing of toilet facilities. The water supply should meet quality standards and be regularly tested to ensure that any contamination is discovered quickly and that appropriate remedial action is taken.
- Refuse must be disposed of properly and not allowed to build up, as it will attract flies and vermin.

Responsibilities for cleaning sanitation facilities should be very clearly defined. Dirty facilities make it more likely that people will continue to use the facilities badly or not at all. Clean facilities set a good example to users.

It is important to make sure that information about health is available in public places. Such information should be displayed in an eye-catching, simple and accurate way. Where appropriate, large posters with bright colours and well chosen messages, put up in obvious places, are effective.

Health and hygiene messages may be passed on to the public using such posters in public places. These messages should include the promotion of :

- Handwashing.
- Use of refuse bins.
- Care of toilet facilities.
- Protection of water supplies.

See Fact Sheet 4.

Excreta disposal options

Health aspects

Small amounts of excreta can carry enough germs to pass on a disease to someone else. So, even if water or food tastes and looks clean, it may have enough germs in it to pass on a disease to anyone who swallows it.

Not everyone who is infected becomes ill ; sometimes people can have a disease and show no

signs of illness. These people are known as asymptomatic carriers or healthy carriers. The germs grow in the gut of the carrier and pass out in their excreta ready to infect more people.

The excreta of all infected people are dangerous. It is impossible to know who is infected and so it is very important to dispose safely of all excreta. Figure 1 shows how disease is spread from excreta to infect new people.

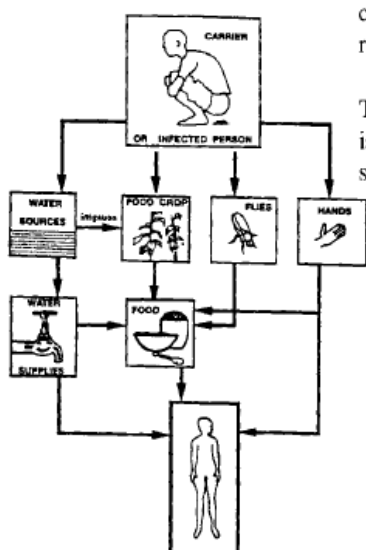


Figure 1. Spread of disease from excreta

One of the key ways to stop the spread of disease is to promote and practise good hygiene. Even where there is excellent sanitation, disease will spread rapidly if hygiene is poor. Three key hygiene behaviours can do the most to prevent the spread of disease :

Safer disposal of faeces : all faeces, but particularly those of young children and babies, and of ill people, should be carefully and quickly disposed of.

Handwashing : if people wash their hands regularly with soap and water, particularly after defecating, after handling babies' faeces, before feeding and eating, and before preparing food, the germs on their hands are removed or killed.

Maintaining drinking water free from faecal contamination : the source of water must be kept clean, and in the home water must be stored in a clean covered container to prevent faecal contamination.

Selection of sanitation alternatives

There are many different types of sanitation. The needs of the users and the resources available should be carefully considered to ensure that the most appropriate type of sanitation is selected.

To help select the most appropriate technology, the different types of sanitation technology are described briefly below. They are presented in more detail in the Fact Sheet referred to at the end of each section.

Simple pit latrine

This is the cheapest and most basic form of improved sanitation available, and is generally only supplied on a household basis. It consists of a square, rectangular or circular pit dug into the ground, which is covered by a hygienic cover, slab or floor. This slab has a hole through which excreta fall into the pit. Depending on user preference, a seat or squat hole with footrests can be installed, and a lid should be supplied to cover the hole. The latrine is covered with a shelter and should be situated well away from water sources and some distance from the home.

As well as isolating the excreta, the simple pit latrine has the advantage of being easy and cheap to construct. Depending on the material used for their construction, the slab and shelter can be re-used. Simple pit latrines can, however, produce unpleasant smells and allow flies to breed easily. For more information on simple pit latrines see Fact Sheet 3.4.

Ventilated improved pit (VIP) and Reed's odourless earth closet (ROEC) latrines

These are both improved types of pit latrine which aim to remove smells and flies from the latrine using a vent pipe. They use similar technology, the main difference being that the pit of the ROEC is wholly offset from the slab and connected to it by a chute, whereas the VIP pit is generally directly under the cover slab.

As with the simple pit latrine, a pit is dug into which the excreta fall. A cover slab with squat hole and a hole for a vent pipe is cast. A shelter is built, which must be kept semi-dark, and the vent pipe is raised to at least 0.5 metres above the top of the shelter. It is important that the latrine is well away from high buildings or trees.

These latrines share certain advantages : there are few problems with smell or flies ; the slab, vent pipe and shelter are re-usable ; and the excreta are isolated. Their disadvantages include the necessity of keeping the inside of the shelter semi-dark, which may discourage use of the latrine, and the maintenance required to ensure that the vent pipe remains in good working order.

Another common problem with the VIP latrine is the difficulty of obtaining a durable fly screen for the vent pipe. In the case of ROEC latrines, the chute is easily fouled with excreta and so may allow

fly breeding. For more information on VIP and ROEC latrines see Fact Sheet 3.5.

Disposal of sullage and drainage

Why is it important to dispose of sullage ?

Sullage is the used water resulting from washing clothes and kitchen utensils, shower or bath water and other domestic water not containing excreta. Sullage can have a lot of germs in it and so is dangerous for children who may play in it or even drink it. The quantity of sullage varies with the quantity of water supplied and certain local practices, such as whether personal and clothes washing is done at the home or at the water source.

Sullage often collects in pools which then make good breeding places for flies or mosquitoes which may spread yellow fever and dengue fever. Some types of germs, such as cholera, can also grow and multiply in sullage pools and become a major risk to public health. Mixed sullage contains significant amounts of organic material and when this decays it may result in unpleasant smells.

Although sullage is not a primary contributor in the spread of cholera, it can help the spread of other diseases and should be disposed of carefully. Where water-flushed sanitation does not exist, domestic sullage should be disposed of separately from excreta. Any pools or areas where sullage collects should be kept dry by building permanent drainage and filling in any holes with earth or sand.

Disposal of sullage

Sullage from the house can be disposed of in several ways :

- It can be used for watering garden crops, provided a suitable sized plot is available and the soil is sufficiently permeable. This method is particularly important in dry areas where sullage may be the only water available for small scale irrigation.
- Allow the sullage to flow into a septic tank if this is already built. Take care to fit water seals on sullage drains to stop any odours from the septic tank passing up the sullage drain and into the house.
- Construct a soakaway pit which allows sullage to soak into the ground (see Figure 1). This type of pit only works in absorbent soils such as sandy soil. Where soil contains a lot of clay, water will not seep into the ground and the pit will quickly fill up and overflow. Add a splash plate to prevent cavitation or boring, as well as to distribute the flow.

Fact Sheet 3

Reuse of sewage in agriculture and aquaculture

The reuse of wastes in agriculture and aquaculture is a sensitive subject and may be taboo in many cultures. Great care must be taken when introducing these techniques into areas where wastewater and excreta have not traditionally been used, to ensure that crops grown using human wastes as irrigation or fertilizer are acceptable to the consumers.

Health aspects

There are some problems with the reuse of sewage for fertilizing and irrigating crops :

- Risk to health from germs in wastewater, which may contaminate the food and spread disease.
- Risk to health, particularly to field workers, from helminths (worms) and nematodes in sewage.
- Risk to health from chemical contaminants in wastewater, generally only in urban areas where factory wastes are discharged into the sewerage system.
- Some chemicals can be taken up by plants. The chemicals stay in the plant and are eaten by humans in the food produced.

Quality guidelines for the reuse of sewage

There are set guideline quality standards for effluent and excreta used in agriculture and aquaculture. Effluent which is used to irrigate trees, industrial and fodder crops, fruit trees and pasture should have less than one viable nematode egg per litre. Effluent used for the irrigation of food crops, sports fields and public parks should have less than one viable nematode egg per litre and less than 1000 faecal coliforms per 100 millilitres.

Excreta and excreta-derived products (such as wastewater sludges, composts and latrine contents) which are applied to the field prior to crop planting do not have to meet quality guidelines provided that :

- Wastes are placed in a trench and covered with at least 25 centimetres of soil.

- Farm and sanitation workers are adequately protected during this process.
- Root crops are not planted directly over the trenches.

Where waste products are applied as a topsoil dressing, as in the case of composts, or are applied to the soil after planting, for instance as liquid sludge, the same quality standards should be observed as for effluent used to irrigate food crops. Thus there should be less than one nematode egg per litre or kilogram (wet weight) and less than 1000 faecal coliforms per 100 millilitres or 100 grams (wet weight).

Excreta and wastewater used in aquaculture should have less than 10 000 faecal coliforms per 100 millilitres or 100 grams, and zero trematode eggs per litre or kilogram.

Recommendations for the reuse of sewage

Where households use non-sewered sanitation, the reuse of excreta is relatively straightforward. The sullage, *which should not contain any faeces or urine*, but only water used for personal hygiene, clothes washing and domestic cleaning, can be used directly for irrigation of food crops on a small scale. Where on-site systems exist for the safe storage of excreta, for example twin pit latrines (of whatever type) or composting latrines, excreta can be used as a fertilizer. Excreta should be left for at least two years before use in order for the germs and worm eggs to die. Using the excreta too early represents a major health risk to people emptying the pit, to people working in the fields and to consumers.

Where sewerage systems are used, the sewage should not be used for irrigation or fertilization of food crops until it has been passed through a treatment plant, either a conventional sewage treatment plant or a lagoon system. In general, well managed lagoons give better quality final water than conventional sewage treatment. In order to remove helminths adequately, a retention time of 11 days in the lagoons is required. Depending on the temperature, twice as long is required to meet the bacterial guideline. It is important to improve quality control of the effluent water from both conventional and lagoon treatment plants to ensure the highest standard possible for wastewater which is to be used to irrigate food crops and sludge for fertilizer.

Use of disinfectants or other chemical treatments of wastewater to reduce the level of germs is not recommended, even in emergencies, as this type of treatment is expensive, rarely effective and could have a negative impact on the environment.

Where wastewater is used for irrigation or fertilization of food crops, the foods which present the greatest risk to health are fruit and vegetables which grow close to the soil, such as lettuce, strawberries and tomatoes, and which are eaten without peeling or cooking. If fresh fruit and vegetables are stored or in transit for at least 10 days under normal temperatures and humidities, the risk to health is low, but local health requirements should be complied with, for instance washing with chlorinated water before sale.

When irrigating using treated wastewater, the most appropriate method of water application should be used. Subsurface irrigation provides the greatest degree of health protection and efficiency, but is expensive and requires a high level of water treatment to prevent clogging of the emitters through which water is supplied. Bubbler irrigation avoids the need for emitters. Sprinkler irrigation should not be used when the bacteriological quality is not ensured, except on fodder crops and pasture. Under these conditions, flood (border) irrigation should not be used for vegetables. Furrow irrigation often provides the best method of water application, as it is more efficient than flood irrigation, and often sprinkler irrigation, but is less expensive than trickle or subsurface techniques.

Local residents should be fully informed of the location of all fields where human wastes are applied, so that they and their children may avoid them. There is no evidence that local residents are at significant risk from sprinkler irrigation, but sprinklers should not be used within 50-100 metres of houses or roads.

Fish which are bred in ponds using human wastes should be kept in clean water for at least two weeks before harvest to remove objectionable odours and reduce contamination with faecal bacteria. This will not, however, completely remove pathogens from the fish tissues and digestive tract unless contamination is very slight.

Freshening of products

In many areas, fruit and vegetables are often soaked in water on the way to market to make them look more attractive. It is common to see this done in a river or stream. This practice is not recommended, as many rivers and streams have wastewaters discharged into them, which may contain faeces and urine. Market areas should, wherever possible, provide clean, disinfected water and facilities for freshening produce brought for sale, in order to discourage the use of local rivers and streams.

Health education

When properly treated and applied, the use of wastewater and excreta in agriculture and aquaculture can be of great benefit to the farmer by increasing yields and the area cultivated. There is a health risk, however, to consumers, to people collecting the waste for reuse and to those working in the fields. Where the reuse of waste is practised, an education programme should be established to tell people about the risks and show them how to store and use wastes safely.

In conjunction with an education programme dealing with waste reuse, hygiene education should encourage good food hygiene and preparation in the home. This could greatly decrease the incidence of disease within communities.

Sanitation in public places

Long-distance bus and train services

Toilets should be provided on trains and buses, particularly if they are travelling over long distances. Normally, one toilet for every carriage or bus is enough.

- The toilets must have clean water and soap provided for hand washing, and be cleaned at least once every day with soap or disinfectant.
- Water for use on the journey must be stored in tanks. Chlorination of the water tanks may be practised if water does not meet local quality standards.
- Refuse must be stored on the train or bus until it can be disposed of safely. Bins with well-fitting lids or sacks are the most appropriate containers to stop flies and vermin being attracted to the refuse.

In many countries, toilets on trains allow the excreta to fall directly onto the ground below the train. This is a major hazard to public health, particularly in stations or in areas where people regularly cross or live close to the railway track. The disposal of sullage by this method is less of a risk. Wherever possible on trains and always on buses, excreta should be stored in a tank underneath the carriage, which must be emptied daily into a sewer or septic tank. The tank should be made of plastic or fibreglass or be lined with a waterproof material to stop corrosion in the case of metal tanks.

For workers emptying the tanks, extra safety precautions must be used :

- Pipes should be used to connect the tank to the sewer, to prevent splashing.
- A control valve should be used at the bottom of the tank to drain the tank into the sewer.
- Workers must wear gloves, eye protection and protective clothing when emptying tanks into the sewer.

Long-distance bus and railway stations

There are usually large, continually changing groups of people in bus and railway stations. People in stations often have children with them and, because they have travelled for a long distance or are about to do so, they will have need of toilet facilities and running water.

- The station must provide enough toilets to cope with the *maximum* number of people in the station at any one time.
- With the large number of people using toilets in bus and rail stations, there should be at least one permanent member of staff present to clean the toilets and to ensure that there is enough soap, paper (if used) and clean water. Toilet facilities must be cleaned several times every day. A permanent attendant also reduces the chances of vandalism, and prevents the toilet facilities becoming fouled and a health hazard. Toilet facilities can often be made self financing by charging a small sum for their use.
- Water supply is very important and where water supplies are not reliable, water tanks should be built to store water when there is a lower demand, for instance at night. Chlorination of water tanks may be practised if water supplies do not meet local quality standards.

Ships and ports

On ships, there should be at least one toilet for every 25 passengers and the following basic rules should be adhered to :

- The toilets must have clean water and soap for handwashing, and be cleaned at least once every day with soap or disinfectant.
- Chlorination of water storage tanks may be practised if water does not meet local quality standards.
- Refuse must be stored on ships until it can be disposed of safely. Bins with well-fitting lids or sacks are the most appropriate containers to stop flies and vermin being attracted to the refuse.

On many ships, the excreta from toilets are allowed to flow straight into the sea, river or lake. Discharge into the open sea may not represent a significant risk to public health, but discharge into a lake, river, port or harbour could cause serious contamination to areas used for water collection, washing, fishing and recreation. Diarrhoeal diseases, such as cholera, could be brought from other areas by passengers on ships and then passed on to local people who swallow water whilst swimming near the ship.

The most practical solution is a storage tank for use when the ship is in port, which can be discharged once the ship is well out at sea. The tank should be made of plastic or fibreglass or be lined with water-resistant material to stop corrosion in the case of metal tanks.

Some large ships have a sewage treatment plant which purifies the sewage and allows the treated liquid to flow into the water. The solids are then pumped out of the ship into the sewerage system in port.

Cordon sanitaires

In some countries and ports, a so-called *cordon sanitaire* has been operated or still operates. In these areas, people who are deemed to carry or are likely to carry the cholera virus are refused entry to the area. There is no evidence that this is effective in preventing the spread of cholera. People who carry the cholera virus often show no sign of illness ; such people are called healthy carriers or asymptomatic carriers. There is no practicable way of identifying all healthy carriers and it is not feasible to prevent their movement by restrictive measures. Even if formal traffic across borders is controlled, informal and illegal traffic invariably continues and cholera continues to spread.

Travel restrictions are expensive to maintain and often have adverse economic consequences, as they prevent normal trade and tourism. Travel restrictions, moreover, may encourage the suppression of official information about an outbreak and hamper collaboration on disease control between international agencies and countries.

Infectious diarrhoeal diseases such as cholera can only be reliably prevented by ensuring that all the population have access to safe drinking water and adequate sanitation facilities. This particularly applies to places where there are large numbers of people, where infection can spread rapidly through contaminated food and water.

Markets

As food is handled and eaten by large numbers of people at markets, markets can be the centre for the spread of infectious diarrhoeal diseases such as cholera, typhoid and hepatitis A, if sanitation and hygiene is not properly planned.

There are a number of key points which should be adhered to when planning sanitation in markets.

- Toilet facilities in markets should be away from the food storage or display areas. It is normal to provide separate toilet facilities for staff in the market and for customers. Staff toilets must have an extremely high standard of cleanliness, as staff handle large quantities of foods during the working day.
- Handwashing basins with soap and running water should be provided, both in the toilets and near the market stalls. Chlorination of the water supply may be practised if water does not meet quality standards.

- Clean water facilities should be available for the freshening of produce brought for sale. Where these facilities do not exist, river water is commonly used to soak produce to make it look more attractive. This represents a major public health risk, as river water often contains faecal contamination.
- Refuse must be disposed of safely. Bins with well-fitting lids or sacks are the most appropriate containers to stop flies and vermin being attracted. Refuse must be removed regularly, preferably daily, from the market area to avoid build up of the refuse.
- All street-food handlers should be licensed, but prior medical examination (clinical and laboratory) should not be a condition for licensing or for subsequent renewal of license. The handler should provide personal particulars, intended type of business, and location or area of operation.
- Food handlers should be educated, encouraged or supervised to make sure that they stop their business promptly if at any time they suffer from diarrhoea or vomiting or have boils, sores or ulcers on exposed parts of the skin. Resumption of business after recovery may be subject to authorization by the appropriate food control authority.
- Food handlers should wear clean and proper clothing, according to prevailing local standards. Where feasible, food handlers should be encouraged to wear clean overall aprons, preferably white or light in colour.
- Food handlers should wash their hands with soap and water after handling raw foods, before handling cooked foods, after using the toilet, after handling unsanitary objects such as garbage containers, and after contact with toxic substances such as pesticides and disinfectants.
- In the preparation and sale of food, food handlers should refrain from unhygienic and unsightly practices, such as :
 - chewing or smoking tobacco, chewing betel nut or gum ;
 - touching mouth, tongue, nose, eyes, and so on ;
 - spitting, sneezing and coughing on or near food.

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two precious resources;
March 22 is
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**Sanitation
Matters!**

**Sanitation
Keeps You
Healthy**

Worldwide, 5.3% of all deaths and 6.8% of all disability are caused by poor sanitation hygiene, and water. Improving sanitation, hygiene, and water management reduces diseases like cholera, typhoid, infectious hepatitis, malaria, and schistosomiasis.



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Sanitation Matters!

Hygiene Saves Lives

1.8 million people die every year from diarrhoeal diseases. Hygiene interventions including hygiene education and promotion of hand washing can lead to a reduction of diarrhoeal cases by up to 45%.



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**Sanitation
Matters!**

Sanitation Saves Children

1.8 million people die annually from diarrhoeal diseases, 90% are children. Better water, hygiene and sanitation reduce diarrhoea incidence by 26% and deaths by 65%.



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**Sanitation
Matters!**

Sanitation Saves Your Blood

Schistosomiasis affects 200 million people worldwide, 20 million people severely, causing loss of blood and anaemia. Basic sanitation reduces the disease by up to 77%.



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Sanitation Matters!

Hygiene and Sanitation Saves Your Sight

6 million people worldwide are permanently blind due to Trachoma, another 146 million people with the disease are threatened by blindness. Better personal hygiene and sanitation reduce trachoma infections by 27%.



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Sanitation Matters!

Sanitation and Safe Food

40 million people worldwide suffer from trematode infections. Trematodes or flukes infect the liver, lungs, and intestines. Parasites in human wastes infect fish or encyst on plants when water is contaminated with waste. Humans eat contaminated fish or plants and become ill. Proper treatment of the wastes kills the trematodes.



An Environmental Sanitation Network

Message 1 – Sanitation is Vital for Health

Human feces are the primary source of diarrheal pathogens. Without sanitation facilities to safely contain and dispose of human feces, the health of everyone living nearby is put at risk. Diarrheal disease is a leading cause of under five child mortality and can be reduced by improved sanitation. Additionally, worm infections impair children's health, nutrition and cognitive development. Children weakened by diarrhea are more susceptible to other infections, namely respiratory infections, which are another leading cause of child mortality. *Sanitation affects children's development and futures.*



Photo credit: UNICEF/HQ09-0811/Roger O'Moyné

Key Points:

- Reducing diarrheal disease
- Reducing child mortality
- Improving Health
- Improving nutrition
- Improving cognitive development

Supporting facts and figures:

- Daily child deaths under age five from diarrhoeal diseases in 2004: 5000 (Progress for Children (PFC) 6, UNICEF 2006).
- % of diarrhoeal deaths related to lack of water and sanitation: 88% (PFC 6).
- % of total under five child mortality due to diarrhoea : 17%, not including neonatal diarrhoea (WHO 2005, CHERG).
- Diarrhoeal related deaths per year of children under 5: 1.5 million (PFC 6).
- Children under 18 without access to improved sanitation: 980 million, 280 million of which are children under five. (UNICEF, 2006).
- Ratio by which improved sanitation and hygiene reduces diarrhea-related deaths: 2/3 (PFC 5).
- Diarrhoea as proportionate cause of child mortality: 2nd highest single cause after pneumonia (WHO 2005, CHERG).

Contextualize this message in your country using local data such as:

- The percentage of child deaths attributable to diarrhoea caused by poor sanitation, inadequate water supply and poor personal hygiene (see WHO Country Profiles of Environmental Burden of Disease (2007));
- Rates of worm infection in children;
- Rates of respiratory illnesses in children.

Message 2 - Sanitation is a Good Economic Investment

The health impact of inadequate sanitation leads to a number of financial and economic costs including direct medical costs associated with treating sanitation-related illnesses and lost income through reduced or lost productivity and the government costs of providing health services. Additionally, sanitation also leads to time and effort losses due to distant or inadequate sanitation facilities, lower product quality resulting from poor water quality, reduced income from tourism (due to high risk of contamination and disease) and clean up costs.

Finally, increases in female literacy (due to increased school attendance where proper sanitation facilities exist) contribute to economic growth. Every dollar spent on improving sanitation generates economic benefits that far exceed the required sanitation investments. *The cost of inaction is enormous.*

Supporting facts and figures:

- For every 10% increase in female literacy (due to increased school attendance where proper sanitation facilities exist), a country's economy can grow by 0.3 percent. (Brocklehurst, 2004)
- According to WHO, achieving the MDG for sanitation would result in \$66 billion gained through time, productivity, averted illness and death and health expenses (Hutton and Haller, 2004).
- WHO estimates that a 10 year increase in average life expectancy at birth translates into a rise of 0.3-0.4% in economic growth per year.
- Return on a \$1 investment in sanitation projects: 9.1\$ (Bartram, Hutton and Haller, 2007)

Contextualize this message in your country using local data such as:

- Female literacy rates (correlated to potential GDP increases);
- Annual health costs correlated to diarrheal disease;
- Estimates of total national investment into sanitation needed to meet MDGs.

Photo credit: UNICEF/HQ06-1843 /Josh Estey



Key Points:

- Lives lost
- Medical costs
- Lost time and productivity
- Lower tourism
- Female literacy and GDP

Message 3 - Sanitation Contributes to Social Development

Photo credit: UNICEF/HQ07-0525 /Christine Nesbitt

The provision of safe water and sanitation facilities is a first step towards a physical learning environment, benefiting both learning and health of children. Sanitation provides women, primary caregivers, greater privacy and support for maintaining children's health and domestic cleanliness. Schools that have sanitation facilities attract and retain students, particularly girls. Menstruating girls are reluctant to attend schools without toilets, and their parents are reluctant to send them. Finally, healthy children attend school more and get more out of it. A lack of clean and private sanitation and washing facilities discourages children, particularly girls from attending school and these missed educational opportunities have a profound effect on human development. *Sanitation affects children's development and futures, especially girls.*



Supporting facts and figures:

- One in four girls do not complete primary school, compared with one in seven boys (Brocklehurst, 2004)
- Girls bear the burden of water collection, which can take many hours a day, leaving them with no time or energy for school.
- A study by the Government of Bangladesh and UNICEF (DPHE-DPE-UNICEF, 1994) revealed an 11% increase in girls' enrolment mainly due to the provision of sanitary latrines.
- The WHO estimates that 194 million schooldays, resulting from fewer incidents of diarrhoea, would be gained annually if the MDGs for sanitation were met. (Bartram, Hutton and Haller, WHO 2004.)

Contextualize this message in your country using local data such as:

- The ratio of girls/boys in school;
- Female/male school completion rates;
- Percentage of menstruating girls that stay home during their period;
- The percentage of schools with sanitary facilities;
- The distance that girls have to walk to collect water.

Key Points:

- Improved learning and retention
- Human development
- Privacy and dignity
- Gender equity
- Self-respect

Message 4 - Sanitation Helps the Environment

Photo credit: UNICEF/HQ03-0210/Patrick Andrade

In regions where a large proportion of the population is not served with adequate water supply and sanitation, sewage flows directly into streams, rivers, lakes and wetlands, affecting coastal and marine ecosystems, fouling the environment and exposing millions of children to disease. Particularly in the context of urbanization, domestic wastewater, sewage and solid waste improperly discharged presents a variety of concerns from providing breeding grounds for communicable disease vectors to contributing to air, water and soil pollution.



The results of poor waste management also contribute to a loss of valuable biodiversity. In the case of coral reefs, urban and industrial waste and sewage dumped directly into the ocean or carried by river systems from sources upstream, increase the level of nitrogen in seawater. Increased nitrogen caused overgrowths of algae, which in turn, smother reefs by cutting off their sunlight.

Improved sanitation reduces environmental burdens, increases sustainability of environmental resources and allows for a healthier, more secure future for children.

Supporting facts and figures:

- About 90% of sewage and 70% of industrial waste in developing countries are discharged untreated into watercourses, often polluting the usable water supply (<http://www.un.org/events/water/factsheet.pdf>)
- Urban to rural ratio of people globally with access to sanitation: 80% vs. 39% (PFC 5)

Key Points:

- Loss of biodiversity
- Water pollution
- Nutrient loading
- Air pollution
- Environmental degradation and unsustainability

Contextualize this message in your country using local data such as:

- Urban sanitation access rates
- Rural sanitation access rates
- Snapshot of current wastewater management: Wastewater and sludge treatment plants in major cities, average household wastewater management systems (i.e. septic tanks vs. sewer lines), quality of discharge from septic tanks, treatment plants, coverage, etc.
- Water quality in major water bodies.

Message 5 - Sanitation is Achievable!

Now is the time to act. Households, communities, local and national governments, civil society, and private companies all need to work together. Media and public opinion around the world can influence political leaders to act now. For the principal target audience of politicians and government officials (particularly aid administrators) the IYS strategy is designed to increase substantive awareness, ideally leading to decisive actions in support of improved sanitation. IYS communication also considers the media, in developed but especially in developing regions, another important audience, as the media have excellent capacities to inform the population and guide their opinions.

Key Points:

- Modest costs, huge benefits
- Many actors
- Media counts
- Get the message out
- Act now



Photo credit: UNICEF/ HQ05-1604 /Giacomo Pirozzi

Supporting facts and figures:

- Cost of meeting the sanitation MDGs per year until 2015 \$9.5 billion. If sustained, the same investment could achieve basic sanitation for the entire world within one or two decades. (PFC 6)
- This sum is less than 1% of world military spending in 2005 and one-third of the estimated global spending on bottled water.
- Proportion of people without access to improved sanitation in 2004, globally: 2 out of 5 or 40% (PFC 5)

Contextualize this message in your country using local data such as:

- Investment needed to reach MDGs in water and sanitation (equate this to other national expenditures such as military and entertainment, if available)
- Proportion of people without a toilet, nationally.

Annex E - WSSCC Posters

Diarrhoea kills babies every day



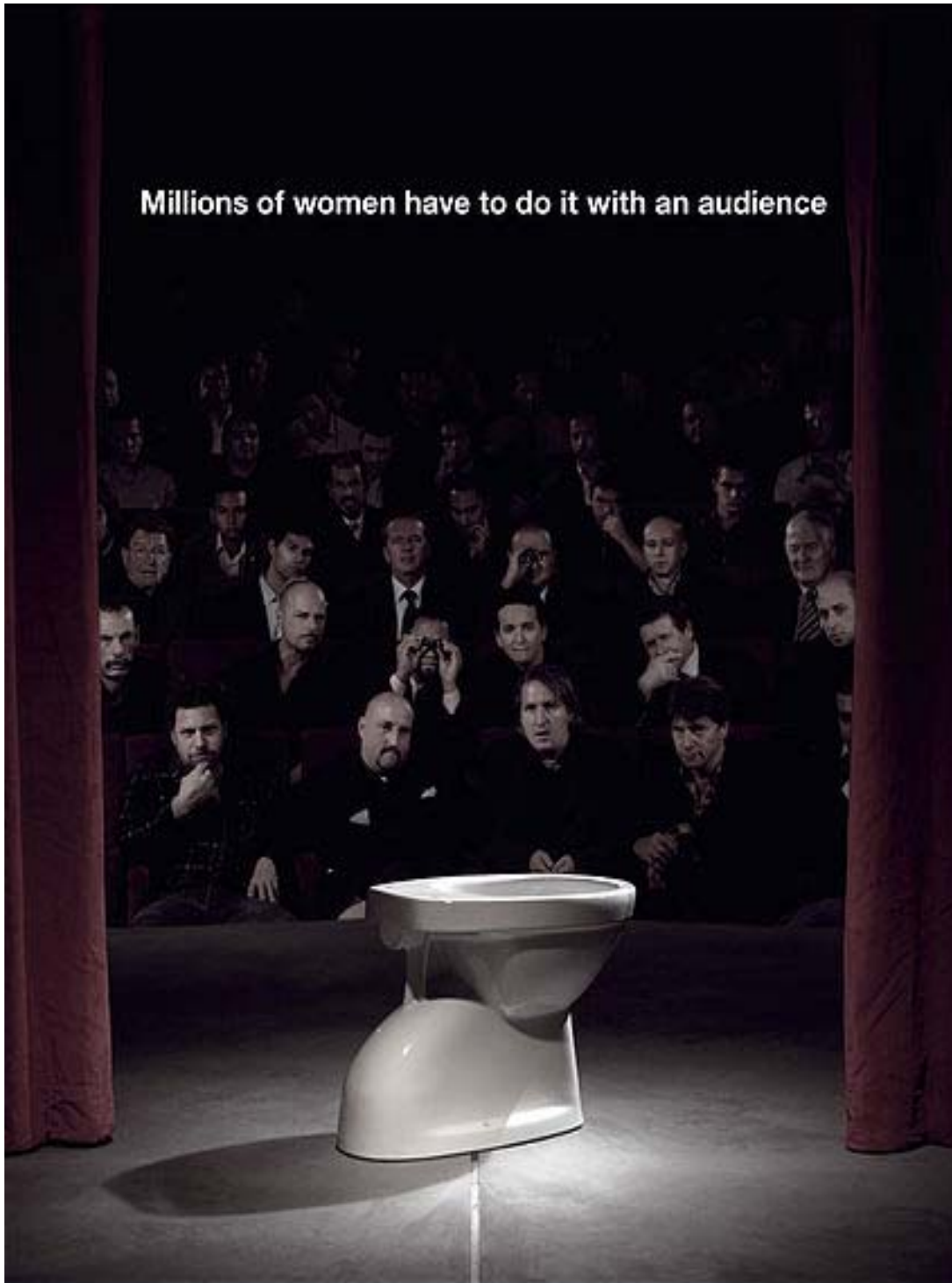
In some countries, every fifth child death is due to diarrhoeal diseases caused by bad sanitation and unsafe drinking water. In the past 10 years diarrhoea killed more children than all the people lost to armed conflicts since 1945.

Join the WASH campaign at www.wsscc.org



Ref: <http://www.wsscc.org/en/resources/advocacy-material/wash-images-messages/wash-2007/index.htm>

Millions of women have to do it with an audience



Without access to an appropriate toilet the lives of millions of women are dominated by the most basic of human needs. Every day they lack privacy, endure shame and endanger their health by waiting for dusk to avoid spectators. Have you ever thought about the true meaning of dignity?

Join the WASH campaign at www.wsscc.org



Ref: <http://www.wsscc.org/en/resources/advocacy-material/wash-images-messages/wash-2007/index.htm>



Hurry up!
2.6 billion people want to use the toilet

Imagine a life without a clean, private place to defecate and urinate. Imagine every day using fields, streams, railway lines or smelly plastic bags. Millions of people dream about the privacy of walls.

Join the WASH campaign at www.wsscc.org



Ref: <http://www.wsscc.org/en/resources/advocacy-material/wash-images-messages/wash-2007/index.htm>



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Join the WASH campaign at www.wssc.org



Ref: <http://www.wssc.org/en/resources/advocacy-material/wash-images-messages/wash-2007/index.htm>