

## SECTION ONE: SANITATION AND HYGIENE PROMOTION – GENERAL PRINCIPLES

This section provides some information that may be useful in designing advocacy programmes at national level. It also introduces some of the basics of sanitation and hygiene promotion and lays out the authors' biases in terms of new approaches to making programmes more effective. Non-specialists are particularly encouraged to read this section.

The section sets out to explain why sanitation and hygiene promotion are important. Selected results are provided to show how improved sanitation and hygiene impact positively on health, education and economic development. These data could be used by advocates for sanitation and hygiene promotion, to attract more investment and needed institutional attention to these subjects.

After this the document looks at what is known about how to make investments in sanitation and hygiene promotion effective. This includes the basic theories about disease transmission, the reasons why management of excreta and hygienic practices in the home are important, and some key principles which are likely to make sanitation and hygiene promotion programmes more effective. The authors argue that in many parts of the world, sanitation is a business, and that key investment and behavioural decisions are made at the household level. The role of government is primarily to support rational decision making at the household level.

## Chapter I The Basics

### 1.1 More than 2 billion people lack access to hygienic means of personal sanitation

At the World Summit on Sustainable Development at Johannesburg in September 2002 the World Community committed itself to "halve by 2015 the proportion of people without access to safe sanitation". Since 1990 an estimated 747 million people have gained access to sanitation facilities (equivalent to 205,000 people every day). Despite this huge achievement, a further 1,089 million rural and 1,085 million urban dwellers will need to gain access in the coming 15 years if the 2015 target is to be realized. Today, sixty percent of people living in developing countries, amounting to some 2.4 billion people, have no access to hygienic means of personal sanitation<sup>1</sup>.

#### Reference Box 1: The scale of the problem

**For:** information on sanitation coverage statistics and health indicators

**See:** UNICEF/WHO Joint Monitoring Programme *Global Water Supply and Sanitation Assessment Report WHO (1999)*

**Get this reference on the web at:**

<http://www.wssinfo.org>

**See also:** The WASH Campaign and *Vision 21: A Shared Vision for Hygiene, Sanitation and Water Supply and A Framework for Action* Water Supply and Sanitation Collaborative Council (2000)

**Get this reference on the web at:**

<http://www.wsscc.org>

## 1.2 Increased access to Sanitation and Better Hygienic Practices Have Significant Positive Impacts

The water supply and sanitation sector has long recognized the importance of investing more effectively to bring services to poor people around the world. A document known as “Vision 21” lays out some specific collective learning from the sector and emphasizes that progress is possible provided governments and civil society can work together and recognize both the social and economic aspects of water supply and sanitation services<sup>ii</sup>. What is needed now is for these lessons to be implemented within wider poverty reduction programmes throughout the world.

The Water Supply and Sanitation Collaborative Council has provided the rallying point and has spearheaded a campaign to get sanitation and hygiene promotion onto the world’s political map. The Campaign, known as “WASH” is a global initiative which has had a huge impact on the level of awareness of the international community to issues of hygiene and household health.

In every country, advocates for sanitation and hygiene promotion now need to find locally-generated information to make the case for more and better investments. Often, there is a need to show policy-makers what sanitation and hygiene promotion really can achieve. In many rural areas, a good way of doing this for example, is to develop “latrine acquisition curves” – by asking households when they first had a latrine and started using it. From this data it is possible to plot a curve showing the cumulative % of households in any given community who use a latrine over time. Similar investigations can provide information about use of a wider range of sanitation interventions, the use of soap, beliefs about hygiene and so on. Such exercises generate important information about how and why people adopt (or fail to adopt) sanitary behaviours (in this case using a latrine). Even more importantly they get officials into the habit of visiting households and asking questions about hygiene. This is vitally important because most people are reluctant to talk about sanitation and hygiene practices, and often remain unaware of what is really happening on the ground. Before reaching this stage, sanitation “champions” may need to use more generalized data about the positive impacts of sanitation and hygiene behaviours, in order to stimulate interest in the subject. Some of the startling facts about sanitation and hygiene promotion are presented below. Additional sources of information are in **Reference Box 2**.

### Sanitation, Hygiene Promotion and health:

- WHO data on the burden of disease shows that “approximately 3.1% of deaths (1.7 million) and 3.7% of disability-adjusted-life-years (DALYs) (54.2 million) worldwide are attributable to unsafe water, sanitation and hygiene.” In Africa and developing countries in South East Asia 4–8% of all disease burden is attributable to these factors. Over 99.8% of all the deaths attributable to these factors occur in developing countries and 90% are deaths of children<sup>iii</sup>.
- A 1993 WHO/SEARO meeting of health specialists gave safe excreta disposal, especially by diseased people and children, and more water for personal hygiene, especially handwashing, and protecting water quality, in that order as *the most influential factors on reducing morbidity and mortality of diarrhoeal disease*.
- A 1991 review of 144 studies linking sanitation and water supply with health, clearly states that the “role [of water quality] in diarrhoeal disease control [is] less important than that of sanitation and hygiene”<sup>iv</sup>. The study identified six classes of disease where the positive health impacts of water supply, sanitation and hygiene have been demonstrated (**Table 1**).
- A 1986 study emphasizes the importance of sanitation specifically, as compared to stand-alone water supply interventions. Seventy-seven percent of the studies which looked at sanitation alone, and seventy-five percent of those which considered sanitation and water supply, demonstrated positive health benefits, compared with 48 percent of those which considered water supply alone<sup>v</sup>.
- A recent report states that “adding hygiene promotion is particularly efficient and effective in reducing morbidity and mortality from child diarrhoea” and goes on to cite a 1996 study which gave a cost of USD21 per disability-adjusted life year saved, against costs of USD 24 for oral rehydration therapy and USD15–35 for expanded immunization<sup>vi</sup>.

**Table 1: Impacts of Improved water supply, sanitation and hygiene on morbidity and mortality for six common diseases: evidence from 144 studies (after Esrey et.al 1991)**

	Expected reduction in morbidity and mortality from improved water supply and sanitation (%)					
	All studies			Methodologically more rigorous studies		
	N	Median %	Range %	N	Median %	Range %
Ascariasis	11	28	0–83	4	29	15–83
Diarrhoeal disease	49	22	0–100	19	26	0–68
Morbidity	3	65	43–79	–	–	–
Mortality						
Dracunculiasis	7	76	37–98	2	78	75–81
Hookworm infection	9	4	0–100	1	4	–
Schistosomiasis	4	73	59–87	3	77	59–87
Trachoma	13	50	0–91	7	27	0–79
Child Mortality	9	60	0–82	6	55	20–82

### Sanitation, Hygiene Promotion and Education

- Children in the age range of 5–14 are particularly prone to infections of round worm and whip worm <sup>vii</sup> and there is evidence that this, along with guinea worm and other water-related diseases, including diarrhoea, result in significant absences from school <sup>viii</sup>
- School exclusions have a gendered aspect; girls who are unable to access clean, safe and separate toilets and handwashing facilities, may disproportionately drop out of school at puberty, or even earlier.
- Nokes et. al. (1992) found that helminth reduction programmes in schools can have a dramatic impact on health and learning among school children.
- The 1993 World Development Report estimated that maternal education was highly significant in reducing infant mortality and cites data for thirteen African countries between 1975 and 1985 which show that a 10 percent increase in female literacy rates reduced child mortality by 10 percent.

### Sanitation, Hygiene Promotion and Economic development

- WHO analysis shows a strong link between lower initial infant mortality rates and higher economic growth. **Table 2** shows growth rates in a selection of several dozen developing countries over the period 1965–1994. The table shows that for any given initial income interval, economic growth is higher in countries with lower initial infant mortality rates.
- 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.
- Appleton and van Wijk (2003) state that “Peru’s 1991 cholera epidemic is estimated to have cost the national economy as much as US\$1 billion in health costs, tourism and production losses. [In India] outbreaks of plague in 1994 meant a loss of two billion dollars due to import restrictions. On top of that came the loss from thousands of cancelled holidays and public health costs.”
- The WHO Commission on Macroeconomics and Health cites research showing a strong correlation between high infant mortality and subsequent state collapse.

**Table 2: Growth Rate of per capita Income 1965–1994 by income (GDP) and infant mortality rate, 1965<sup>ix</sup>**Initial GDP, 1965  
(PPP-adjusted 1990 US\$)

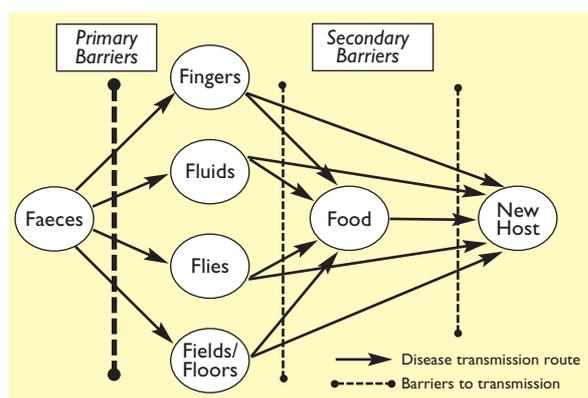
	Infant Mortality Rate			
	≤50	50–≤100	100–≤150	>100
750–≤1,500	–	3.4	1.1	-0.7
≤750	–	3.7	1.0	0.1
750–≤1,500	–	3.4	1.1	-0.7
1,500–≤3,000	5.9	1.8	1.1	2.5
3000–≤6000	2.8	1.7	0.3	–
>6,000	1.9	-0.5	–	–

**Reference Box 2: Impacts of Improved Sanitation and Hygiene Promotion****For detailed information on the Impacts of Sanitation on Health, Education and the Economy see:**Cairncross, S., O'Neill, D. McCoy, A. Sethi, D. (2003) *Health, Environment and the Burden of Disease: A Guidance Note* Department for International Development (DFID), UKHoward, G. and Bartram, J. (2003) *Domestic Water Quantity, Service Level and Health* World Health Organisation  
WHO (2002) *World Health Report*Esrey, S.A., J.B. Potash, L. Roberts and C. Schiff (1991) *Effects of improved water supply and sanitation on ascariasis, diarrhoea, dracunculiasis, hookworm infection, schistosomiasis and trachoma* in *Bulletin of the World Health Organisation*, 69(5): 609–621Esrey, S.A. and J.-P. Habicht (1986) *Epidemiological evidence for health benefits from improved water and sanitation in developing countries* in *Epidemiological Reviews*, 8:117–128Murray C and Lopez AD (1996) *Global Health Statistics*. WHO, Harvard School of Public Health, and the World BankWHO (1997) *Strengthening interventions to reduce helminth infections: an entry point for the development of health-promoting schools*Dickson R, Awasthi S, Williamson P, Demellweek C, Garner P. (2000) *Effects of treatment for intestinal helminth infection on growth and cognitive performance in children: systematic review of randomised trials* *British Medical Journal* 2000 Jun 24; 320(7251): 1697–701WHO (2001) *Macroeconomics and Health: Investing in Health for Economic Development* Report of the Commission on Macroeconomics and Health**Get these references in good technical libraries or on the web at**  
[www.who.int/water\\_sanitation\\_health/en/](http://www.who.int/water_sanitation_health/en/)

### I.3 Improved Access to Hardware and Changes in Behaviour at the Household are Critical Interventions

Most of the diseases which result in diarrhea are spread by pathogens (disease-causing organisms) found in human excreta (faeces and urine.) The faecal-oral mechanism, in which some of the faeces of an infected individual are transmitted to the mouth of a new host through one of a variety of routes, is by far the most significant transmission mechanism: it accounts for most diarrhoea and a large proportion of intestinal worm infections. This mechanism works through a variety of routes, as shown in **Figure 1** – the “F” diagram<sup>x</sup>.

**Figure 1:**  
The F-diagram of disease transmission and control (after Wagner & Lanoix)

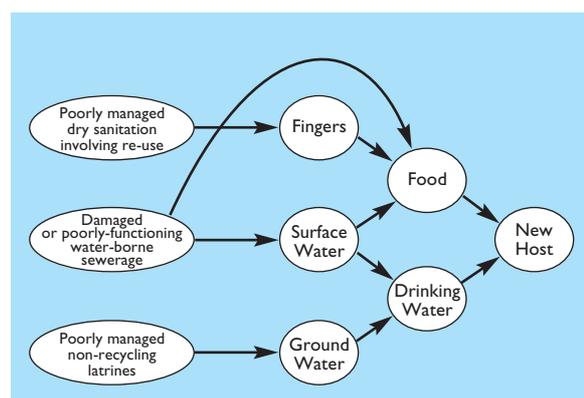


The most effective ways of reducing disease transmission is to erect “primary” barriers which prevent pathogens from entering the environment. This can be done by:

- washing hands with soap after defecation or after cleaning children’s bottoms after their defecation; and
- constructing sanitation facilities which can prevent the spread of disease by flies and the contamination of drinking water, fields and floors<sup>xi</sup>.

Where sanitation facilities are badly planned and constructed, poorly maintained, used wrongly or not used at all, their construction can set up further potential disease transmission routes, and lead to contamination of the environment (see **Figure 2**)<sup>xii</sup>. Selection of the right technologies, good design, appropriate use and proper management are required to protect against these additional risks<sup>xiii</sup>.

**Figure 2:**  
Additional transmission pathways due to poorly-managed sanitation (after Prüss et al.)



Primary interventions which have the greatest impact on health often relate to the management of faeces at the household level. This is because (a) a large percentage of hygiene related activity takes place in or close to the home and (b) first steps in improving hygienic practices are often easiest to implement at the household level. However, to achieve full health benefits and in the interests of human dignity, other sources of contamination and disease also need to be managed including:

- Sullage (dirty water that has been used for washing people, cloths, pots, pans etc);
- Drainage (natural water that falls as rain or snow); and
- Solid Waste (also called garbage, refuse or rubbish)<sup>xiv</sup>.

All these sources of contamination must be managed in all the locations where they are generated.

Thus a full-scale programme to improve hygiene would need to address the management of excreta, sullage, drainage and solid waste at:

- Households (both formal and informal);
- Schools;
- Semi-public places (such as hospitals);
- Public places (such as markets, bus stations etc); and
- Refugee communities.

Sanitation and hygiene promotion would also have to be geared up in many cases to handle “emergency” situations. Such emergencies could relate to the outbreak of epidemic disease (such as cholera) or to a physical event such as a hurricane or earthquake.

Although environmental sanitation in its broadest sense is important, this document will focus on programming for the better management of faeces at the household level. Reference to other areas of intervention will be made where this provides useful guidance for the reader.

### Reference Box 3: “Hygiene” and “Sanitation”

#### For a comprehensive introduction to hygiene improvement, and links to additional references

**See:** Appleton, Brian and Dr Christine van Wijk (2003) *Hygiene Promotion: Thematic Overview Paper* IRC International Water and Sanitation Centre

**Get this reference on the web at:** <http://www.irc.nl>

**See also:** Environmental Health Project (2003)

*The Hygiene Improvement Framework: a Comprehensive Approach for Preventing Childhood Diarrhoea*

**Get this reference on the web at:** <http://www.ehp.org>

#### For a discussion of the cost-effectiveness of targeting various risky practices in hygiene promotion

**See:** Curtis, Valarie, Sandy Cairncross and Raymond Yonli (2000) *Domestic hygiene and diarrhea: pinpointing the problem* Tropical Medicine and International Health, volume 5 no 1 pp 22–32 January 2000.

#### For an introduction to the basics of sanitation in developing country contexts

**See:** Cairncross, S. and R. Feachem (1993) *Environmental health engineering in the tropics: an introductory text*. (2<sup>nd</sup> edition) John Wiley & Sons: Chichester.

**Get these references from:** good technical libraries or bookshops

#### For further information on school sanitation

**See:** UNICEF School Sanitation Website on the web at: <http://www.unicef.org>

#### For further information on sanitation in emergencies

**See:** Wisner, B., and J. Adams (Ed) *Environmental Health in Emergencies and Disasters: A Practical Guide* WHO, Geneva

Thomson, M. C., *Disease Prevention through Vector Control, Guidelines for Relief Organisations* Oxfam Practical Health Guide No. 10, Oxfam, UK

Ferron, S., J. Morgan and M. O'Reilly (2000) *Hygiene Promotion: A practical Manual for Relief and Development* Intermediate Technology Publications on behalf of CARE International

Harvey, P., S. Baghri and R. Reed (2002) *Emergency Sanitation* WEDC, Loughborough University, UK

**Get these references on the web at:** [www.who.int/water\\_sanitation\\_health/hygiene/emergencies/emergencies2002/en](http://www.who.int/water_sanitation_health/hygiene/emergencies/emergencies2002/en) or in good bookshops stocking IT publications

## I.4 Lessons for effective sanitation and hygiene promotion programming: Supporting investments and behaviour changes within the household

Public investments in sanitation and hygiene promotion are at a very low level but what is probably more important is that much of the money is being spent ineffectively (see **Reference Box 4**).

Despite low levels of investment, households continue to provide themselves with means of sanitary disposal of excreta. The available data suggest that, particularly where public agencies are failing, people have been finding their own solutions and in many countries small-scale entrepreneurs have stepped into the market to provide services. While many of these solutions are not perfect, they show that households have the potential to invest responsibly and make changes in personal hygienic practices (see **Reference Box 4**).

**Lesson One:** *the role of government may often need to shift away from direct service provision towards: creating supportive arrangements for households to make decisions; promoting demand for sanitation; promoting behaviour change; and stimulating systems of local supply and management which provide better facilities for management of wastes at the household level*<sup>xv</sup>.

In most European countries, investments in early sanitation systems were heavily supported by private interests or governments, anxious to maintain the health of the workforce, particularly in industrial urban centres. This led to a “supply-driven” culture amongst public health offi-

cial and technicians which persists to this day. In addition, in countries which have long enjoyed the benefits of near total coverage of household facilities, attention has moved on to focus on the management of the external environment. This is why the emphasis in public health engineering education in many countries is on wastewater collection, treatment and disposal. This emphasis has tended to skew investments in sanitation in developing countries towards these more expensive elements of the sanitation system, to the detriment of the development of appropriate approaches to the management of wastes at household and local level (see **Reference Box 4**).

**Lesson Two:** *Where coverage is low, governments may need to switch priorities back towards increasing access to services and changing behaviours at the household level, and reduce expenditure on costly reticulated systems and wastewater treatment facilities.*

The real challenge for many countries and localities may be to work out how household investments and changes in behaviour can best be supported. Such household changes need to become more effective, and importantly begin to occur at scale so that coverage does finally start to increase in line with needs. Programmers need to start to see sanitation as a business, which can effectively be run outside government and move beyond latrine building programmes.

**Reference Box 4: Lessons learned****Levels of Investment**

- WHO/UNICEF estimates that the overall level of effective investment in sanitation may have to increase by as much as 28 % in urban areas and by 400 % in rural areas in order to achieve the 2015 target. This suggests annual investment rates almost double those which were achieved in the nineties. The Global Water Partnership estimates that the needed investments are even higher, when municipal wastewater and industrial effluent are also included, along with the costs of operating and maintaining existing infrastructure (an increase from US\$22 billion to US\$ 117 billion annually)<sup>xvi</sup>.
- In 2000 WHO/UNICEF estimated that in Africa only 12 % of the money invested in water supply and sanitation went specifically to fund sanitation. In Asia the figure was higher at 15 %, while Latin America and the Caribbean spent 38 % on sanitation. This higher figure probably reflects more expensive levels of service commonly provided in countries in the Latin American region and the lower levels of self-provision (see below).

**Quality of Investment**

- Figures compiled from OECD / DAC data by the USAID Development Information Service show 52% (US\$52 billion) of donor aid in the overall water sector went to support “large system” water supply and sanitation over the period 1995–2000 as compared to 6 % to “small systems” water supply and sanitation. It is reasonable to assume that in general “large” water supply and sanitation schemes do not include community or household management, suggesting a persisting bias towards top-down supply-driven schemes. There is some evidence that this is beginning to change. A 2000 review of World Bank funding for sanitation observed that expenditure on software (non-construction activities including community development, hygiene promotion etc) “increased markedly in the nineties” jumping from 6 % to 14 % of total costs for projects prepared after 1994<sup>xvii</sup>.
- A 1995 review of global evaluations of sanitation programmes<sup>xviii</sup> found that investment in sanitation has been inadequate and often misdirected, due in part to a lack of perceivable demand and also in part to the fact that most development institutions are not geared to respond to a demand-led approach. To quote the study: *“Most decision-makers are not clear about an overall strategy for sanitation programming, have not reached a consensus on the definition of sanitation, and differ on the optimal role for governments, NGOs, communities, the private sector, and donors in programme implementation.”*
- The review specifically found that: programmes lacked strategies for addressing hygiene and sanitation behaviour change and were often narrowly focused on latrine construction; there was often an emphasis on specific technologies; there was little data on the economics and financing of sanitation; and coordination between sanitation and water supply was challenging because demand for water generally out-paced demand for sanitation. However, good links had sometimes been established with the health and education sectors.
- Interestingly the review found that programmes implemented by NGOs or the private sector with communities, sometimes in collaboration with government, were more likely to succeed than programmes implemented by government alone.



## Reference Box 4: Lessons learned



### Self-Provision

- A striking aspect of many of the better known of the sanitation success stories is the absence of large scale public funding. The Orangi Pilot Project in Karachi Pakistan, mobilized communities to invest in sewers, while in Midnapore West Bengal India, households were supported to invest in on-plot latrines<sup>xix</sup>. The common feature of these two well-known cases was that, while external funding was used to support technical innovation, participatory research, hygiene education and social marketing, direct funding of hardware was not included; households were responsible for the local investment themselves.
- Recent research in India indicates that of the household sanitation which does exist only a tiny proportion has been financed by governments. In the six years from 1985/86 to 1991/92 the government of India constructed 2.26 million latrines in rural areas, raising coverage from 0.5% to 2.7% overall. In 1988/89 the 44<sup>th</sup> round of the National Sample Survey found that just under 11% of the rural population had a latrine, suggesting that as many as 8% of rural households across the country had invested their own money and used small private providers to construct latrines<sup>xx</sup>. Research in Africa confirms that the role of the small scale private sector in sanitation provision is significant<sup>xxi</sup>. Importantly, many households already invest in sanitation facilities themselves, outside of government or donor funded programmes.

### For a summary of lessons learned in hygiene, sanitation and water supply since the early 1980s

**See:** Cairncross, A.M. *Sanitation and Water Supply: Practical Lessons from the Decade*. World Bank Water and Sanitation Discussion Paper Number 9. World Bank: Washington, D.C.

Bendahmane, D (Ed.) *Lessons Learned In Water, Sanitation and Health: Thirteen years of Experience in Developing Countries* USAID, Water and Sanitation for Health Project (WASH) (1993)

La Fond, A. (1995) *A Review of Sanitation Program Evaluations in Developing Countries* Environmental Health Project and UNICEF, EHP Activity Report no. 5, Arlington VA.

Water Supply and Sanitation Collaborative Council (2000) *Vision 21: A Shared Vision for Hygiene, Sanitation and Water Supply and A Framework for Action* Water Supply and Sanitation Collaborative Council, Geneva

WELL (1998) *Guidance Manual on Water and Sanitation Programmes* WEDC Loughborough University, UK

Luong, T.V. (1996) *Reflections on the Sanitation and Hygiene programme in Bangladesh* UNICEF, Water and Sanitation for Health Project (WASH) Technical Report No. 86, Arlington VA.

**Get these references from:** good technical libraries,  
**and on the web at** [www.ehp.org](http://www.ehp.org), [www.whelpdesk.org](http://www.whelpdesk.org), [www.wsscc.org](http://www.wsscc.org), [www.unicef.org](http://www.unicef.org)  
and [www.lboro.ac.uk/wedc](http://www.lboro.ac.uk/wedc)

### For information on the nature and scale of small-scale independent service providers in sanitation and hygiene promotion

**See:** Collignon, B. and M. Vezina (2000) *Independent Water and Sanitation Providers in African Cities: Full Report of a Ten-Country Study* WSP

Solo, T.M. (2003) *Independent Water Entrepreneurs in Latin America: The Other Private Sector in Water Services* WSP

**Get these references from:** <http://www.wsp.org>

## 1.5 The Role of Government – some principles

Much of the evidence presented above suggests that investments and decisions made at the household level are critical to achieve improved sanitary conditions. However, improved access to sanitation, and better hygienic practices have benefits that reach beyond the immediate household to the entire population. A reduction in infection and disease among some part of the population will reduce the risk of infection in others. The construction of a sanitation system may also have *negative* health externalities especially where inappropriate designs are used or maintenance is poor. Poorly maintained silt traps and uncovered sewers, for example, can act as breeding grounds for disease vectors such as mosquitoes.

These external health implications are the reason why investments in sanitation and hygiene promotion are often seen as a “public” responsibility. These and other “public good” aspects of sanitation, such as safety and environmental protection, remain the responsibility of society as a whole. Governments need to establish incentives that enable *individual household choices to achieve public policy objectives* and to uphold and regulate principles and policies for the public good. They may also continue to finance investments in shared infrastructure (such as trunk sewers and wastewater treatment facilities) and support interventions which raise household demand for sanitation, promote improved hygienic practices, and facilitate service providers to deliver appropriate services.

**Principle One:** *The role of government is to balance public and private benefits of sanitation to ensure increased access at the household level while safeguarding society’s wider interests.*

Having established that there is a “public” benefit to achieving high levels of coverage of sanitation and hygienic practices, it is surprising to find that access to sanitation is patchy and that this is a persistent problem even in areas where overall coverage is improving. Data for Latin America (a region where many countries have already achieved impressive overall coverage) for example show a consistent bias against rural and poor populations<sup>xxii</sup>. Where segments of the population consistently fail to access better sanitation facilities and improved hygienic practices, health benefits to the population as a whole are likely to be limited.

There is however, an even stronger case to be made, in the interests of *justice*, that such inequities be addressed

by sanitation and hygiene promotion programmes. The burden of poor hygiene falls more heavily upon poor populations who tend to have a higher dependency on daily-wage labour, and few financial reserves to manage periods of ill health or the costs of treatment for sick family members. Inherent biases in sanitation coverage against women- and children-headed households further deepen their poverty and may lock them into cycles of ill health and dependency. Addressing the needs and aspirations of these segments of the population may be the most challenging aspect of programming for governments, but is probably also the most important.

**Principle Two:** *Many groups are excluded from the benefits of traditional ‘sanitation’ programmes. The role of government is to balance the interests of different groups in society and redirect resources to those who are systematically excluded*

It is often tempting to start a new programme from scratch identifying “ideal” solutions (either technical or institutional). In reality existing practices, habits and customs are probably an important part of the solution. Disregarding them risks failure; they are unlikely to be easily changed or abandoned, and in failing to respect them programmers may already be alienating potential partners and communities<sup>xxiii</sup>. The first rule must always be to look hard at what currently exists and plan to build and improve from there. Once there is understanding of current practices, it will be easier to map out a path to improve the situation.

**Principle Three:** *It is no good selling (or even giving) people something that they don’t want. The role of government is to identify and support what already exists.*

Recognising that people are already investing in sanitation and changing their behaviours also means recognizing that many actors are already involved. In many cases (particularly in urban areas) sanitation services are already provided by a mix of small scale entrepreneurs, government departments, NGOs, community groups and individuals while many of the same actors, along with soap manufacturers, schools and health workers may already be engaged in trying to change behaviours. All of these actors may have something to contribute to the design of a new programme for sanitation and hygiene promotion.

Partnerships are hard to forge and even harder to maintain and strong leadership will be needed. Government can play a key role in drawing in multiple actors to solve problems and design a new programme.

**Principle Four:** *Many actors may have knowledge and experience which can inform a sanitation and hygiene promotion programme. The role of government is to identify and forge partnerships with any organisation or individual who can be part of the solution.*

All of the above suggests that major changes are needed in the way in which hygiene improvement services are formally supported. The role of many actors is likely to change, and significant reorganization may be needed.

Importantly, in the longer term, changes may result in significant reductions in the numbers of staff employed in government agencies; a shift in the skills required; a recognition of a greater role for new actors (perhaps the small scale private sector, civil society, local government); and a change in the way decisions are taken and action is effected. Crucially there will need to be a serious increase in the accountability of all service providers towards the household.

**Principle Five:** *New approaches may result in a shift of power and resources. It is the role of government to promote and support this shift including finding resources to build capacity and support institutional change.*

#### Reference Box 5: Principles

##### **For a thorough discussion of the relationship between water supply and sanitation programming and equity**

**See:** van Wijk-Sijbesma, C. (1998) *Gender in Water Resources Management, Water Supply and Sanitation: Roles and Realities Revisited*. (especially chapters 5, 6 and 7). Technical Paper Series No. 33-E, IRC, Delft

**Get this reference on the web at:** [www.irc.nl/products/publications/title.php?file=tp33e](http://www.irc.nl/products/publications/title.php?file=tp33e)

##### **For ideas on how partnerships work in the water and sanitation sector**

**See:** Caplan, K., S. Heap, A. Nicol, J. Plummer, S. Simpson, J. Weiser (2001) *Flexibility by Design: Lessons from Multi-sector Partnerships in Water and Sanitation Projects* BPD Water and Sanitation Cluster, London.

**Get this reference from:** Building partnerships for Development at [www.bpd.org.uk](http://www.bpd.org.uk)

**See also:** Janelle Plummer (2002) *Focusing Partnerships – A Sourcebook for Municipal Capacity Building in Public-Private Partnerships* Earthscan Publications Ltd, London

Saadé C., M. Bateman, D.B. Bendahmane *The Story of a Successful Public-Private Partnership in Central America: Handwashing for Diarrheal Disease Prevention* USAID, BASICS, EHP, UNICEF, The World Bank Group

**Get these references from:** good technical libraries

## Notes for Chapter One:

- i UNICEF/WHO Joint Monitoring Programme (2000) *Global Water Supply and Sanitation Assessment 2000 Report*
- ii Water Supply and Sanitation Collaborative Council (2000) *Vision 21: A Shared Vision for Hygiene, Sanitation and Water Supply and A Framework for Action* Water Supply and Sanitation Collaborative Council, Geneva
- iii WHO (2002) *World Health Report*
- iv Esrey, S.A., J.B. Potash, L. Roberts and C. Schiff (1991) *Effects of improved water supply and sanitation on ascariasis, diarrhoea, dracunculiasis, hookworm infection, schistosomiasis and trachoma* in Bulletin of the World Health Organisation, 69(5): 609–621
- v Esrey, S.A. and J.-P. Habicht (1986) *Epidemiological evidence for health benefits from improved water and sanitation in developing countries* in Epidemiological Reviews, 8: 117–128
- vi Murray C and Lopez AD (1996) *Global Health Statistics*. WHO, Harvard School of Public Health, and the World Bank
- vii WHO (1997) *Strengthening interventions to reduce helminth infections: an entry point for the development of health-promoting schools*
- viii Nokes C, Grantham-McGregor S.M., Sawyer A.W., Cooper E.S., Bundy D.A. (1992) *Parasitic helminth infection and cognitive function in school children* Proc R Soc Lond B Biol Sci. 1992 Feb 22; 247(1319): pp 77–81
- ix WHO (2001) *Macroeconomics and Health: Investing in Health for Economic Development* Report of the Commission on Macroeconomics and Health
- x Wagner, E.G. and J.N. Lanoix, (1958). *Excreta disposal for rural areas and small communities*. WHO:Geneva.
- xi Earth floors contaminated with children's wastes are favourable for the development of intestinal worm eggs.
- xii Prüss, A., Kay, D., Fewtrell, L., and Bartram, J. (2002) *Estimating the Burden of Disease from Water, Sanitation and Hygiene at a Global Level* Environmental Health Perspectives Vol 110, No 5 pp 537–42
- xiii the reader is directed to Chapter 13 for a fuller discussion of technology choice.
- xiv Modified from Pickford J. (1995) *Low Cost Sanitation: A Survey of Practical Experience* Intermediate technology Publications, London.
- xv This is true even in congested urban areas where “networked” solutions such as sewers may be used. People at the household level will still need to invest in household facilities (toilets, taps, connections to sewers) and change behaviours, the challenge here is to respond to this household action, and provide the wider “network” actions needed to support them.
- xvi UNICEF/WHO (2000) *ibid*. GWP estimates were assembled from data presented in Global Water Partnership (2000) *Towards Water Security: A Framework for Action*, and Briscoe, J. (1999) *The Financing of Hydropower, Irrigation and Water Supply Infrastructure in Developing Countries*, cited in Winpenny, J. *Financing Water for All: Report of the World Panel on Financing Water Infrastructure* World Water Council, 3rd World Water Forum, Global Water Partnership
- xvii World Bank (2000) *The State of Wastewater and Sanitation at the World Bank* in Investing in Sanitation: World Bank Water Supply and Sanitation Forum, Staff Day April 5, 2000.
- xviii La Fond, A. (1995) *A Review of Sanitation Program Evaluations in Developing Countries* Environmental Health Project and UNICEF, EHP Activity Report no. 5, Arlington VA.
- xix Hasan, A. (1997) *Working with Government: The Story of OPPs collaboration with state agencies for replicating its Low Cost Sanitation Programme* City Press, Karachi; UNICEF (1994) *Sanitation, the Medinipur Story, Intensive Sanitation Project*, UNICEF-Calcutta, India; Ramasubban, K. S., and B.B. Samanta (1994) *Integrated Sanitation Project, Medinipur*, UNICEF, India
- xx Kolsky, P., E Bauman, R Bhatia, J. Chilton, C. van Wijk (2000) *Learning from Experience: Evaluation of UNICEF's Water and Environmental Sanitation Programme in India 1966–1998* Swedish International Development Cooperation Agency, Stockholm
- xxi Collignon, B. and M. Vezina (2000) *Independent Water and Sanitation Providers in African Cities: Full Report of a Ten-Country Study* WSP
- xxii For the Latin America region as a whole, it is estimated that 30,000 people every day are gaining access to some form of improved sanitation (of these 20,000 are connecting to sewerage). Despite this impressive record, 103 million people still lack access to any form of sanitation, and of these a disproportionate number (66 million) live in rural areas. (Gerardo Galvis, PAHO, presentation to WaterWeek 2003, World Bank, Washington DC).
- xxiii Examples of ill-designed sanitary facilities falling into disrepair abound. See for example Pickford, J. (1995) *ibid*. pp 23–34