

Sanitation framework



This document sets out a framework for the enhancement of sanitation services in low-income countries. It is intended primarily to guide WaterAid country programmes as they determine their own context-specific sanitation strategies, but it is hoped that it will also be of value to other organisations which are involved in improving sanitation. The scope of the document spans both rural and urban contexts, but it does not specifically address the important topic of hygiene improvement. This will be the subject of a future WaterAid framework document. A further framework for WaterAid's urban work is in the final stage of publication. This Sanitation framework is fully consistent with, and builds on, WaterAid's Sanitation Guidelines (April 2008) which were initially developed at a conference in Livingstone, Zambia, in May 2006.

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The paper can be found in the publications section of WaterAid's website – www.wateraid.org/publications.



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Glossary

Access	People are described as having access to a sanitation service if they can use a functioning facility of adequate standard (usually as defined by the WHO/UNICEF Joint Monitoring Programme (JMP)) within a reasonable distance of their home.
CHC	Community Health Club.
CLTS	Community-led Total Sanitation: an approach to the promotion of sanitation which brings about a collective community decision to reject open defecation. Communities strive to achieve Open Defecation Free (ODF) status. CLTS in its ‘pure’ form does not recommend or subsidise specific sanitation technologies.
Condominial sewerage	Condominial systems were first developed in Brazil, about 30 years ago, by combining a group of houses’ small diameter sewerage networks into a single system ¹ .
Coverage	The proportion or percentage of the population who enjoy an ‘improved’ sanitation service, as defined by the JMP.
DALY	Disability Adjusted Life Year: a measure of the impact of disease on human society ² .
Formative research	The research activities carried out prior to the implementation of a social marketing strategy in order to obtain the information needed on which to base the initiative ³ .
Hardware	The ‘hard’ or physical infrastructure (eg latrines, wastewater treatment facilities) which make sanitation services possible.
Hygiene	Personal and household practices such as hand-washing, bathing and management of stored water in the home, all aimed at preserving cleanliness and health.
JMP	The Joint Monitoring Programme of the World Health Organisation and the United Nations Children’s Fund.

Life cycle costs	The aggregate costs of keeping a WASH service running permanently in a particular area, including the capital costs, the costs of routine operation and maintenance, and the capital maintenance costs. All software and institutional overhead costs are also included.
ODF	Open Defecation Free – an aspiration in most total sanitation approaches.
O&M	Operations and maintenance – shorthand for the post-construction activities involved in water and sanitation services.
PHAST	Participatory Hygiene and Sanitation Transformation.
PRA	Participatory Rural Appraisal.
Sanitation	In the narrow sense, the safe disposal or re-use of human excreta. In the broad sense, excreta management together with solid waste and storm water management.
Sector	The arena in which the collective endeavours of governments, donors, the private sector and civil society collaborate to improve sanitation services.
Social marketing	An approach which uses marketing principles to achieve social benefits such as changes in attitudes and behaviours which are deemed to be good for society as a whole ³ .
Software	Activities which mobilise households and communities and establish the ‘soft’ infrastructure (especially community level management structures) which is necessary for the functioning of water, sanitation and hygiene services.
SSIP	Small-Scale Independent Provider of goods or services.
Sustainability	Sustainability is about whether or not WASH services and good hygiene practices continue to work and deliver benefits over time. No time limit is set on those continued services, behaviour changes and outcomes.
TSSM	WSP’s Total Sanitation/Sanitation Marketing programme.
WASH	Water, Sanitation and Hygiene.
WSP	The Water and Sanitation Programme of the World Bank.



Part 1

Setting the scene

WaterAid works through partners to establish sanitation services in rural and urban communities. WaterAid also has major ambitions to influence larger service providers to deliver better services to more people.

This framework document is intended to guide WaterAid and its partners to be more effective, both in direct service delivery work and also in the work of influencing other players.

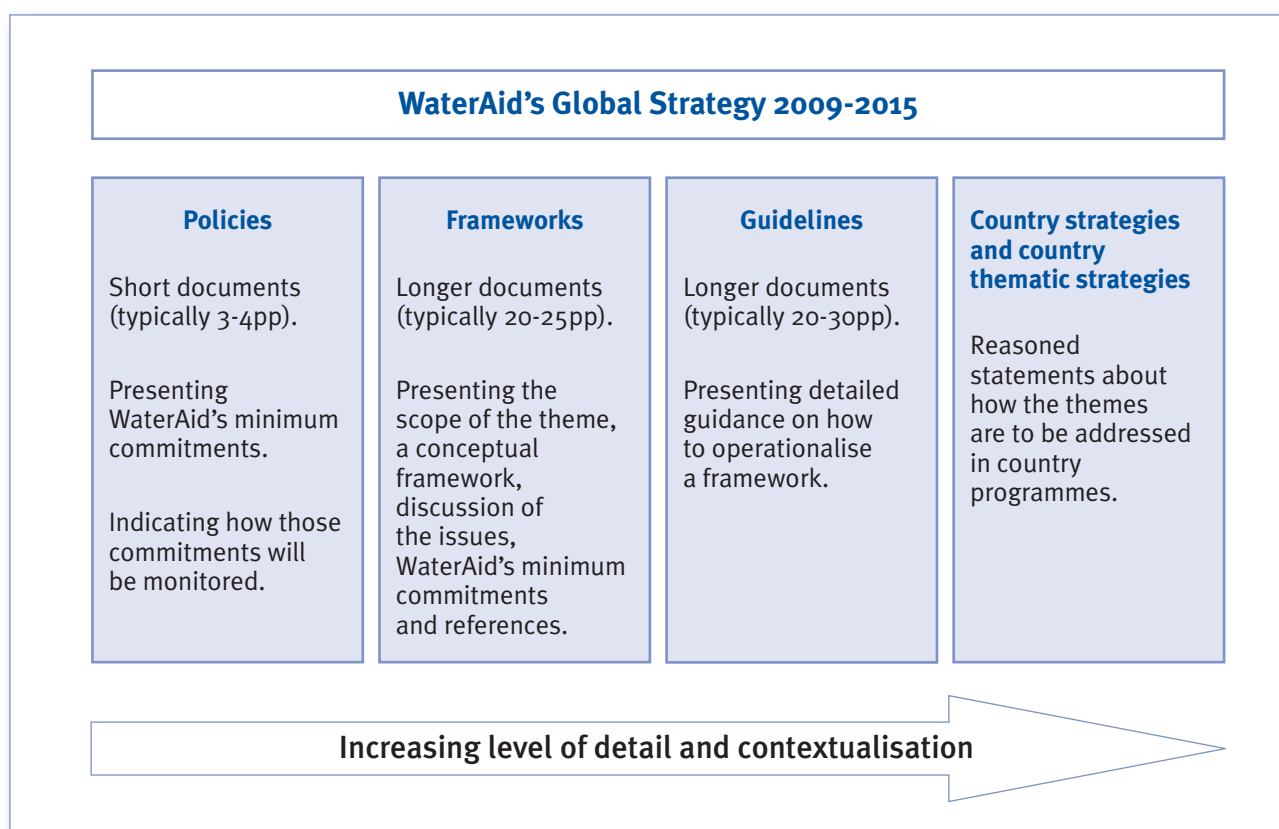
The primary purpose of the document is to guide WaterAid's country programmes as they refine and implement their context-specific sanitation strategies.

After a short background chapter, this framework:

- Discusses the key issues in sanitation service delivery, with reference to the literature (Part 2).
- Draws out a set of four broad principles for country programme work in the sanitation sector (Part 3).
- Proposes a number of key commitments and obligations for WaterAid country programmes (Part 4).

Figure 1, on the following page, shows how framework documents such as this are situated beneath WaterAid's Global Strategy. The commitments embodied in this and WaterAid's other framework documents constitute our more detailed policy statements. Detailed guidance and context-specific strategies regarding the implementation of work in the sanitation sector lie 'downstream' of frameworks such as this.

Figure 1 Frameworks and other WaterAid documents



This document should be used alongside the other WaterAid frameworks, policies and guidelines:

- WRM guidelines and policy.
- Water quality guidelines and country policies.
- Equity and inclusion framework.
- Sustainability framework.
- Water security framework.
- Urban framework.
- Hygiene framework.
- Counting users and post-intervention surveys guidance notes.

Background

Where there is nowhere safe and clean to go to the toilet, people are exposed to disease, lack of privacy and indignity. Improved sanitation has proven impacts on quality of life and poverty reduction. In relation to health benefits, improved sanitation has been described as, '*the greatest medical advance in the last 150 years*'⁴, demonstrating both a high benefit to cost ratio and a cost effective reduction of Disability Adjusted Life Years (DALYs). However, impacts are far wider than improved health and include improved nutrition, higher school attendance and achievement, and productivity.

There has been tangible progress on sanitation since the Millennium Declaration but it lies far behind that for access to water and varies dramatically between urban and rural contexts. Moreover, it is the most off-track Millennium Development Goal (MDG) in sub-Saharan Africa.

Progress in increasing sanitation coverage has been slow because:

- Lack of political will results in low priority being given to sanitation. As a consequence, policy and institutional responsibility for sanitation is often unclear, fragmented or absent.
- Improving sanitation is not just about physical infrastructure. Much is dependent upon human behaviour change. The main drivers of individual choice and change are generally more focused on non-health outcomes, while professionals in the sector have tended to be pre-occupied with the health benefits.
- The curative focus of health systems detracts from the preventive role of sanitation. The health benefits of improved sanitation are not always immediately experienced or visible. Furthermore, the health benefits accrue to society as a whole, not just to those who choose to improve their sanitation facilities.
- Demand from the most needy is rarely sufficiently clearly articulated. Moreover, the poorest and most marginalised are often unable to afford to invest in improved sanitation.

The most recent global estimates of sanitation coverage made by the Joint Monitoring Programme (JMP) of the World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF)⁵ conclude that in 2008, 2.6 billion people did not use what the JMP defines as improved sanitation (a household facility – not shared – which hygienically separates human excreta from human contact (see Box 2 on page 17). Seven out of ten of this total number live in rural areas. Seventy two percent are in Asia. Of the total number unserved, 1.1 billion still defecate in the open, about 750 million use unimproved facilities and a similar number use shared toilets. The world is seriously off-track in pursuing the MDG target for sanitation and, even if the target were achieved, 1.7 billion people would still lack adequate sanitation services.

WaterAid's vision and Global Strategy

WaterAid's vision is of universal sanitation. WaterAid believes that everybody should be able to defecate and dispose of human excreta in safety and with dignity.

Sanitation provision is integral to WaterAid's Global Strategy⁶ which sets challenging targets of delivering improved water, sanitation and hygiene services directly to 25 million people by 2015 and another 100 million indirectly (by influencing others). The Global Strategy recognises that many countries where WaterAid works are experiencing rapid urbanisation and there is a need for WaterAid to develop new ways of working to address the challenges of overcrowding and the numerous issues surrounding the provision of sanitation services in high density urban areas. The strategy identifies low levels of government investment in sanitation and low political priority as barriers to universal sanitation, and highlights the importance of reducing fragmentation in responsibility for sanitation and of advocacy for the inclusion of sanitation in national plans such as poverty reduction strategies.

In Aim 1 of the Global Strategy (*we will promote and secure poor people's rights and access to safe water, improved hygiene and sanitation*) we highlight the need for services which are accessible to all, appropriate to need, affordable and replicable. This aim emphasises the importance of inclusion of the poor and marginalised, and while recognising that 70% of those currently not served with improved sanitation live in rural areas, it draws attention to the burgeoning populations in unplanned settlements of towns and cities.

Aim 2 (*we will support governments and service providers in developing their capacity to deliver safe water, improved hygiene and sanitation*) highlights the need for better understanding of the challenges preventing the poor accessing equitable and sustainable services. Recognising weak capacity and poor coordination in most of the countries where WaterAid works, it focuses on strengthening capacity for planning, implementation and monitoring. Aim 2 links WaterAid's direct service delivery work (Aim 1) with that of national governments, thus expressing the ambition to contribute to delivering sanitation services at scale.

Aim 3 (*we will advocate for the essential role of safe water, improved hygiene and sanitation in human development*) makes the links between Water, Sanitation and Hygiene (WASH) and other areas of social and economic development, specifically health, education and livelihoods. In particular, this section of the Strategy highlights the neglect of sanitation and its weak, fragmented and poorly coordinated nature.

WaterAid's work in service delivery, advocacy and wider influencing, capacity development and research (as outlined in Part 4) is therefore fully consistent with the aspirations expressed in the global aims.

WaterAid performs many different functions in its work to improve access to sanitation, both in-country and globally. These activities come under four broad roles which are in line with WaterAid's vision and Global Strategy:

- **Service delivery** through partners.
- **Advocacy** by engagement in policy dialogues, monitoring sector processes and impacts, and mainstreaming good practice; advocacy on behalf of the poor by strengthening the voice of those who need access to sanitation services.
- **Capacity development** through partnerships with key players and communities in-country.
- **Research and learning** through innovation, research and knowledge dissemination.

These four headings are used in Part 4 as a structure for WaterAid's minimum commitments in regard to sanitation.

The scope and direction of sanitation strategies

Access to improved sanitation primarily refers to access to a toilet or latrine⁷. However, wider environmental sanitation also refers to effective disposal of solid waste, management of grey water and storm water (especially in urban areas) and requires appropriate hygiene behaviour, ie improved sanitation means the maintenance of a clean environment, privacy and safety in regard to defecation, and the practice of hygiene behaviours which are conducive to good health.

Sanitation requires the construction, use and maintenance of latrines or toilets and the safe collection and disposal or use of human waste, solid waste and storm water. Sanitation requires national policies and investments, technologies and management arrangements, financing systems and adequate funding.

Our working definition of sanitation is as follows:

Sanitation refers to the safe management of human excreta from the point of defecation to its disposal, treatment or re-use. In the urban environment especially, sanitation also includes the management of solid waste, grey water and surface drainage. In the wider context, sanitation includes not only physical systems, but also the policies, legal and management frameworks and investments necessary to achieve sanitation for all.

WaterAid's working definition of sanitation is therefore broad, and this is reflected in its approach to and obligations in its work. However, we recognise that there is no universally agreed definition of sanitation and that other definitions may better suit other organisations⁸.

Growing populations are putting ever greater pressure on the natural and built environment. The rapid growth in unplanned urban settlements is a particular cause for concern. The physical environment is becoming increasingly degraded in countries which already experience highly variable rainfall. At the same time, the likelihood of even higher rainfall intensities in the future is increasing. Consequently, a greater frequency of flooding is highly likely, together with a greater frequency of damage to human habitation and physical infrastructure (such as sanitation infrastructure). Disaster risk reduction and disaster response are likely to take on greater importance in the future.

In the future we may no longer be able to simply treat human excreta as waste. It is wet, foul, hazardous and difficult to manage in its raw state. However, it can be turned into a dry, safe and productive (either in terms of nutrients or energy) material relatively easily and at low cost. The future of excreta management around the world may turn increasingly to solutions such as these which are particularly applicable in low-income countries where sewered systems for all remain an unachievable dream.



Part 2

The sanitation sector in low-income countries

Introduction

The review of sanitation literature and practice which is set out in this part of the document is intended to provide an overview of current thinking (with publicly available resource materials) and to provide an evidence base for the shorter parts which follow.

This part begins by considering the roles and responsibilities of the main actors in the sanitation sector. This leads to a brief consideration of the goals of advocacy work at national level. We then go on to explore the nature of the incentives or motives for governments, communities and households to invest in sanitation. After outlining the differences in the sanitation challenges in rural and urban contexts, we consider the goal of inclusive sanitation, a particular principle for WaterAid. This is followed by an examination of the approaches to sanitation promotion, and systems and technologies for service delivery. Finally, we consider how improved sanitation should be paid for, and by whom.

This part of the document is intended to provide the basis for the principles and commitments set out in parts 3 and 4 respectively.

Who makes sanitation happen?

National progress in sanitation requires clarity about the roles and responsibilities of a range of actors in central and local government, the private sector and civil society.

Central government has the leadership responsibility in relation to policy and legislation, definition of roles and responsibilities, coordination, sector monitoring and regulation. The regulatory role of the State should specifically include the establishment and enforcement of health regulations and standards. Strong and coordinated national government can bring about real change. However, it is common for several central government ministries (including health, education, local government, public works, water, planning, finance and agriculture) to have partial responsibilities for sanitation, and full clarity about roles and leadership responsibilities is often lacking.

Local government and municipalities are often the frontline organisations responsible for implementing national policy and guidance at the district or town/city level. Their strength lies in their proximity to communities and households who need services. However, lack of clarity in implementation guidance and inadequacy of financial and human resources often act as major constraints to effective service delivery at this level.

Utilities are responsible for some parts of the sanitation services in towns and cities. When they attempt to provide services to the entire population in their jurisdiction, real progress can be made. In many cases however, their limited willingness or ability to address the sanitation problems of informal or unplanned settlements constrain progress.

The private sector is involved in the supply of goods and services and the collection, transport and safe disposal or treatment of waste. When incentives and rewards are appropriate, the private sector can make an important contribution. However, the private sector is only fully effective when there is appropriate regulation, and weaknesses often exist in this area.

Non Governmental Organisations (NGOs) and Community Based Organisations (CBOs) have a particular role in monitoring, advocacy and innovation, based on their experience in service delivery. The limited scale and reach, and the impermanence of most NGOs and CBOs can, however, limit their contribution.

Communities and households are ultimately those who have to make choices about the adoption and use of improved sanitation. When sanitation promotion is effective and public knowledge and attitudes change, then practices can alter for the better too. However, sanitation promotion and service delivery which is poorly conceived or implemented is often ineffective.

Political and institutional responsibility for sanitation has often been described as unclear, fragmented or weak⁹. As a consequence, financial and human resources are ineffectively deployed and poorly coordinated. These weaknesses in governance mean that activity in the sanitation sector can be dominated by NGOs and donors, rather than being led by strong national policies and institutions. Poor coordination between implementing NGOs and between donors also contributes to the fragmentation in the sector.

The AfricaSan (Johannesburg, 2002; eThekweni, 2008)¹⁰ and SacoSan (Dhaka, 2003; Islamabad, 2006; Delhi, 2008)¹¹ conferences recognised the scale of the problems in extending sanitation coverage in sub-Saharan Africa and South Asia, and set out key commitments aimed at dismantling the major institutional obstacles to progress. These declarations, together with monitoring of progress towards achievement of the commitments and the future regional conferences which are planned, provide real opportunities to keep sanitation high in the priorities of national governments in Africa and Asia.

The goals of sanitation advocacy

National policy advocacy around sanitation needs to focus on four broad areas:

- The establishment of national sanitation policies where these do not already exist.
- The clear definition of institutional roles and responsibilities with a single lead ministry or responsible body.
- The articulation of a clear national plan for implementation and monitoring of sanitation.
- Adequate public investment to realise that plan¹².

Policy advocacy around sanitation needs to utilise the economic and health arguments for increased commitment and investment, as set out for instance, in recent publications of the WHO¹³ and the Public Library of Science Medicine (PLOS Medicine)¹⁴.

The commitments in the eThekweni and Delhi Declarations (see Box 1 below) constitute important areas for continuing policy advocacy and monitoring of progress towards those ambitious regional goals.

Box 1 The eThekweni and Delhi commitments in regard to sanitation^{10,11}

The eThekweni Declaration commitments	The Delhi Declaration commitments
1 To bring the messages, outcomes and commitments made at AfricaSan 2008 to the attention of the African Union at its 2008 Heads of State and Government Summit to raise the profile of sanitation and hygiene on the continent. 2 To support the leadership of the African Ministers' Council on Water (AMCOW) to track the implementation of the eThekweni Declaration and prepare a detailed report on progress in mid 2010, when AMCOW will provisionally host a follow up AfricaSan event. 3 To establish, review, update and adopt national sanitation and hygiene policies within 12 months of AfricaSan 2008; establish one national plan for accelerating progress to meet national sanitation goals and the MDGs by 2015, and take the necessary steps to ensure national sanitation programmes are on track to meet these goals. 4 To increase the profile of sanitation and hygiene in Poverty Reduction Strategy Papers and other relevant strategy related processes. 5 To ensure that one principal, accountable institution takes clear leadership of the national sanitation portfolio; establish one coordinating body with specific responsibility for sanitation and hygiene, involving all stakeholders including but not limited to those responsible for finance, health, water, education, gender, and local government.	1 Continue advocacy and awareness to sustain the momentum given to sanitation explicitly at the regional, national, sub-national and local levels in policy, budgetary allocation, human resources and implementation. 2 Strengthen community efforts and developing capacities of local governments, NGOs, youth and community groups to work in partnership for sustainable sanitation solutions. 3 Ensure occupational dignity, health and safety and improve the profile and working conditions of personnel involved in sanitation work. 4 Prioritise sanitation as a development intervention for health, dignity and security of all members of communities, especially infants, girl-children, women, the elderly and differently-abled people. 5 Mainstream sanitation across sectors, ministries/departments, institutions, domains (private, household, schools, community, public) and socio-political persuasions, so that sanitation is everybody's concern and prioritised in their respective programmes (eg railways or tourism agencies promoting access to sanitation facilities as a part of their programmes). 6 Develop and implement approaches, methodologies, technologies and systems for emergencies and disaster situations, and for areas with special characteristics/terrains or groups suffering temporary displacement.

6	To establish specific public sector budget allocations for sanitation and hygiene programmes. Our aspiration is that these allocations should be a minimum of 0.5% of GDP for sanitation and hygiene.	7	Advocate globally for the recognition of climate change impacts on sanitation provision in South Asia and develop and implement strategies and technologies that adapt to and mitigate impacts.
7	To use effective and sustainable approaches, such as household and community led initiatives, marketing for behaviour change, educational programmes and caring for the environment, which make a specific impact upon the poor, women, children, youth and the unserved.	8	Enable flexibility and variety in options and practical solutions to suit local conditions, preferences and resources.
8	To develop and implement sanitation information monitoring systems and tools to track progress at local and national levels and to work with global and regional bodies to produce a regular regional report on Africa's sanitation status, the first of which to be published by mid 2010.	9	An inter-country Working Group, led by country focal points, will meet periodically to promote research and development, collaborations, exchanges of innovations, experiences and expertise; networks among intra-country groups and agencies will be created for sharing of knowledge.
9	To recognise the gender and youth aspects of sanitation and hygiene, and involve women in all decision-making levels so that policy, strategy and practice reflect gender sensitive approaches to sanitation and hygiene.	10	The indicative 'South Asia roadmap for achieving sanitation goals' may be consulted by the participant countries to develop their national Action Plans for implementation over the 2009-2011 period.
10	To build and strengthen capacity for sanitation and hygiene implementation, including research and development, and support knowledge exchange and partnership development.		
11	To give special attention to countries or areas which are emerging from conflict or natural disasters.		

What are the incentives to invest in sanitation?

For governments and donors to invest in sanitation, there has to be a belief that such investments will return significant benefits. That sanitation is a good investment for national governments, donors and development partners has been demonstrated by authoritative studies showing that improved sanitation in developing countries, with the consequent health improvements, can yield an economic benefit of US\$9 for every US\$1 invested¹³. Furthermore, improved sanitation has numerous wider social and economic benefits including personal safety and convenience, as well as saving of time and medical expenditures¹⁵.

For households it is these non-health benefits which form the main motivation to invest in improved sanitation – and invest they do. The majority of sanitation facilities are built and financed at household level¹⁶ and aspirations for this are strong. The Department for International Development (DFID) estimates that households invest ten times as much in sanitation as does the State.

The health benefits of better sanitation may take time to be realised and they generally accrue to society as a whole rather than to the individual. However, the social benefits of sanitation – the real reasons why people invest in such improvements – are experienced much more immediately. The primary drivers to improve sanitation include reduced smell and flies, cleanliness, privacy, less embarrassment when visitors come, comfort, prestige and avoiding night dangers (including snakes and attack)¹⁷. Table 1 (below) shows some of these drivers, as revealed from research in Benin, West Africa.

Table 1 Drivers motivating latrine adoption: an example from research in Benin¹⁷

Category	Drive
Prestige	1 Affiliate and identify with urban elite. 2 Express new experiences and a lifestyle acquired outside the village. 3 Leave a permanent legacy for descendants. 4 Aspire to Fon royal class status.
Well-being	1 Protect family health and safety from mundane dangers, accidents, snake bites, crime and diseases associated with open defecation. 2 Increased convenience and comfort. 3 Protect personal health and safety from supernatural dangers. 4 Increased cleanliness. 5 Visual, social or informational privacy.
Situational	1 Provide an alternative for individuals with restricted mobility. 2 Increase rental income.

In contrast to the situation with water, there is often a less strongly articulated demand for sanitation. Where a demand is expressed it is often in the form of a demand for improved sanitation from those who already have some form of service and with some surplus in the household budget. However, as population densities grow still further and as people become more articulate about their needs for better sanitation, this situation is likely to change.

At community and local level, adequate school sanitation with private facilities for menstrual management is thought to be a significant factor in maintaining attendance, especially by girls. The provision of facilities at other institutions (eg clinics and hospitals) and in public places (such as markets) is important in maintaining a clean environment.

The importance of context

The sanitation problems of rural and urban environments are different in nature, though both very pressing. It is important to appreciate the common aspects as well as the differences.

Rural

The majority (about 70%) of those not yet served with improved sanitation live in rural areas. Similarly, the majority (85%) of those who defecate in the open live in rural areas. The absolute number of rural people who defecate in the open, however, is falling (from 1.2 billion in 1990 to 979 million in 2008)⁵.

Rural population densities vary widely within and between countries and regions and this is a key factor when considering interventions. The simplest of disposal systems (such as ‘cat sanitation’ – burial of faeces) may suffice in some remote, dry, low density areas (so long as adequate hygiene is practised) and where farmers till land far from their homes, whereas some form of latrine is the minimum requirement in more densely populated areas.

In rural areas the option commonly exists to re-site household pit latrines which have filled up, so obviating the need for pit emptying. However, rural institutional latrines (such as those at schools) still require such services, which are often unavailable or too distant to be economically feasible.

Household cash for investment in rural sanitation is often very limited in what can be a near cashless economy. This can act as a significant constraint on construction of latrines of adequate quality in rural areas.

Urban

A higher proportion of the world’s population in urban environments enjoy improved sanitation (76%) compared to rural areas (46%). Moreover, the smaller proportion (30%) of those not yet served with improved sanitation live in towns and cities. However, the trends for urban populations are worsening. More urban people practised open defecation in 2008 than in 1990 (rising from 140 million to 169 million). The use of shared facilities nearly doubled between 1990 and 2008 in urban areas (from 249 million to 497 million) and the use of shared latrines remains much higher in urban than rural areas. Progress in sanitation coverage failed to keep up with population growth in urban areas, while it kept ahead in rural areas. Consequently, there were more people without adequate services in urban areas in 2008 (810 million) than in 1990 (523 million).

For urban sanitation services, there is a basic distinction between on-site sanitation (with the challenges of pit emptying, sludge disposal and a lack of space) and sewerage (this is rarely available but when it is, it is accompanied by the challenges of lack of space, complex technology and high cost). Alternative technologies that can reduce costs include small bore sewers and condominial type layouts^{1,18}. Modification of design standards and specifications may be necessary in urban areas to make facilities affordable to very poor communities and households. In high density communities, communal sanitation blocks are often a valuable

solution, despite their non-inclusion in the JMP's definition of improved sanitation (see Box 2 below). Nevertheless, we should consider and support these as well as household facilities. It is important to make a distinction between community blocks (for the exclusive use of community members, under cooperative management) and public toilets which are open to all and are commercially run by local enterprises. Unless tariffs are regulated effectively, the latter may exclude some particularly poor members of society.

In densely populated urban settings which are often located in flood-prone areas, those drainage channels that exist are commonly choked with solid waste, so exacerbating flooding problems. Such problems are likely to worsen in future. Overflowing or deliberately evacuated pit latrines simply add to the insanitary and hazardous nature of the environment. It is especially important in such settings to consider the entirety of environmental sanitation – excreta management, solid waste management, storm water and household effluent drainage.

In the urban context especially, household demand for improved sanitation is commonly subdued because of tenants' well-founded fears that such enhancements to their housing may result in increased rent or loss of tenancy¹⁹.

Box 2 Unimproved and improved sanitation – JMP definitions⁵

Open defecation

When human faeces are disposed of in fields, forests, bushes, open bodies of water, beaches or other open spaces or disposed of with solid waste.

Unimproved sanitation facilities

Facilities do not ensure hygienic separation of human excreta from human contact. Unimproved facilities include pit latrines without a slab or platform, hanging latrines and bucket latrines.

Shared sanitation facilities

Sanitation facilities of an otherwise acceptable type shared between two or more households. Only facilities that are not shared or not public are considered improved.

Improved sanitation facilities

Facilities that ensure hygienic separation of human excreta from human contact. They include use of the following:

- Flush/pour flush to:
 - Piped sewer system
 - Septic tank
 - Pit latrine
- Ventilated Improved Pit (VIP) latrine.
- Pit latrine with slab.
- Composting toilet.

Inclusive sanitation

WaterAid's objective, and its ambition for other service providers too, is that wherever it works, services should meet the needs of all. At the community and household level, the attitudes of those most affected and without access to sanitation are not always known or understood. The majority of those adversely affected by poor sanitation are those at a wider disadvantage, be it economically, culturally, socially, physically and/or politically. Women are disproportionately affected and 50% of all those without access to improved sanitation survive on less than US\$2/day. This means that the demand from those most in need is often not sufficiently expressed.

Part of WaterAid's commitment to equity and inclusion is to take account of people with different needs in the design of sanitation interventions. Older people, children, people with HIV, adolescent girls and women, pregnant women and people with disabilities have unique requirements for accessing sanitation services.

Disability is a broad term which refers to the ways in which people with a spectrum of impairments are excluded by society. A social model of disability, or more widely of inclusion (such as that used by WaterAid – see also the Equity and inclusion framework)²⁰ considers that most problems for disabled people are not because of their own impairment but are due to external factors²¹. This means that the focus should not only be on hardware but also on software and on attitude change. The social model identifies three major barriers to inclusion:

Attitudinal (negative views of people by others in society). This includes prejudice, pity, isolation, overprotection, stigma, misinformation and shame.

Environmental (physical, accessibility of infrastructure and facilities, and communication issues). This includes barriers in the natural environment such as rough paths and long distances. Barriers in the built environment include steps, narrow entrances, slippery floors, high concrete platforms and visual hygiene education messages that are inaccessible to people with impaired vision.

Institutional/organisational (systematic exclusion or neglect in social, legal, educational, religious, political and development institutions and organisations including WaterAid and its partners). These barriers include lack of policies and strategies, knowledge, skills, information and consultation mechanisms.

Table 2 (on the following page) sets out a range of obstacles which can limit access to sanitation facilities by those who are commonly marginalised or stigmatised by society.

Table 2 Obstacles to sanitation access

Obstacles preventing access to sanitation facilities²²	
Environment	Examples
Physical environment (natural)	Distance to latrines or defecation areas, rough paths and darkness.
Physical environment (infrastructure)	Narrow entrances and lack of space inside. Steps to latrines, slippery floors. Difficulty squatting – nothing to hold on to. Need to put hands on latrine floor to balance.
Institutional	Discriminatory legislation. Policies/strategies that ignore disabled people. Lack of consultation with disabled people. Lack of information about accessible design options. Lack of staff understanding, training or experience on accessible designs. Lack of mechanisms or forums for consultation with disabled people.
Economic	Cost of construction, user fees.
Social/cultural	Low status, harassment, negative traditional beliefs, pity, stigma, shame, overprotection, isolation, misinformation.

A growing body of literature on the topic of disability and sanitation now exists. During the preparation of this framework an extensive review was carried out and its results, together with a wider body of literature, are available on WaterAid's intranet site, The Source, on the Health and Disability page²³.

Promotion of sanitation

Much of the work which households undertake on their own initiative to provide themselves with some form of sanitation is carried out without recourse to a 'market' in the sense of purchasing goods and services. In some sanitation promotion approaches (eg CLTS in its 'pure' form) households construct their own facilities without necessarily engaging in any financial transactions.

In many cases however, households do participate in a market which operates according to basic economic principles. Demand for physical products or services is met by suppliers such as traders, artisans, plumbers and masons.

In low-income settings the demand for sanitation services is often latent or inadequately expressed. Suppliers therefore fail to emerge and flourish. The market can be stimulated or encouraged by both demand-side and supply-side measures, or ideally both. However, despite the best intentions of external actors, imperfections in market forces and externalities can adversely affect the market.

Sanitation promotion should offer a sufficiently wide array of options to suit varying aspirations and purchasing power. While in the past a good deal of emphasis was placed on generic health education activities in relation to sanitation, the majority of sanitation promotion approaches nowadays fall into the category of either (a) community-wide approaches (including Community Health Clubs and CLTS) or (b) marketing approaches (including WSP's Total Sanitation and Sanitation Marketing (TSSM) approach).

Nearly all approaches today attempt to achieve total sanitation. Community-wide approaches use participatory tools and methods to achieve this goal, while marketing approaches treat the user as a consumer who can make his or her own decisions about investment. The multiplicity of approaches on offer generally reflect varying mixes of participatory and market-based methods. Numerous hybrids of the two broad categories exist. The advantages and limitations of each of these types of demand creation approach are listed in Table 3 (on page 22)²⁴. Three particularly promising approaches to sanitation promotion are described in more detail below. For further information, a recent publication from the Water Supply and Sanitation Collaborative Council (WSSCC)²⁵ helpfully summarises and categorises all the major current sanitation and hygiene promotion approaches.

CHC – Community Health Clubs^{26,27} (a membership-based participatory approach). Health outcomes are fundamental to the approach, as they address the underlying causes of a lack of safe sanitation (poverty and lack of information, social capital and organisational capacity). The approach is syllabus-based with homework and home visits for monitoring. Key reasons for its success are that it is sociable, competitive and involves increasing respect for others, but the amount of time that members have available is crucial in the level of uptake. This may exclude the poorest people who are most likely to be out working on subsistence agriculture. The approach has resulted in a reduced workload for health extension workers. The clubs provide an important institutional link between members and government.

CLTS in its pure form is a 'no hardware subsidy' approach to rural sanitation that facilitates communities to recognise the problem of open defecation and take collective action to clean up and become Open Defecation Free (ODF). Triggering is the vital core of CLTS. Facilitators convene communities and through participatory mapping of households and defecation areas (and by walking through these areas) the problem of 'shitting in the open' is quickly made visible. The crude local equivalent word to 'shit' is always used and facilitators run exercises that are aimed to shock and disgust. For example, calculating the amounts of 'shit' produced and analysing pathways between 'shit' and mouth. This leads to a moment of 'ignition' when natural leaders speak up and resolve to take action. Whole communities are then galvanised into action²⁸.

In Africa, communities have been less responsive to CLTS where there have been previous subsidies. There is also a shortage of skilled personnel for a role which requires a certain kind of confident personality. Many of the messages are seen as being very blunt and they may have to be modified to create triggers which do not excessively shame and disgust. WaterAid's own research on the application of CLTS²⁹ shows that it may rarely be applied in a 'pure' form, as it is rightly modified for context by its users.

Total Sanitation and Sanitation Marketing (TSSM) combines demand-side and supply-side measures to generate widespread sanitation demand and increase the supply of sanitation products and services at scale. So far it has been trialed in India, Indonesia and Tanzania. TSSM supplements community level CLTS triggering with a formative research-based behaviour change communication strategy, and a market research-based supply improvement programme. This means that the programme is designed to be responsive to the variation in demands from community members with different levels of existing sanitation service and resources, so enabling community members to upgrade over time (an important factor for sustainability)³⁰. Early results are encouraging in terms of the increasing proportion of the population with improved sanitation, high levels of response from the poorest households and the number of ODF villages. TSSM argues for public financing for marketing to achieve public health gains and private investment in latrines for private gain.

In its totality, a sanitation marketing process³¹ generally comprises market research, a definition of programme aims and objectives, product identification and development, setting up supply mechanisms, message and material development, implementation of the promotion campaign and monitoring and feedback. There are still some skill shortages for this approach with many sector players.



Table 3 Sanitation and hygiene promotion approaches

Approach	Advantages	Limitations
Hygiene education including mass media campaigns: Hygiene education (Information, Education and Communication (IEC))	• Raises knowledge on health, disease transmission and the benefits of good hygiene. • Can act as a support for other promotional activities (providing basic knowledge and awareness). • Can reach large population groups and in a cost-effective manner.	• Does not provide people with sufficient incentive or motivation to change behaviour and may not adequately take into account local values and practices. • Does not have a long-term effect, unless backed by other initiatives.
Participatory community-wide hygiene promotion: • PHAST • CHCs • WASH for Schools • CLTS • ‘Mtumba’ (piloted by WaterAid in Tanzania) – a hybrid of CLTS, PHAST and PRA	• Motivates and supports behaviour changes using local language, situations and perceptions. • Can enable people to take action on other aspects of their lives too. • People can be active in developing sustainable and locally appropriate solutions.	• Does not reach large groups of people at once, but needs a community-by-community approach. • Expensive in facilitation and demands staff with local knowledge and good communication skills. • Takes time and is an intensive programme.
Social marketing strategies	• Creates a demand for behaviour change via social marketing of consumer goods and behaviours. • Can generate income for local people.	• Can be difficult if there is no strong culture for private sector activities. • May not reach the poorest of the poor and the most vulnerable, who have no resources to invest.

Sanitation systems and technologies

Sanitation is a system – not just a technology. While the primary focus is rightfully on the provision of toilets, safe, clean and effective sanitation refers to a whole system of which toilets are just one component.

The key components of a sanitation system are outlined in Figure 2 (on the following page). Each system is a configuration of different technologies, operations and activities.

Figure 2 Components of a sanitation system

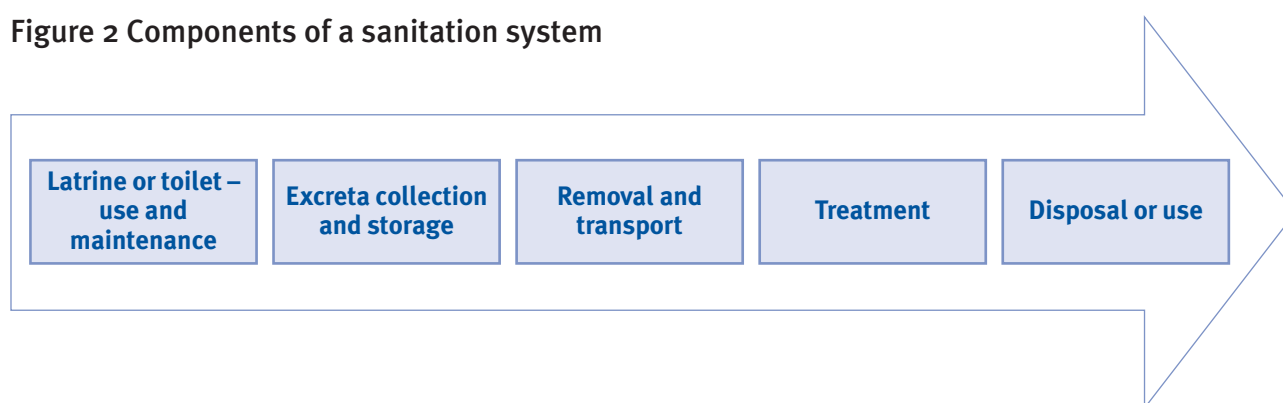


Table 4 (below) should be read together with Figure 2. It shows the range of technologies which may be deployed for each component in the system. The questions of who manages and who pays for the operation, maintenance and eventual replacement of the physical hardware involved are particularly important. Programmes too often focus on the provision of latrines and other technologies but the challenge is to ensure they are used and managed in the long term. In some cases, particularly in urban areas, WaterAid may not be involved with establishing the whole sanitation system but should work with municipalities and city councils to ensure that the entire system is functional.

Table 4 Sanitation – from defecation to disposal

Toilet/latrine	Collection or storage	Transport	Treatment	Disposal or use
Dry	Urine storage tank	Human emptying	Water stabilisation ponds	Fill and cover (arborloo)
Urine diverting	Single pit	Motorised emptying	Constructed wetlands	Application of urine/dehydrated faeces/compost
Flush toilet	Twin pit	Simplified sewers	Drying beds	Soak pit
Urinal	Single/double VIP	Transfer station	Co-composting	
	Twin pour flush			
	Dehydration vaults			
	Composting chamber			
	Septic tank			

Technology selection criteria include fitness for purpose, socio-cultural, financial and economic aspects, health-related criteria, and environmental impact. More detail on technologies and systems can be found in the Swiss Federal Institute of Aquatic Science and Technology (EAWAG) Compendium of Sanitation Systems and Technologies³².

Emptying latrines

There are two options when a pit latrine becomes full: build another pit or empty the existing one. Lack of space and the cost of building a new system can often mean that emptying latrines is the only option. There are a number of technologies available (some are shown in Table 5 (below) with associated advantages and disadvantages).

Five key criteria apply in the selection or design of a pit emptying system³³:

- Able to completely and effectively empty a pit with dry and liquid sludge, dense sludge and sludge with solids.
- Able to access densely populated areas with narrow streets and poor roads.
- Easy and affordable to build, operate and maintain locally.
- Allows small and private enterprises to be commercially viable, especially in low-income areas.
- Includes appropriate arrangements for disposal of the sludge.

Table 5 Advantages and disadvantages of various methods of pit emptying³⁹

Technology	Advantages	Disadvantages
Vacuum tankers	Low health risks for public and workers.	Large haulage distances incur high costs.
	Quick.	Access problems in many areas.
	Low odour technology.	Imported technology – spare parts more expensive.
	Relatively fast travelling speeds mean more economical disposal of waste.	Costs too much for many Small-Scale Independent Providers (SSIPs).
		Despite being ‘high technology’ it does not overcome the lack of a disposal site.
Vacutug	Low health risks for public and workers.	Costs too much for many SSIPs.
	Faster to empty than either manual or low-tech mechanical systems.	Limited capacity means localised transfer points are needed.
	It is a low odour technology.	May still be too big for some dense urban slums.
	Reduces social stigma on workers.	Relatively high maintenance costs.
Manual de-sludging by handpump	Low capital and Operations and Maintenance (O&M) costs.	Needs local transfer points and safe water disposal.
	Possible to produce locally in many areas.	Could still produce unpleasant odours.
	Facilitates access into most densely populated areas.	May be difficult to operate with thick sludge or low volume installation.

Technology	Advantages	Disadvantages
Manual emptying	Services accessible to community.	High unit cost of removal.
	Very cheap to keep latrine operational.	Significant health risks to workers.
	Low equipment cost.	Rarely acceptable to municipalities, so not regulated.
		Associated with indiscriminate dumping.
		Lack of appropriate equipment means spillage often occurs.
		Often requires the latrine slab to be demolished to facilitate access, so increasing householder cost.

School sanitation

Safe, clean and effective school sanitation must be a priority as this not only increases attendance but provides examples of good practice which are taken on board by the children.

For school sanitation there must always be a sufficient ratio of squats and urinals to pupils. In the absence of national standards, guidance can be taken from organisations such as IRC, UNICEF, WSSCC and WHO^{34,35}. Some other key issues are:

- Girls require separate facilities from boys to protect their privacy. Schools which hope to include adolescent girls should include facilities for menstrual management.
- There needs to be a sufficient supply of water. The design of new schools should include both sanitation and water supply facilities.
- Hand-washing facilities must be incorporated.
- For anal cleansing, a sufficient quantity of culturally appropriate material(s) must be provided.
- There is a need for a regime of frequent cleaning of toilets or latrines (minimum of daily) and general repair and maintenance.
- Access by very young pupils and pupils with disabilities requires special design attention.
- There needs to be a strategy in place for pit emptying and the long-term management of faecal sludge.

Waste or resource?

Pit latrines in urban settings eventually require emptying. At present there is no ideal way of achieving this, despite various attempts over the years. There is, however, an alternative to simply dumping wet excreta into a pit (from which it later has to be removed and transported). This alternative involves keeping excreta dry and encouraging it to produce safe and re-useable compost.

Human urine and excreta are commonly regarded as waste products, which require resources to ensure safe disposal. Composting toilets^{36,37} reverse this paradigm, viewing urine and excreta as nutrient- and energy-rich resources that can have economic and environmental value. The scope for re-use ranges from simply planting a tree on a filled pit latrine to urine diverting composting toilets. In some cases human excreta can contribute to community or institutional biogas generation³⁸.

Composting toilets use shallow pits or above ground chambers which reduce the risk of ground water contamination and are therefore particularly suited to areas with high water tables. They are also particularly appropriate in areas with rocky ground or where access for conventional pit latrine emptying is difficult.

Some, but not all, composting toilet designs are more expensive than simple pit latrine systems. However, human urine contains similar levels of nitrogen, phosphorous and potassium to commercially available fertilisers and therefore the economic benefits from either increased food production and food security, or reduction of fertiliser needing to be purchased, can make the system financially attractive.

Different cultural and geographical situations produce different reactions to composting technologies. There is no one solution which fits all circumstances. Some people are attracted by the benefits of fertiliser, while some find the concept of using human waste in agriculture unacceptable. Some people are motivated by the reduction in smell allowing the latrine to be constructed near to the house and some are put off by the additional cost, additional maintenance requirements and not being able to use water. As with other technologies, interventions need to be flexible and give people choice.

Across cultures, there are often taboos associated with sanitation in general, and the handling and disposal of human excreta in particular. These attitudes can act as a barrier to the uptake of practices and technologies to re-use waste as a resource such as for agricultural or energy purposes. In such cases, software activities may need to be particularly intensive and sensitive.



Paying for sanitation improvements

Financing involves two main aspects – consideration of investment costs and the place of subsidies. A sanitation system must be affordable and financially sustainable. The degree to which this is achieved will depend on the type of sanitation system (the capital and O&M costs of the system), the economic situation of the users and the financing mechanism employed.

Any intervention should include the costs and financing arrangements for administration and programme overhead costs, software (including behavioural change programmes and sanitation marketing initiatives), hardware (including public facilities – schools, clinics and markets – and household facilities) and O&M, including emptying of latrines. Table 6 (below) gives an indication of the relative cost of different types of sanitation systems.

Table 6 Indicative relative costs of different sanitation systems⁴⁰

	Software		Hardware*	
	Hygiene behaviour change, sanitation marketing and enabling environment (ongoing)	Household toilets (capital expenditure)	Sludge management facilities (capital expenditure)	Sludge management operations (operational expenditure)
On-site systems with nutrient recycling	Medium-Very high: In most locations where re-use is not a cultural norm. Particularly high if urine-diversion is proposed.	Very low (Arborloo)- High: (Urine diverting/composting latrines).	Very low (Arborloo)- High: (Special composting facilities and urine storage may be required).	Low-Medium: Depending on location of re-use of products. Costs may be off-set by income.
Other rural on-site systems	Low-Medium: May be slightly lower than for systems with recycling but recent research suggests that high and sustained investment in ignition and support processes leads to greater sustainability.	Low-Medium: Varies with design of latrine, water availability.	Low-Medium: Increased costs where twin pits and larger pits are constructed.	Low-Medium: Costs may be prohibitive if wrong technology choices are made. OPEX costs may fall more heavily on least able households.
Other urban on-site systems	Low-Medium: As for rural areas, better ignition and sustained support may result in greater sustainability. Some investment in enforcement may also be required.	Medium-Very high: Varies with design of latrine, water availability and land prices.	Medium-High: Sound treatment and disposal options essential for appropriate public health and environmental outcomes. Cost savings possible with low cost decentralised treatment.	Medium-High: Varies with distance to treatment/disposal sites and technologies chosen. Costs of centralised tertiary treatment, if included, very high.

Urban off-site systems	Low: Costs may be relatively low and compliance not an issue if adequate services are provided.	Low (Shallow sewers)- High: (Conventional sewers): In dense urban areas sewerage may be cheaper than on-site systems.	Medium-Very high: Cost savings possible with non-conventional designs (shallow sewers) and low-cost decentralised treatment.	Medium-Very high: Costs are higher when conventional sewerage networks are used. Energy costs very high if pumping needed; costs of centralised tertiary treatment very high.
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* For simplicity we focus here on the hardware costs (capital/CAPEX and operational/OPEX) associated with the provision of services to households, including toilets and the management of faecal waste (sludge) or sewage. Public and institutional toilets are not included.

There are many different financing mechanisms, many of which include some form of subsidy or financial incentive. The main ones, with their associated advantages and risks are shown in Table 7 on the following page.



Table 7 Different sources of financing for sanitation

Financing mechanism	Advantages	Risks
Financing source: purely private (users of service)		
Self financing: Households invest in their own facilities and sell or use the recycled products.	• Reflects demand. • Maximum leveraging of household resources. • Maximum leveraging of market-based sources (if available).	• Risk of poor quality construction. • Particular health risks associated with handling poorly treated products. • Suppliers/trained technicians may not be available. • Unaffordable for poor and middle income groups.
Financing source: combination of private and public/donor funds		
Support for software with low/no subsidy for hardware. Support can be delivered in the form of: • Hygiene promotion. • Sanitation marketing. • CLTS.	• Subsidy can be linked to outcome (achieving ODF status). • Focuses public funds on public benefits (generating demand). • May result in some community cross-subsidy.	• The very poor may not be able to invest in certain types of infrastructure. • May result in inappropriate physical infrastructure. • Toilets in households with no outlet for the recycled product.
Micro-finance to households for sanitation or home improvements.	• Can be used to finance high upfront costs which can be recouped later.	• Demand may be low and require stimulation.
Loans to small-scale providers	• Lift constraint for SSIPs to enter the market.	• Services may not reach the very poor. • Demand may be very low. • Providers unwilling to 'sell' unfamiliar technology.
Non-financial support to small-scale providers: Training, product development, business development services.	• Boost private sector (supply side options) and can help to introduce new technology.	• Service may not reach the very poor. • Demand may still be low.
Output-based aid: Grants to households or communities or to SSIPs based on successful construction and use of facilities.	• Subsidy linked to outputs. • High levels of accountability. • Focuses attention on proper re-use of the products.	• Requires pre-financing which may not be available. • Market financiers may be unwilling to pre-finance unfamiliar technology.
Community cross-subsidies: Users contribute to the most needy households in cash or kind.	• Removes affordability constraint for the poorest.	• May result in unsustainable service for poor and less able households.

Partial hardware subsidy: Users contribute in cash or kind.	• Enhances ownership of the facility. • Improved affordability (removes access constraint).	• May result in unaffordable sanitation for the very poor. • May result in inappropriate toilets in households with no outlet for the recycled product.
Financing source: purely public/donor funds		
Full hardware subsidy	• Removes affordability constraint. • Allows households to 'experiment' with new technology and test the market.	• Can ignore or 'crowd out' households' own investment. • Inequitable use of public funds if households have income stream from products. • Facilities may not be used if they do not meet demand.

Subsidies

Affordability of technology in terms of capital and O&M costs can be a challenge which needs to be balanced with the consideration of subsidies. The use of subsidies in sanitation programmes is a debated issue and generally the trend has been away from giving hardware to households, with the subsidies instead being invested in small business creation, or into programmes of sanitation promotion. Such subsidies are generally thought to be more effective than the hardware subsidies of times past.

The benefits of improved sanitation accrue to society as a whole. In addition, the effects of poor sanitation are often disproportionately felt by the poor. However, investments are often a low priority for households with limited funds. It can therefore be argued that targeted subsidies may be effective in accelerating demand and investment with benefits to all of society.

On the other hand, subsidies to end-users have been heavily criticised for creating a dependency culture and for inaccurate targeting, eg wealthy households capturing subsidies intended for the poor, or subsidies given for expensive or unsuitable latrines.

Supply driven hardware subsidies have been particularly weak and tend to reduce individual household choice and consideration of individual practices. Hardware subsidies also tend to skew the sanitation market, creating a false demand for services that will not be maintained in the long-term.

However, hardware subsidy approaches where success has been seen include:

- Selective supply of materials for households and institutions.
- Connection fees for urban sanitation.
- Subsidised credit for a range of technology options.
- Subsidised solid waste management programmes.

Where some form of hardware subsidy is seen as an essential component of an intervention, success is most apparent when the subsidies are:

- Simple and transparent.
- Well defined and linked to specific objectives.
- Well targeted.
- Time-bound, properly monitored and frequently reviewed.

Further discussion of the issues around subsidies can be found in publicly available reports^{40,41}.



Box 3 Nine sanitation principles

[Source: Swann et al (2007) *DFID Sanitation Policy Background Paper*]¹⁶

- 1 Every latrine should be a wanted latrine: supply-driven programmes focused on usually-subsidised delivery of hardware alone do not work; at best they provide thousands of expensive, unwanted (and unused) latrines.
- 2 Peoples' awareness of sanitation can be very low – programmes which focus on promoting sanitation and building informed demand are more effective than those which focus only on the supply of latrines.
- 3 Households are the real investors in sanitation, not public agencies. The investment ratio is typically ten to one. Programmes which pay attention to household interests and dynamics tend to be more effective.
- 4 People rarely want sanitation for reasons of health; promotion which focuses on privacy, convenience, safety, dignity and status is more effective because it resonates with people's own interests.
- 5 Small-scale businesses and some community-based groups are very significant actors in the supply of sanitation goods and services, promoting and providing the services people really want. Programmes which invest in understanding this market and matching supply with people's demands are often the most effective.
- 6 Sometimes communities can and do take collective action to address sanitation issues. Usually, however, support is needed to help communities take collective action.
- 7 Hardware subsidies – for latrine components – can have unintended consequences. The number one desired outcome – sustainability – is achieved through *effective promotion*, not through reduced price hardware. A wanted latrine is clean and well maintained – a latrine for life.
- 8 Subsidies for hygiene promotion, sanitation marketing, supporting small-scale providers, school sanitation, institutional sanitation and city-wide networks can all be justified as sanitation is both a merit and a public good.
- 9 Effecting behaviour changes (including adopting hygienic practices and investing in and using latrines) takes time. Programmes which are in place for the long-term are more effective than short-term projects.

Part 3

Guiding principles for WaterAid's sanitation work

In this part we identify four key guiding principles that are fundamental to WaterAid's approach to designing, implementing and advocating for sanitation programmes. While remaining adaptable to the specific circumstances of every country programme, interventions should strive to be inclusive, relevant, effective and sustainable. This means that WaterAid collaborates with all relevant players in actions which (a) address the needs and priorities of all in society, (b) are context-specific and (c) achieve lasting beneficial changes.

Inclusive

All sanitation interventions should be designed to serve all members of communities. Approaches should assess the needs of all community members and hardware should be appropriately designed to provide access to women, men, children, older people and disabled users.

Sanitation interventions should ensure that some form of improved sanitation can be afforded by all. One way to secure access by all, including the poorest, is through carefully targeted subsidies. Subsidies may take the form of external financial support to a target population for sanitation hardware or software.

Software focused subsidies in which external investment is made in sanitation promotion (using approaches such as CHCs, Social Marketing or CLTS) are considered more effective than hardware subsidies. Where some form of hardware subsidy is seen as an essential component of an intervention, it should be simple and transparent, well defined and linked to specific objectives, well targeted and time-bound, properly monitored and frequently reviewed.

Total sanitation as a principle is not only equitable, but it is also necessary from a health point of view.

Relevant

There is no single approach or set of technologies for the delivery of sustainable sanitation which will work in all situations. At a local level, approaches need to be designed according to the specific situation, taking account of social aspects, culture and tradition, geographical context, natural environment and institutional and financing arrangements.

This can mean innovating or modifying tried and tested approaches to the circumstances, for instance by creating new latrine designs to suit ground conditions for areas that have high water tables or collapsing soils, or adapting the CLTS approach to ensure that latrines meet a certain quality standard.

The level of service must also be appropriate, for instance by ensuring that the number of latrines and urinals in a school is adequate to serve the number of pupils.

Effective

WaterAid's sanitation programmes should aim to build collaborative relationships between all the players involved in delivering a sustainable sanitation service or system. Numerous public sector, private sector and civil society organisations may need to play their part.

Households and communities in low-income countries need improved sanitation and water supply services, and they need to practice good hygiene. There is still debate in the academic literature as to whether the benefits delivered by focusing on each of these three areas are cumulative or not. However, the budgetary and institutional dominance of water can often lead to the neglect of sanitation and hygiene. Consequently, for practical reasons, the former wisdom which proposed WASH as a single integrated sector is now going out of favour⁹.

WaterAid's service delivery and advocacy work are not always as well integrated as they should be. The emphasis in the Global Strategy on 'influencing' the larger players and service providers requires an integrated approach in which professional and innovative service delivery work supports and is reinforced by national sector analysis and advocacy. Service delivery and advocacy need to be seen as equal and complementary parts of a single influencing strategy.

Human waste and wastewater are valuable resources which can be utilised, especially when sanitation programmes are integrated with agriculture and food security programmes.

Sustainable

All interventions for improved sanitation should be designed to ensure that beneficial changes are maintainable and permanent. This approach enables communities' expectations to be met over the long-term, is cost-effective, encourages good stewardship, and maintains public health gains. Sustainable improvements in sanitation are best achieved when communities have choice and ownership of changes made and any interventions should seek to demonstrate and support this.

Sanitation presents a significant economic opportunity. When properly managed or treated, human excreta and urine represent valuable resources for agriculture, eg when kept separate as a soil conditioner/organic fertiliser or when combined as a biogas to generate energy. Latrine cleaning, emptying and re-use of human waste can also offer business and employment opportunities.

Sanitation interventions must include a plan for the long-term operation and maintenance of latrines, relating to faecal sludge management and specifically to actions when pits become full. Choices will include digging new pits or the safe emptying of pits and transport, disposal and/or treatment and use of the faecal sludge.

Solid waste management and surface water drainage play an important role in sustaining a sanitary and healthy environment, particularly in urban areas.

Externalities such as expected future increases in the frequency of extreme rainfall events and flooding can be expected to impact negatively on sanitation services, specifically through damage to physical facilities. More generally, serious flooding leads to the need for emergency sanitation responses. Increasingly, disaster risk reduction will need to be considered in the context of sanitation and hygiene.

Sustainable sanitation interventions should aim to improve human health, be affordable to the users, be environmentally sustainable (ie have a neutral or positive environmental impact) and be institutionally appropriate (ie managed at the lowest possible level)⁴².



Part 4

WaterAid's minimum commitments

Every country programme should strive to follow a number of commitments, grouped under the four broad roles outlined below.

Service delivery

Although the national and geographical (rural, small town, urban) contexts vary considerably, a number of generic commitments can be made:

- 1 WaterAid should focus primarily on creating demand and strengthening the availability of supporting products and services. It is important to note that demand for sanitation is often not for health reasons – frequently cited reasons include reducing smell and flies, cleanliness, privacy, less embarrassment when visitors come, comfort, prestige and avoiding night dangers (including snakes and attack)²².
- 2 Ensure households have a choice of hardware options and that these options include designs suitable for people with different needs including older people, children, people with HIV, pregnant women and people with disabilities who may have specific requirements for accessing sanitation services.
- 3 Make households fully aware of capital and recurrent costs and ensure financing options are available so that services are affordable to the poor.
- 4 Where possible, promote the safe use of excreta and solid waste as a resource.
- 5 Where pit latrines are used and need emptying, ensure that services for de-sludging and safe disposal or re-use of waste are available and affordable.
- 6 In densely populated settlements, work with city authorities and others to find integrated solutions to the problems of excreta disposal, solid waste management and surface drainage.
- 7 Ensure that due consideration is given to national technical standards needed to ensure sustainability (including in relation to increased disaster risk) and environmental protection.

Advocacy

Lack of adequate sanitation is often seen as a symptom of poverty rather than a pre-requisite for poverty reduction. It is essential that the benefits of improved sanitation are understood at a high level if adequate priority is to be given to the sector. To influence government effectively, WaterAid must assess the barriers and opportunities to increased coverage including:

- 8 Undertaking and regularly updating sector analyses to identify all sector players and potential champions for sanitation.
- 9 Assessing the impact of poor sanitation on other sectors such as health, education and housing.
- 10 Reviewing national development plans, policies and legislation.

To raise the profile of sanitation, WaterAid needs to advocate for:

- 11 The development of national sanitation policies and related strategies.
- 12 A single coordinating body responsible for developing and implementing a single plan and monitoring framework. All institutions should have clearly defined roles, responsibilities and resources.
- 13 Increased and targeted financing for the sector. The costs of meeting sanitation targets are significant. Financing to the sector is insufficient and often poorly directed. Scarce resources are often used inefficiently on ineffective activities and on wealthier people who are able to afford their own latrines (eg hardware subsidies rather than demand creation).

In relation to some of the poorest and most excluded members of society – sanitation workers ('manual scavengers' and 'frogmen') we will advocate for:

- 14 Enhanced health and safety in such employment, especially through the use of improved technologies and practices which minimise direct contact with sewage and other waste.

WaterAid must strive to build the links between national and international sector analysis, the experiences from its service delivery work and advocacy around both policy and practice.

Capacity development

As a WASH sector specialised organisation which is able to draw on a long history and wide international experience, WaterAid is in a strong position to develop the capacity of the sector organisations in the countries in which it works. These organisations may be implementing partners (government, civil society or private sector) or policy and advocacy organisations. WaterAid is committed to ensuring that in all cases local partners are equipped to deliver and advocate for sanitation improvements and at all times WaterAid's approach is to identify key local partners and support their capacity to deliver change.

Capacity development, however, is a two-way process and it is essential that WaterAid country programme staff continue to learn from the communities, partners and collaborators with whom they work. It is only this learning and wide exposure which can ultimately give credibility to WaterAid's claims to develop the capacity of others.

Research and learning

WaterAid prides itself on being a learning organisation and is committed to:

- 15 Undertaking periodic reviews of new methods and best practices in sanitation provision.
- 16 Trialing innovative approaches to sanitation provision, while monitoring their performance and impact.
- 17 Documenting and publishing studies and lessons learnt.
- 18 Disseminating these studies widely in-country and beyond.
- 19 Taking an active part in debates and sector feedback and learning sessions.

Throughout the lifetime of the Global Strategy and this framework, WaterAid is a member of the largest global research consortium on sanitation and hygiene, the SHARE programme (DFID funded through the London School of Hygiene and Tropical Medicine). We will therefore commit ourselves to full participation in this initiative and to the dissemination of its findings and products.

Endnotes and references

- 1 For further explanation, see <http://www.irc.nl/page/36592>
- 2 See World Health Organisation:
http://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/index.html
- 3 Budds J, Obika A, Howard G, Jenkins M, Curtis V (2002) *Social marketing for sanitation literature review*.
http://wedc.lboro.ac.uk/docs/research/WEJX9/Literature_review.pdf
- 4 According to a poll in the British Medical Journal reported in 2007.
- 5 JMP (2010) *Progress on sanitation and drinking water: 2010 update*, WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation.
http://www.who.int/water_sanitation_health/publications/9789241563956/en/index.html
- 6 http://www.wateraid.org/documents/plugin_documents/strategy_20092015_final.pdf
- 7 In this document we make no distinction between the words 'latrine' and 'toilet'. Both refer to a safe facility for defecation.
- 8 For example, those in: Schertenleib R, Forster D and Belevi H (2004) *An integrated approach to environmental sanitation and urban agriculture*, Acta Hort, (ISHS) 643:223-226.
http://www.actahort.org/books/643/643_28.htm ; and Peal A, Evans B and van der Voorden C (2010) *Hygiene and sanitation software – an overview of approaches*, Water Supply and Sanitation Collaborative Council, Geneva, Switzerland.
- 9 Cairncross S, Bartram J, Cumming O, Brocklehurst C (2010) *Hygiene, sanitation, and water: what needs to be done?* PLoS Medicine, November 2010, Vol 7, No 11.
<http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1000365>
- 10 The eThekwini Declaration and AfricaSan Action Plan.
<http://www.wsp.org/wsp/sites/wsp.org/files/publications/eThekwiniAfricaSan.pdf>
- 11 The Delhi Declaration.
http://www.wateraid.org/documents/plugin_documents/delhi_declaration__sacosan_2008.pdf
- 12 WaterAid (2008) *Tackling the silent killer: the case for sanitation*. WaterAid, July 2008.
http://www.wateraidamerica.org/includes/documents/cm_docs/2008/t/tacking_the_silent_killer_the_case_for_sanitation_1.pdf
- 13 Bartram J (2008) *Sanitation generates economic benefits*. Year of Sanitation 2008 UN Fact Sheet 2,
<http://esa.un.org/iys/docs/IYS%20Advocacy%20kit%20ENGLISH/Fact%20sheet%202.pdf> based on Hutton G, Haller L and Bartram J (2007) *Global cost-benefit analysis of water supply and sanitation interventions*. Journal of Water and Health, 05.4, pp481-502,
<http://www.iwaponline.com/jwh/005/0481/0050481.pdf>
- 14 www.ploscollections.org/watersanitation
- 15 Mara D, Lane J, Scott B, Trouba D (2010) *Sanitation and health*. PLoS Medicine November 2010, Vol 7, No 11, <http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1000363>
- 16 Swann P, Cotton A, Saywell D, Evans B, Cairncross S, Newborne P, Webster L and Ryan P (2007) *Sanitation policy background paper: water is life, sanitation is dignity*.
<http://webarchive.nationalarchives.gov.uk/+http://www.dfid.gov.uk/consultations/past-consultations/water-sanitation-background.pdf>
- 17 Adapted from Jenkins M W and Curtis V (2005) *Achieving the 'good life': why some people want latrines in rural Benin*. Social Science and Medicine 61, pp2446-2459. See also WSP (2004) *Who buys latrines, where and why?* WSP Field Note,
http://esa.un.org/iys/docs/san_lib_docs/Who%20Buys%20Latrines.pdf
- 18 Mara D D (2008) *Sanitation options in rural and urban areas: best practices*. In: Aquatech Amsterdam 2008: International Conference on the Millennium Development Goals on Sanitation, 30 Sept–1 October 2008, Amsterdam.
http://eprints.whiterose.ac.uk/8578/2/Sanitation_Options_in_Rural_and_Urban_Areas.pdf

- 19 WSP (2004) *The case for marketing sanitation*. Field Note, August 2004. Water and Sanitation Programme – Africa. http://www.wsp.org/wsp/sites/wsp.org/files/publications/af_marketing.pdf
- 20 WaterAid (2009) *Equity and inclusion: a rights based approach*, http://www.wateraid.org/documents/plugin_documents/equity_and_inclusion_english.pdf
- 21 White P J (2010) *The social model of disability*, Red Cross, <http://www.redcross.org.uk/What-we-do/Teaching-resources/Teacher-briefings/Disability>
- 22 Compiled from NEWAH (2004) *Making latrines user-friendly for everyone. An exploratory research study on the discomfort faced by pregnant women, elderly, overweight, sick and disabled people when using squat latrines*, Nepal Water for Health, Western Region Office: Pokhara, Nepal, <http://www.newah.org.np/pdf-file/latrines.pdf>; Tesfu M and Magrath P (2006) *Equal access for all – 2. Water and sanitation access for people with motor disabilities*. Briefing note 9, WaterAid in Ethiopia, http://www.wateraid.org/documents/plugin_documents/briefing_note_disability.pdf; WaterAid in Mali (2007) *All people, one goal, all access: water and sanitation access for people with disabilities*. Briefing note, WaterAid in Mali, http://www.wateraid.org/documents/plugin_documents/all_people_one_goal_all_access.pdf and WELL (2005) *Why should the water and sanitation sector consider disabled people?* Briefing note No 12 WEDC, Loughborough University, UK, [http://wedc.lboro.ac.uk/docs/research/WEJY3/WELL_Briefing_Note_12_-_A3_\(5Mb\).pdf](http://wedc.lboro.ac.uk/docs/research/WEJY3/WELL_Briefing_Note_12_-_A3_(5Mb).pdf)
- 23 http://asksource.ids.ac.uk/cf/keylists/keylist2.cfm?topic=dis&search=QL_WASH10
- 24 Rheinländer T, Evans B, van der Hoek W, Peal A J, and Konradsen F (2010) *Challenges in supporting hygiene behaviour change*. Paper included in *Reaching the MDG target for sanitation in Africa – a call for realism*, Ministry of Foreign Affairs, Denmark. Copenhagen, February 2010.
- 25 WSSCC (2010) *Hygiene and sanitation software: an overview of approaches*, WSSCC, Geneva, http://www.wsscc.org/sites/default/files/publications/wsscc_hygiene_and_sanitation_software_2010.pdf
- 26 Waterkeyn J and Cairncross S (2005) *Creating demand for sanitation and hygiene through Community Health Clubs: a cost-effective intervention in two districts of Zimbabwe*, Social Science and Medicine, 61, pp1958-1970. http://www.unicef.org/wash/files/Waterkeyn_Cairncross_2005.pdf
- 27 Waterkeyn J (2010) *Hygiene behaviour change through the Community Health Club approach: a cost-effective strategy to achieve the Millennium Development Goals for improved sanitation in Africa*, Lambert Academic Publishing.
- 28 IDS (2009) *Beyond subsidies – triggering a revolution in rural sanitation*, Research and analysis from the Institute of Development Studies, Issue 10, Community-Led Total Sanitation, Policy Briefing. http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/In_Focus.pdf
- 29 WaterAid (2009) *Sustainability and equity aspects of total sanitation programmes. Global synthesis report*, http://www.wateraid.org/documents/plugin_documents/clts_synthesis_report.pdf
- 30 WSP (2009) *Total sanitation and sanitation marketing project: Indonesia country update*, Learning at Scale, WSP Field note 2009. http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/learning_at_scale.pdf
- 31 WELL (2004) *The process for sanitation marketing*, WELL Fact Sheet. <http://www.lboro.ac.uk/well/resources/fact-sheets/fact-sheets-htm/Sanitation%20marketing.htm>
- 32 http://www.eawag.ch/organisation/abteilungen/sandec/publikationen/publications_sesp/downloads_sesp/compendium_high.pdf
- 33 Pean Thye Y, Templeton M R and Ali M (2009) *Pit latrine emptying: technologies, challenges and solutions*, Department of Civil and Environmental Engineering, Imperial College London and Practical Action. <http://www.ewb-uk.org/system/files/Yoke+Thye+report.pdf>
- 34 Adams J, Bartram J, Chartier Y, Sims J (2009) *Water, sanitation and hygiene standards for schools in low-cost settings*, World Health Organisation, Geneva http://www.unicef.org/wash/schools/files/rch_who_standards_2010.pdf
- 35 Mooijman A, Snel M, Ganguly S and Shordt K (2010) *Strengthening water, sanitation and hygiene in schools – a WASH guidance manual with a focus on South Asia*, The Hague, Netherlands, IRC International Water and Sanitation Centre, TP Series 53. http://www.google.co.uk/search?hl=en&client=firefox-a&hs=3iP&rls=org.mozilla%3Aen-GB%3Aofficial&channel=s&q=Strengthening+Water%2C+Sanitation+and+Hygiene+in+Schools+%E2%80%99+93+A+WASH+guidance+manual+with+a+focus+on+South+Asia.+The+Hague%2C+The+Netherlands%2C+IRC+International+Water+and+Sanitation+Centre.+%28TP+Series+53%29.&aq=f&aqi=&aql=&oq=&gs_rfai=
- 36 Morgan P (2007) *Toilets that make compost*. http://www.ecosanres.org/pdf_files/ToiletsThatMakeCompost.pdf
- 37 Winblad U, Simpson-Hébert M and others (2004) *Ecological sanitation*, Revised and enlarged edition, http://www.ecosanres.org/pdf_files/Ecological_Sanitation_2004.pdf

- 38 See description at <http://www.ashdenawards.org/biogas>
- 39 Boot N L (2007) *Pit emptying systems*, Practical Action.
- 40 Evans B et al (2009) *Public funding for sanitation. The many faces of sanitation subsidies*, WSSCC.
http://www.wsscc.org/sites/default/files/publications/WSSCC_Public_Funding_for_Sanitation_2009.pdf
- 41 WaterAid (2009) *Access for the poor and excluded: tariffs and subsidies for urban water supply*, WaterAid
Discussion Paper.
http://www.wateraid.org/documents/plugin_documents/access_for_the_poor_and_excluded.pdf
- 42 Mara D, Drangert J O, Nguyen Viet Anh, Tonderski A, Gulyas H and Tonderski K (2007) *Selection of sustainable sanitation arrangements*, Water Policy No 9, pp305-318.



WaterAid's mission is to transform lives by improving access to safe water, hygiene and sanitation in the world's poorest communities. We work with partners and influence decision-makers to maximise our impact.

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