

SECTION FOUR: PROGRAMMING FOR BETTER IMPLEMENTATION

This section focuses on the challenges of working with communities and households, hygiene promotion and selection and marketing of sanitation technologies. The practical implications of adopting a new approach which focuses on household behaviour change and investment, are significant and will be briefly reviewed here. It is not the intention of this section to provide detailed guidance on project level implementation but rather to highlight where the realities of working at the local level with households and communities, can impact on programmatic decisions. By reviewing what is now known about working effectively at this level the recommendations of Section Three can be seen in their right context.

Chapter 8 discusses the implications of the new approach in terms of how front-line units need to interact with both households and communities. The types of tools and resources they need to do this effectively are briefly discussed. **Chapter 9** briefly introduces some approaches to Hygiene Promotion – what is currently known about how to make it effective and how to organize it so that it achieves the maximum possible impact are also covered. **Chapter 10** talks about how to select and market technologies. For detailed implementation guidance the reader is directed to other sources; the information presented here is intended as an introduction for those professionals who do not have experience or knowledge about what has been learned about effecting sanitation and hygiene promotion and also to stimulate sector professionals to think about the wider programming implications of what is known in the field.

Chapter 8 Working with Communities and Households

8.1 The different roles for communities and households

The shift away from public construction of latrines to a more complete approach to sanitation and hygiene promotion places the household at the centre of decision making. But it also implies a strong role for the community in planning and management of interventions. While many of the needed changes will happen at the household level, in some contexts some decisions and actions may need to be taken collectively by the community. Such shared action may relate to:

- local decision making about the most appropriate range of sanitation solutions (communities may need to decide whether they are willing and able to manage shared facilities or whether they can all afford to invest in private household facilities);
- local management and oversight of the household actions as they relate to the communal environment (preventing discharge of household excreta in public places for example);
- management of solid wastes, sullage and storm water drainage;
- management and financing for operation and maintenance of facilities which impact on the shared environment (this may include operation of shared facilities such as drains, but might also include a shared commitment to support maintenance and operation

- of household facilities such as latrines); and
- organisation of joint action to lobby service providers to perform at the margins of the community (for example, creating pressure for a utility service provider to operate and manage trunk sewers in an urban context, or lobbying for public support to regional operation and maintenance service providers).

There are a range of approaches to management of shared or community facilities including:

- direct community management through elected or appointed committees or other groups;
- delegated management to a trained member or members of the community;
- delegated management to a professional voluntary, private or public service provider.

Depending on the context (including whether the community exists in a rural or urban environment, and the type of technologies which are feasible) each community needs to work out the best way to approach issues of shared responsibility.

8.2 Building capacity at the community level

While there are often clear advantages to collective community action in sanitation and hygiene promotion, it is often challenging to provide the right sort of support to enable communities to reach their full potential in these new roles. As well as the need to build up specific skills (such as planning or book-keeping), communities may need support to overcome entrenched biases and inter-

nal conflicts, or they may need support as they begin to engage with other local institutions (such as local government bodies, field units of technical agencies, bankers, shop keepers, private suppliers of goods and services etc). Capacity building needs at this level will vary enormously, but will need to be addressed (planned for, financed, staffed and implemented), if collective action is to be successful.

8.3 Communicating Effectively

To achieve the vision of placing communities and households at the centre of behaviour change, service providers and other support agencies have primarily to become expert at communication. Programmers may consider that the objective of working with the community is to:

- promote changes in hygiene behaviours;
- market and deliver sanitation technologies; and
- build systems of community management.

However, communities and households may have difference perspectives, and see a sanitation and hygiene promotion programme as an opportunity to engage with a wider social development process. It may often be preferable to organize work in the community in this

way, so that a range of social objectives can be achieved by the community, with the proper priority placed on each.

Communication also has to be two-way because each of the areas of intervention above involve decisions to change how things are done within the house and within the community. Facilitators of hygiene improvement will not be able influence these decisions without a thorough understanding of the environment and contexts within which they will be taken. Households and communities have much to offer programmers in terms of providing the keys which enable changes to take place through joint effort.

8.4 Selecting Community Level Tools

The type of community level interventions required will be determined by a range of factors. These include:

- **the types of behaviour that are to be changed:** for example where unhygienic practices are deeply entrenched in cultural norms a more intensive hygiene promotion programme would be needed as compared to a situation where personal hygiene is good but sanitary facilities are lacking – in this case more emphasis might be placed on marketing sanitation goods;
- **the magnitude of the problem and levels of awareness:** for example where the situation is very poor and people are already aware of its impact on health, there will be more focus on facilitating changed behaviours, whereas where awareness is low, the focus will be much more on promoting awareness of previously unknown risks;
- **the nature of the communities (rural/ urban) and technologies likely to be used:** for example in scattered rural communities where on-site technologies have been identified as appropriate, there may be less need for up front mobilization of community “organisation” for their installation than in dense urban communities electing to use communal latrines or condominal sewers. Conversely, in the first case, more work may be needed to help the community establish a viable long-term system for pit emptying and management of wastes, than would be needed in an urban community using condominal sewers emptying into a working main sewer line;
- **the institutional environment:** for example where the small scale private sector is likely to be a

key provider of services, marketing and local support skills may derive from them, and additional community level interventions may not be required. Importantly, where hygiene promotion is emphasized there may need to be stronger involvement of health staff and a shift in roles for staff from technical water supply and sanitation agencies;

- **the skills available amongst field-workers locally:** what skills do field-workers (who may be located in government departments, NGOs or local organisations) already possess, and what skills do they have the potential to learn;
- **the nature of existing local organisations:** village development committees, savings groups, water user and tapstand committees, handpump/waterpoint caretakers and mechanics, agricultural and forestry groups, population and health committees already abound, and sometimes their number and demands tax a community’s time and resources. Some of these groups could usefully place a priority on hygiene and sanitation. Linking into existing credit groups may prove a valuable means to channel credit and subsidies for sanitation—and ensure equity as well as accountability—without creating a separate effort; and
- **the availability of funds to support community level interventions:** resources will ultimately determine what interventions can be used at what intensity for how long. In general local participatory approaches will have higher costs than remote, mass media type approaches but are likely to be an essential element in achieving real change at the household level.

8.5 The Tools

Having identified the available resources and agreed on the objectives of community level interventions, generic tools and approaches can be selected and modified for use in the specific context under consideration. The tools commonly used in the water supply and sanitation sector include a full range from participatory planning and monitoring through to advertising and the use of mass media (see Reference Box 13).

Participatory Techniques¹

A range of participatory tools/techniques can be used in hygiene improvement programmes. Commonly used tools include focus group discussions, neighbourhood social mapping; transect walks; and household/school hygiene self surveys.

Participatory Rural Appraisal (PRA), is a generalized description for a wide range of techniques especially aimed at involving community members in decision-making and self-assessment and in the development of stakeholder partnerships. PRA evolved through a simplification of conventional techniques for data collection and analysis. Community action planning, which requires active roles by community members, is well served by PRA techniques such as mapping of local problems and resources, wealth ranking, and similar tools. The “PRA” philosophy informs much of the thinking about participatory techniques in the sector and has been translated into a wide variety of contexts including urban slums. Many of the elements described above have been refined for the use of the water supply and sanitation sector and the three the most commonly used combined approaches are:

- **PHAST** (Participatory Hygiene and Sanitation Transformation) which was developed in Eastern and Southern Africa in the mid-late 1990s. PHAST toolkits can be used at the local level to bring about behavioural changes in hygiene and sanitation.
- **SARAR** (Self-esteem, Associative strength, Responsibility, Action planning, and Resourcefulness) stimulates involvement in community-based activities of all kinds, not only by the more prestigious and articulate participants (such as community leaders or serious staff), but also by the less powerful, including the non-literate community members. SARAR is widely used in participatory water, hygiene, and sanitation programmes;
- **Methodology for Participatory Appraisal (MPA)** a selection of participatory techniques which have been refined and assembled for the participatory appraisal of projects and programmes.

8.6 Scaling Up

Scaling up successful experiences of working with communities is notoriously difficult. By its very nature this type of work is resource intensive – it requires a range of specialist skills, time and energy to build up real management capacity within most communities in a new and challenging field such as the management of sanitation. Most practitioners emphasise the need for a slow and

Schools and Education systems

Use of schools, parent-teacher associations and children themselves, are increasingly recognised as powerful tools in promoting changed behaviours and greater awareness of hygiene issues. These channels, and specialized tools to utilize them, can be a key component in a communication programme.

Mass Media and Advertising

The use of mass media, and straight forward advertising can also play a role in hygiene improvement. These didactic interventions emphasize transmittal of messages to promote awareness, market products and transfer knowledge. When used well these approaches can play an important role in overall behaviour change but should usually be used in tandem with more intensive local marketing techniques.

Marketing

Marketing in the water supply and sanitation sectors has long revolved around “social marketing” – where a range of tools are used in combination to target specific behaviours such as hygienic practices or the use of a particular technology. Once it is recognized that the most effective interventions in sanitation may be achieved through development of a viable sanitation business, marketing may become a major element of a hygiene improvement programme. New approaches which link commercial marketing of goods and services at the local level, with national awareness campaigns and hygiene promotion programmes, may be effective in stimulating the demand-side of the market. The challenge will of course be to match this demand-side support with suitable approaches to build up the supply-side business to ensure a ready supply of effective and appropriate goods and services.

steady approach. This seems to contradict the urgent need to scale up this type of work and roll it out to an increasing number of communities. Furthermore, the task may become progressively harder as the most challenging (remote, poor, socially divided or technologically challenging) communities are likely to be left to the last. Programmers can be proactive in ensuring that suc-

successful pilot experiences are not translated into ineffective “generic” packages for scaling up by:

- emphasizing and planning for the fact that working at the community level always requires time;
- ensuring that capacity building of potential front-line units and partners is built in to every positive experience so that the number of skilled workers increases exponentially as time passes;

- working to ensure coherence between efforts in a range of social sectors so that front line units building capacity to organize education for example, can also contribute and reinforce community needs in sanitation management and vice versa; and
- allocating sufficient funds to this important aspect of sanitation and hygiene promotion.

Reference Box 13: Communications approaches

For: participatory tools and approaches

See: IRC. (1996). *The community-managed sanitation programme in Kerala: Learning from experience*. IRC, Danida, SEU Foundation, Kerala.

NGO Forum for Drinking Water and Sanitation. (1996) *Social mobilisation for sanitation projects. (Annual Report, 1995-1996.)*, Dhaka, Bangladesh.

Simpson-Hebert, M., R. Sawyer, and L. Clarke. (1996). *The PHAST Initiative. Participatory hygiene and sanitation transformation: A new approach to working with communities*. WHO, Geneva, Switzerland.

Sawyer, R., M. Simpson-Herbert, S. Wood (1998). *PHAST Step-by-Step Guide: a participatory approach for the control of diarrhoeal disease*. WHO, Geneva, Switzerland.

Srinivasan, L. (1992). *Tools for community participation*. UNDP/PROWESS.

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

8.7 Programming Instruments

Selection of communications approaches to community and household interventions are best made at the local level in the context of projects and local investments. However where the skills and knowledge of those organisations and individuals charged with this interaction are weak, programmers may be able to influence the situation through a number of simple programmatic interventions including:

- Supporting institutional analysis at local level which enables realistic strategies for community intervention to be developed;
- Carrying out an overall assessment into the local-level constraints and barriers to hygiene improvement so that locally-tailored interventions can be designed appropriately based on a solid understanding of the demand side of the “market”;
- Supporting participatory research into the most appropriate field-based tools and approaches;
- Directing funds to training/ research bodies to develop and disseminate locally-specific versions of generic tools;

- Providing funds for training of field-level generalists in the specifics of the hygiene improvement programme approach so that they can use their skills effectively; and
- Earmarking funds for national/ programmatic level elements of the communications strategy (such as mass media campaigns etc);
- Developing and disseminating manuals and guidelines for the development of local strategies;
- Providing adequate public funds at local level to support participatory planning, local capacity building and ongoing support to communities;
- Providing frameworks to support community operation and maintenance and the development of confederations of communities who wish to access support services for sanitation; and
- Funding training and capacity building for (a) community development organisations in aspects of hygiene improvement; and (b) technical service agencies in community development approaches.

8.8 Practical Examples from the Field: What will the community do?

A key challenge for sanitation and hygiene promotion professionals is to see how activities and community management organised around hygiene behaviours and sanitation hardware can and should be linked to existing community and government structures. In Kerala, a Dutch-government-supported sanitation programme, resulted in significant improvements in hygiene conditions in a number of villages. Subsequently the approach was adopted across the state, through pressure exerted by village panchayats (local government organisation) on the state government. The strength of the initial project had arisen in part because it took explicit notice of existing structures and provided a clear role for the panchayat while also taking explicit action to support target groups in the community, including women who wished to become masons and technicians.

In another Indian project; the Uttar Pradesh Rural Water and Environmental Sanitation Project (SWAJAL), communities in the mountainous parts of Uttar Pradesh, were empowered to plan and construct their own water supply and sanitation systems. Groups from some villages traveled to the plains to purchase pipes and other materials, in some cases these journeys were undertaken by women-members of the Village Water and Sanitation Committees (VWSC) who had previously never left their villages. Swajal also published a quarterly magazine for participating villages which served as a news and communication tool in a dispersed rural area. While the specific community-empowerment support-mechanisms set up in Swajal were clearly effective, there were some problems because the institutional link to local government was not clarified. The government of India subsequently took a much clearer line while rolling out some of the lessons from Swajal, in specifying the connection between VWSCs and Panchayats.

In situations where water supply and sanitation institutions are stronger, it may be more challenging to develop local community-level capacity, unless the capacity of the utility itself is strengthened in this regard. In El Alto, Bolivia, a major investment of time and resources went into supporting the private water company as it developed the condominium model for sanitation in the city. Input from a specialized support organisation, the Water and Sanitation Program, was needed to build capacity for social mobilization, community contracting, participatory planning and monitoring, and in general to enable staff to work more effectively with communities.

In Burkina Faso, the Programme Saniya, used a combination of local radio and face-to-face domestic visits, coupled with the transmission of messages in a traditional social event called a djandjoba, to communicate well-crafted hygiene messages to carefully identified target audiences. In Zimbabwe, ZimAHEAD make use of the existing structure of Environmental Health Technicians of the Ministry of Health who establish Community Health Clubs which become the focus for communication and capacity building. In Mozambique the National Sanitation Programme took a low key approach to sanitation marketing, relying on word-of-mouth and the impact of fabrication centres located in peri-urban localities to generate demand. In central America a partnership with private soap manufacturers gave governments access to commercial marketing skills for public health messages.

Key to any successful communication is clearly understanding of what is to be communicated (what key practices shall we try to change?); who is the target audience; and what are their existing communication habits and practices. From this type of formative research tailored communication strategies can grow.

Case Study Box 6: How shall we work with communities and households?

The description of the origins of the Clean Kerala Campaign is in Van Wijk-Sijbesma, C. (2003) *Scaling Up Community-managed water supply and sanitation projects in India* presentation to the IDPAD Water Seminar, IHE, Delft, The Netherlands, May 12-13, 2003

The Swajal Pilot Project is described in various publications. A useful starting point is WSP-SA (2001) *Community Contracting in Rural Water Supply and Sanitation: The Swajal Project*, India Water and Sanitation Program. The El Alto experience is well documented on a dedicated website at www.wsp.org

For an introduction to the programme, and information on the costs and benefits of the approach see Foster, V. (n.d.) *Condominial Water and Sewerage Systems – Costs of Implementation of the Model Water and Sanitation Program*, Vice Ministry of Basic Services (Government of Bolivia), Swedish International Development Cooperation Agency.

Programme Saniya and ZimAHEAD are described in Sidibe, M. and V. Curtis (2002) *Hygiene Promotion in Burkina Faso and Zimbabwe: New Approaches to Behaviour Change* Field Note No. 7 in the Blue Gold Series, Water and Sanitation Program – Africa Region, Nairobi

The handwashing partnership in Central America is described in detail in Saadé, C., Masee Bateman, Diane B. Bendahmane (2001) *The Story of a Successful Public-Private Partnership in Central America: Handwashing for Diarrheal Disease Prevention* USAID, BASICS II, EHP, UNICEF, The World Bank Group

Notes for Chapter 8

- i Much of this section draws on Brian Appleton and van Wijk, Christine (2003) *Hygiene Promotion – Thematic Overview Paper* IRC International Water and Sanitation Centre

Chapter 9 Hygiene Promotion

9.1 Introduction

Changing hygiene behaviours is a key element and, as we have seen, may often be *the most crucial step* in achieving health gains. Hygiene promotion is all about changing behaviours. Despite this it is often neglected or marginalized in programmes which state that they aim to improve hygiene; many of these programmes place much greater emphasis on the construction of hardware (often prioritizing water supply over sanitation). Not only does this mean that there is insufficient resources available for effective hygiene promotion, but it also means that the hardware which is installed may be inappropriate because it is not planned within an overall “hygiene improvement” framework. In some cases these interventions may even make it more difficult for communities and households to improve hygiene and enjoy real health benefits. This may happen for example when designs are inappropriate and facilities cannot be used or where sections of the community are excluded. To be effective then, sanitation and hygiene promotion programmes need to be designed with the hygiene improvement framework in mind – ensuring adequate resources for all three elements, and perhaps in some cases, focusing on

hygiene promotion ahead of construction of physical infrastructure which may be a secondary, more long term strategy.

Furthermore, hygiene promotion should be seen as a major element in the programme requiring not only adequate financial resources, but also the requisite levels of professional expertise and effort. Too often, engineers may seek to “add on” a hygiene promotion component to what is essentially a latrine construction programme, without due attention to the complexities of making hygiene promotion effective. Importantly it is often neglected during the planning phase with insufficient attention paid to gathering the types of information which are needed to design really effective behaviour change strategies. At the other end of the scale, insufficient time may be made available for the needed changes in behaviour to take root. Changes hygienic practices is often a long term process, and it may not be achieved for example within the three year planning horizon of a conventional water supply project, or indeed the common term for a local political administration.

9.2 Making Sure Hygiene Promotion Works

Much has been learned about making hygiene promotion effective. Many of the key ideas are summarized in a useful Fact Sheet published by WELLⁱ. These ideas are summarized below:

- **Build on what exists:** A hygiene promotion programme should be based on a thorough understanding of:
 - the most important risky practices which should be targeted;
 - who are primary/ secondary and tertiary audiences for key messages;
 - who can most effectively motivate behaviour change;
 - what may prevent behaviours;
 - how can audiences be most effectively reached; and
 - how can the effectiveness of the programme be measured.

Formative research is one approach which can be used to develop the hygiene promotion strategy. Formative research is a pragmatic approach to planning programmes which has attributes that “make it a particularly useful component of.....sanitation programmes”. The approach is flexible and allows researchers to devise key questions which are specific to the community in which they are working. Answers can be used to develop a plan of actionⁱⁱ.

- **Target a small number of risk practices:** The priorities for hygiene behaviour change are likely to include handwashing with soap (or a local substitute) after contact with excreta, and the safe disposal of adults’ and childrens’ excreta.
- **Target specific audiences:** audiences may include mothers, children, older siblings, fathers, opinion leaders, or other groups. An important group is those

people primarily involved with child care. Audiences need to be identified in each particular case.

- **Identify the motives for changed behaviour:**

As mentioned elsewhere, these may have nothing to do with health. People may be persuaded to wash their hands so that their neighbours will respect them, so that their hands smell nice, or for other reasons. Participatory planning with target groups can be used to discover local views about disease, and ideas about the benefits of safer hygiene practices. This can form the basis for a hygiene promotion strategy.

- **Hygiene messages need to be positive:** people learn best when they laugh, and will listen for a longer time if they are entertained. Programmes which at-

tempt to frighten audiences will probably alienate them. Furthermore, messages consisting of “dos” and “don’ts” can be frustrating and demoralizing for the poor particularly where they urge actions which are unrealistic for poor familiesⁱⁱⁱ.

As with all elements of the hygiene improvement programme, monitoring will be needed at the local level to ensure that inputs are delivered and that they result in the expected outcomes. At the programmatic level, it will be essential to provide oversight that ensures that hygiene promotion is integral to the overall programme, and that where hygiene promotion activities indicate the need for additional inputs in terms of hardware these can follow in a responsive manner (see **Reference Box 14**).

9.3 Applying the Principles

Table 14 shows how the principles of good programming can be applied to decisions about hygiene promotion.

Table 14: Applying the Principles to Hygiene Promotion

Maximising public and private benefits	Achieving Equity	Building on what exists and is in demand	Making use of practical partnerships	Building capacity as part of the process
Use hygiene promotion as a two-way process of communication to: (i) inform and influence household behaviours and (ii) gauge effective ways of harnessing communal effort for the public good	Support approaches to hygiene promotion which empower people rather than those which present elitist or patronizing messages	Support information gathering so that hygiene promotion can be based on a thorough understanding of: key behaviours to change; key audiences; key motivators; ways to change behaviours; how to reach audiences; and how to measure outcomes	Expand the range of participants in hygiene promotion to ensure that messages are reinforced and delivered in the long term	Invest in capacity building to improve approaches to hygiene promotion

Reference Box 14: Hygiene promotion

For: A summary of current thinking on hygiene promotion, and links to other resources and references

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

Curtis, V. and B. Kanki (1998) *Towards Better Programming: A Manual on Hygiene Promotion* Water, Environment and Sanitation Guidelines Series No. 6 UNICEF

Get this reference on the web at www.irc.nl and www.unicef.org

For: Summary of seven “key messages” about hygiene which can be easily incorporated into a well-designed advocacy campaign.

See: *Facts for Life* UNICEF

Get this reference from: Local UNICEF offices or on the web at <http://www.unicef.org/ffl/09/>

9.4 Programming Instruments

In most cases the most important programming decision to be taken will be to allocate adequate resources to hygiene promotion, along with the needed institutional analysis, monitoring and feedback systems. In addition however, a recognition of the importance of hygiene promotion, should also be linked to decisions about: allocating responsibility for overall programme management and project investments; institutional and organizational arrangements; and coordination mechanisms. Specific additional actions might include:

- commissioning baselines studies on current hygiene practices;
- commissioning formative research to determine key behaviors to focus on;
- developing behavior change strategies including social marketing, social mobilization, and community-level education;
- integrating hygiene promotion efforts in Ministry of Health programs;
- determining roles and responsibilities for carrying out hygiene programs;
- ongoing monitoring of program effectiveness; and
- training at all levels for program implementation

9.5 Practical Examples from the Field: How will we promote hygienic behaviours?

The Sanitation and Family Education Project was developed and implemented by CARE Bangladesh, with technical assistance from the International Centre for Diarrhoeal Disease Research (Bangladesh). The SAFE project had no hardware component but was designed as a supplementary or follow-on activity after an earlier cyclone relief project which provided tubewells and latrines. SAFE worked by targeting a small number of specific behaviours including: drinking pond or open well water, improper storage of tubewell water, adding pond water after cooking, using unhygienic latrines, poor handwashing practices and low use of latrines by children under the age of five. The project area saw a two-thirds reduction in diarrhea prevalence when compared with control areas, and a substantial increase in hygienic behaviours including handwashing and hygienic latrine use. What is interesting about the SAFE experience, was that it operated in an area which had already been targeted with hardware and showed significant health benefits. Without the additional push on hygiene promotion, it is unlikely that the investment in latrines and water supply would have yielded expected benefits.

In comparison, the Environmental Health Project (EHP) was able to implement a full range of 'HIF' interventions in Nicaragua during a two-year project which was set up in the aftermath of Hurricane Mitch. The project provided: hardware, through water supply and environmental projects implemented by local NGOs; hygiene promotion, using trained community members and schools

as the two primary mechanisms to deliver messages; and strengthening of the enabling environment, through capacity building of local water committees and at the national level. Here the benefits were substantial and the advantages of the coordinated approach did not preclude a range of innovative institutional arrangements and partnerships being established.

In general hygiene promotion is a long-term process, which links an understanding of the current situation with a vision of what behaviours can be changed, and how this can happen. In Zimbabwe, ZimAHEAD have pioneered the Health Club approach to provide a framework for this needed long-term change. Community Health Clubs provide a forum for community-members to learn about simple and effective ways of improving hygiene in the house and community, and they also provide the community with a focus for planning and implementing water supply and sanitation activities. But perhaps more significantly the CHCs also provide support for wider economic activities, and provide a more interesting and stimulating framework within which the Ministry of Health Environmental Health Technicians can see long term structured change occurring in the communities with which they work. The CHC approach has proved to be extremely robust, and even with the recent decline in development budgets and the loss of funds from external support agencies, the CHCs have been able to sustain their activities and keep operating.

Ensuring a robust structure for hygiene promotion is important, but, as was the case in Bangladesh, this may be outside or in parallel with a programme of hardware provision. Investments in increasing access to hardware, and promoting hygienic practices need to be coordinated but can sometimes be successful when they are carried out by different agencies. In Ghana, the Northern Water Supply and Sanitation Project (NORWASP) integrated health and hygiene into water supply and sanitation for rural communities. A thorough evaluation of baseline data was carried out before a community-based hygiene education programme was developed, and this in turn was first piloted, and evaluated by the community. The approach drew from PHAST and PLA methods, but was tailored to local conditions, and made use of a locally-developed health and hygiene game. Identifying and training a cadre of committed fieldworkers is crucial, and this

is a key strategy in NORWASP. The project was not bound to one particular agency, but sought out the best institutional “homes” for different activities, while providing an overall coordinating framework.

As well as getting the institutional structure right, hygiene promotion needs to apply appropriate approaches. In some contexts for example, shocking messages may work well; in Zimbabwe, the CHCs use a slogan which is often “chanted at health club meetings” in the local language, which when translated states baldly “don’t share your shit”. In Bangladesh, VERC carry out village transect walks during which households discuss where each family member defecates, and identify areas in the village which are regularly soiled with faeces. Such approaches may not work in other situations, and each case must be assessed on its own merits.

Case Study Box 7: How will we promote hygienic behaviours?

The Community Health Clubs and ZimaHEAD are described in Sidibe, M. and V. Curtis (2002) *Hygiene Promotion in Burkina Faso and Zimbabwe: New Approaches to Behaviour Change* Field Note No. 7 in the Blue Gold Series, Water and Sanitation Program – Africa Region, Nairobi. Further discussion of CHCs, along with information about NORWASP and the EHP project in Nicaragua is available in the case studies in the IRC Thematic Overview Paper (TOP) available on the web at www.irc.net

VERC’s experience in Bangladesh is discussed in Kar, K. (2003) *Subsidy or self respect? Lessons from Bangladesh* id21 insights, issue 45 on the web at www.id21.org/insights/insights45

- i This section draws heavily on Appleton, Brian and Dr Christine van Wijk (2003) *Hygiene Promotion: Thematic Overview Paper* IRC International Water and Sanitation Centre drawing particularly on Appendix 2. This excellent reference is recommended as a starting point for more detailed programme planning.
- ii Sidibe, M. and V. Curtis (2002) *Hygiene Promotion in Burkina Faso and Zimbabwe: New Approaches to Behaviour Change* Field Note No. 7 in the Blue Gold Series, Water and Sanitation Program – Africa Region, Nairobi
- iii Appleton and van Wijk point out that messages such as “wash hands with soap” or “use more water for washing” may simply make people more frustrated and disempowered in situations where for example soap is not commonly used or available or where every drop of water has to be carried long distances.

Chapter 10 Selecting and Marketing Technologies

10.1 Introduction

In many parts of the world conventional 'sanitation' programmes have tended to focus on the public provision of latrines, either through direct construction, or by providing subsidies based either on a needs-assessment, or on the completion of a latrine of "acceptable" standard. In a few regions, where progress in the water supply and sanitation sector has moved faster, sanitation has been viewed more as a "utility" issue often with a focus on regulating to prevent 'unauthorised' construction or, in urban situations, to preserve the exclusive right of the utility to provide.

Once sanitation is seen within the context of hygiene improvement however, it becomes clear that latrines alone are not very effective, and their provision needs to be coupled with, and often subordinate to, an increase in awareness about hygienic practices in general and a change in the way hygiene is managed locally. Furthermore, even where latrines are clearly urgently needed, direct public provision has been shown to be problematic in many cases. The sheer scale of the need swamps most public providersⁱ and this, coupled with suspicions of corruption and inefficiency in many programmes, suggests that new approaches need to be tried, in tandem with an improvement in public provision where this appropriate.

Where it exists, the small scale private sector provides some hope that provision can be scaled up, and made more effective through local innovation and the ability of local providers to be more responsive to household demand. Where this small scale business does not exist, programmers may want to devote some of their effort and resources towards stimulating and supporting its growth, to relieve the pressure on public provision. The potential for this sanitation "business" is easier to understand in rural areas or less congested urban slums, where on-plot provision makes a straight forward business relationship between the household and the supplier possible. In congested urban areas where off-plot provision is needed, this relationship is less clear, and there will almost certainly be a responsibility retained by the public provider or utility. Nonetheless new institutional and technical approaches mean that there may still be a role for an intermediary or small scale private provider at the local level to facilitate the development and management of and appropriate local network system. For more information on the basic technology issues of sanitation see **Section 10.2** below.

The key idea here is to move away from the direct provision of a pre-determined technology, to a situation where households and communities can choose from a range of appropriate options, supported by a range of suppliers who are highly motivated and skilled to provide them.

10.2 Making Sure that Technology Works

Broadly, sanitation technologies fall into four main types as shown in **Table 15**. The choice of technology will be strongly influenced by a range of factors, of which the two most important are:

- How much used water (wastewater) must be removed from the household?
- Will the disposal of the excreta be on-site or off-site?

Sanitation Technology Choices

(a) Limited water use and on-site disposal (latrines)

Many poor people have limited access to water, and do not enjoy the relative luxury of a household connection. Water consumption is thus limited to around 20 lpcd or less, and little wastewater will be generated. On-site toilet facilities offer substantial advantages over off-site facilities in terms of convenience, privacy, and management (family-owned latrines are in most cases better maintained than public ones). Basic pit latrines, pour-flush la-

trines, or variants of these basic types (e.g. Ecological Sanitation, VIPs, etc.) are usually the most appropriate types of technology to consider for on-site disposal of excreta with little water.

Latrines protect the environment from faecal contamination by isolating excreta in a pit. When the pit is full after five to ten years, it must be emptied before it can be used again. Where space permits, a new pit can be dug, and the contents of the full pit may be left to compost. After a year or more of composting, the pathogens in the waste will have been neutralized, and the contents may be safely handled. These contents may be used as agricultural compost. Ventilated Improved Pit (VIP) latrines improve on the basic design and limit nuisance from flies and odours.

Pour-flush latrines are those in which the excreta are flushed from the defecation area by water, and are particularly appropriate in cultures where water is used for anal cleansing. The water may be used to create a water seal between the wastes in the pit and the outside, thus eliminating problems with odours, flies and mosquitoes.

Pit latrines are difficult to build in areas of high groundwater table, or in rocky areas. High groundwater table not only makes construction difficult, but also raises the risk of groundwater contamination from the contents of the latrine. These risks can, in most cases, be minimized if the bottom of the latrine is at least 2 m above the groundwater table, and the latrine is at least 15 m away from any well used for drinking water. Finally, sludge management (i.e. the transport and disposal of the latrine contents after emptying) should be carefully considered where space is limited, especially in urban or peri-urban areas. A variety of ecological ("EcoSan") toilets exist which are designed to improve the composting of the latrine's sludge, and thus turn the problem of sludge management into an opportunity to generate higher value compost.

(b) Limited water use and off-site disposal (bucket latrines, public toilets)

Where access to water is limited, and excreta disposal on-site is not feasible (due to either cost or space constraints), bucket latrine systems or public toilets are often used.

In the bucket system (or "conservancy system" as it is known in South Asia) excreta are deposited in a bucket

or lined basket that is emptied several times a week by a "sweeper" who disposes of the waste elsewhere. In earlier times, elaborate plans were made for the collection of wastes to "bucket transfer stations" where the buckets were emptied into larger carts and cleaned prior to their reuse. The larger carts, in turn, were meant to transfer the waste to a sanitary disposal site. In current practice, however, the disposal is almost always to a nearby drain (eventually leading to drain blockage) or to a pile of solid waste, exposing rag pickers and children to faecal wastes. The system is generally considered an extremely unsanitary arrangement, and is officially illegal in India and a number of other countries. Where field surveys establish the continued existence of this system, however, sanitation planners need to address two questions before simply banning it:

1. What more sanitary option can realistically be offered?
2. During the transition period to the more sanitary option, how can the bucket system be rendered more hygienic?

Public or shared toilets are a second form of off-site disposal, and indeed, have been promoted in India by NGOs such as Sulabh International Inc, as an answer to the defects of the bucket system. Public toilets may involve any number of technological options, from common pits to sewer system connections. All public toilets, however, involve a number of difficult institutional questions, which have previously weighed against its widespread adoption by sanitation professionals.

Management of public toilets is a daunting challenge, although recent experience in South Asia shows that it can be overcome in some cases. While the responsibility for (and interest in!) cleaning private toilets clearly rests with the owner, responsibilities are often less clear-cut for public or shared toilets. It is often difficult to establish an effective maintenance regime for a toilet shared among five or ten families. Government or community run public toilets are often in an appalling state (in Europe and North America as much as anywhere else) because of the lack of interest and incentive for adequate maintenance.

Sulabh International has developed a public toilet franchising system whereby attendants and managers are reimbursed from a small fee for use levied on adult male customers; women and children can use the toilet for

free. The fee is sufficient to ensure a reasonable income for the manager, who has an interest in maintaining a clean well-run establishment; Sulabh's monitoring of performance means that s/he risks losing the job if performance slips. While the franchise arrangement works in a number of settings (e.g. railway or bus stations) it is unclear that the financial model can work to serve the urban poor, when competing with "free" open defecation.

Household toilets, where feasible, are preferable to public toilets for 3 main reasons:

- **convenience to the household**, which encourages use
- **clear accountability for cleanliness**, which also encourages use, as the cleanliness is within the control of the household
- **safe disposal of children's faeces** is more likely with a household toilet. Although a number of public toilet systems try to encourage use by children, it is less likely than a household toilet to work, especially for the disposal of young children's faeces.

(c) Substantial water use and on-site disposal (septic tanks, soakaways)

As access to water increases, water use will also increase, along with the requirement for its safe disposal. Sullage and grey water are the technical terms for household wastewater that is not used in toilets; sullage is made up of bathing water, water used for washing and cooking, etc. While it is less contaminated than toilet water, it is incorrect to think of it as "uncontaminated"; water used for cleaning the clothing and nappies of infants and very young children, is often heavily contaminated.

Pouring large quantities of sullage into a pit latrine pit is likely to lead to pit overflow, bad smells, and insect breeding. This is because latrine contents will quickly "plug" the soil, and limit the capacity of the soil to absorb large volumes of sullage. The construction of a separate soakaway for sullage is far more likely to work. A soakaway is a large pit or trench filled with boulders and/or gravel through which sullage may infiltrate into a larger surface area of soil. By keeping the sullage separate from the faecal wastes, the risk of soil plugging is reduced, and the soakaway can serve for a much longer time.

Septic tank systems (with soakaways or drainfields) are an alternative on-site solution for combined wastewater

disposal. A septic tank is a concrete or masonry box in which some settling and treatment of faecal solids takes place; the wastewater leaving the septic tank is relatively clear and free of solids (although highly contaminated biologically). Sullage enters the septic tank after the settling of the solids, and the combined flow is discharged to the soil through a soakaway or drainfield. As the septic tank removes the faecal solids from the flow, the infiltration area of the soakaway is far less likely to become plugged.

Septic tanks are most commonly used by those with cistern-flush toilets and house connections for water. While traditionally each household has its own septic tank, a number of households with individual toilets and plumbing arrangements can connect to a single septic tank.

The capacity of both soakaways and septic tank systems to remove wastewater safely from the plot depends greatly upon the *infiltration capacity* of the soil. Soakaways and septic tanks work best in sandy soils, and cannot work well in tight clays. As with pit latrines, there is a risk of groundwater contamination, and this is particularly great when sullage and excreta are combined.

Sludge builds up in septic tanks as the faecal solids settle, and must be removed periodically. As with latrine sludge, the collection and disposal of septic tank sludge requires attention. Without good sludge management and enforcement, the public will be exposed to the effects of clandestine dumping of sludge into drains and piles of solid waste.

(d) Substantial water use and off-site disposal (sewers)

Sewers are common where water is readily available but suitable land and soil for septic tank systems are not. Sewers are pipes that carry wastewater (toilet wastes and sullage) away from the household to a centralized treatment and disposal point. Sewers are very convenient for the user, requiring a minimum of maintenance. They are often, however, a relatively expensive solution, especially if the wastewater is treated (as it should be) before its ultimate disposal to surface water. Sewers require a reliable water supply, and sufficient wastewater to ensure reasonable flushing of the solids through the system. Large systems, or systems in flat areas, often require pump or lift stations, to raise the sewage and thus reduce the depth and excavation costs of downstream

pipe. Such pump stations not only require careful operation and maintenance, but also a steady source of cash to cover significant power costs. Sewers should only be considered in cities and small towns and are not viable in rural villages.

There have been a variety of innovations in sewerage over the last two decades, particularly in Latin America, which have reduced its cost and operational complexity through a range of “condominial” technologies and institutional systems; Mara (see Ref. Box 15) is a good guide to some of the technical issues and debates involved in low-cost sewerage.

Table 15: Range of Technology Choices

	Water supply volume	Limited (< 20 lpcd)	Ample (>20 lpcd)
Disposal point			
On-site		Pit latrine and variants, Pour flush latrines	Septic Tanks Pit latrines plus soakaways
Off-site		Conservancy/bucket system Public toilets	Sewers (including non-conventional variants) ⁱⁱ

10.3 Selecting Technologies – the sanitation ladder

The programmers’ responsibility is to balance what is currently possible and desirable at the household or private level (ie what can be achieved in the short term) with long-term public policy objectives such as realization of full public health benefits, protection of the environment and maintenance of health and safety.

There is no such thing as an “ideal technology”. In many countries standard designs and approaches, usually justified on the basis of long-run public policy objectives, have become entrenched in widescale national latrine construction programmes. They may appear to be the only viable solution and technicians may aspire to construct only facilities of the highest specification possible. However, programmes promoting these “ideal” facilities rarely achieve high rates of coverage – because demand for the high-cost technologies on offer is too low and there are insufficient funds to provide them universally on the public budget. One look at the latrines that people build for themselves however, illustrates that a wider range of solutions is possible. In many cases these home-built latrines may fail to improve the situation at all – but they may point to a viable first step on what is known as ‘the sanitation ladder’ ie the first intervention which will increase awareness of the benefits of sanitation, begin to lessen risks and start a household on the process that will lead to the installation and use of a sanitary latrine. In the long-run this is likely to result in much greater coverage

and health improvement than would be the case if only “the best” were to be built or allowed to be built.

The balancing act for programmers is to judge what is acceptable and likely to be used by households, promote it appropriately and assess how best to move households as rapidly as possible up the sanitation ladder so that both private and public benefits can be realized. To do this government may retain a prominent role, beyond simply enforcing standards, in: promoting innovation; balancing local needs with national public policy priorities (for example intervening in emergency situations, enforcing standards in public places and schools etc); and steering household choice by supporting sanitation marketing efforts (see below).

Climbing the sanitation ladder in this way may not seem very glamorous but may in fact be the most effective means of making rapid and visible improvements in the situation. Furthermore the concept of the sanitation ladder is particularly important for the poorest households, where local conditions, lack of money and low levels of awareness may preclude the construction and effective use of latrines. Programmers need to support any incremental improvements, and may choose to steer public resources to the provision of appropriate school sanitation and public facilities so that some access is achieved while awareness is built.

10.4 Other Factors – community management

The interaction between technical constraints and organizational issues is also important. For example if people have no space but have proved that they can take concerted action in some other development sphere then the possibility of constructing and managing shared facilities should be considered (shared latrines, communal

bathing facilities, condominal sewers etc). Where people are willing to give up space in their houses for sanitation but are unwilling or unable to collaborate with their neighbours a different (on-site) solution may be possible.

10.5 Building Capacity

It is quite obvious that capacity needs to be built amongst households, communities and even small scale independent providers so that they can participate more effectively in the provision of sanitation facilities that do achieve health improvements. What may be less obvious, though, is that there may be a need to build capacity amongst technical staff also, many of whom may be well trained in 'conventional' sanitation engineering. Unfortunately such conventional training tends to focus on expensive solutions, often with a heavy emphasis on piped sewerage (which is inappropriate in rural areas, and may not work in urban areas with low levels of water supply,

unreliable power and low operating revenues). It may also place an emphasis on waste water treatment which (a) is inappropriate where on-site solutions are to be used; and (b) may be irrelevant where the public health imperative is to get as many households as possible to use a latrine as the first step. These staff may lack expertise in the complex area of 'making-do' and finding the best compromise in a less-than-perfect world. They may lack the skills to identify the best innovations and, worse, they may, in good faith, create barriers to the type of incremental improvements which are needed.

Reference Box 15: Sanitation technologies

For: Details of sanitation technologies and guidelines on choice of technology

See: Pickford, John (1995). *Low-cost sanitation*. Intermediate Technology Publications: London.

Mara, Duncan (1996). *Low-cost urban sanitation*. John Wiley & Sons: Chichester.

Cairncross, Sandy and Richard Feachem (1993). *Environmental health engineering in the tropics: an introductory text*. (2nd edition) John Wiley & Sons: Chichester.

Get these references from: Good technical libraries or the Water Engineering Development Centre (WEDC) at www.lboro.ac.uk

10.6 Sanitation Marketing

Why do people pay for sanitation?

As the emphasis shifts from “policing” and “providing” technologies to “marketing sanitation” and ‘promoting innovation’ technical roles may shift. Marketing of sanitation *as if it were a business* is a relatively new idea. Few countries have forged effective links between private providers and public agencies. Nonetheless this is may be infinitely more important, particularly in countries with vibrant small-scale markets for goods and services, than the ability of public-sector engineers to design and build urban sanitation systems.

Because the public interest in sanitation is linked to its role as a primary barrier of disease prevention health is often thought to be the principle driver of demand. However a World Bank surveyⁱⁱⁱ in the rural Philippines established the following reasons for satisfaction with new latrines (in order of priority):

1. Lack of smell and flies;
2. Cleaner surroundings;
3. Privacy;
4. Less embarrassment when friends visit; and
5. Less gastrointestinal disease.

Some may regret that health education has been insufficient to raise the concern about gastrointestinal disease to a higher priority. Others, however, will quickly realize that all of the other reasons are excellent ways to market sanitation, and will accordingly review their marketing and product development strategy to take such practical concerns into account.

What influences household demand?

Figure 5 illustrates in a simplified way, the relationship between household demand and service delivery. It emphasizes that, where household demand is a driver for investment decisions, the role of the public sector (both on the supply side and in creating an appropriate enabling environment) remains crucial and may be more challenging than in traditional “public service delivery” type approaches.

In order to stimulate or create demand for a service, it is important in any situation to understand what is driving demand (or lack of it). Figure 5 suggests four main factors which will influence the depth and breadth of household demand for any particular good or service.

These are:

- **Awareness:** knowing that the goods/services exist and that they have benefits. For example, knowing that latrines exist and can be used to store excreta and knowing that a latrine can improve the health of children and have a positive impact on household income;
- **Priority:** deciding that the service is sufficiently important to merit needed investment For example, deciding to build a latrine rather than construct an additional room in the house or invest in a bicycle. Priority may be influenced by access to other priority services or a range of other factors such as status or social conventions. Priority may also vary between members of the households – and it is important to target demand creation and assessment activities appropriately (for example building a latrine requires a decision by the member of the household responsible for major capital investments in the home and that person should be a key target of a latrine marketing campaign);
- **Access:** having access to a service provider who will market and provide the specific service. For example having a local mason who knows what types of latrines can be built, help decide what is the most appropriate and build it; and
- **Influence:** being able to take effective individual action, or being in a position to participate in effective collective action. For example, having space to build an on-plot latrine, or being in a location where it is possible to participate in a condominal sewerage scheme.

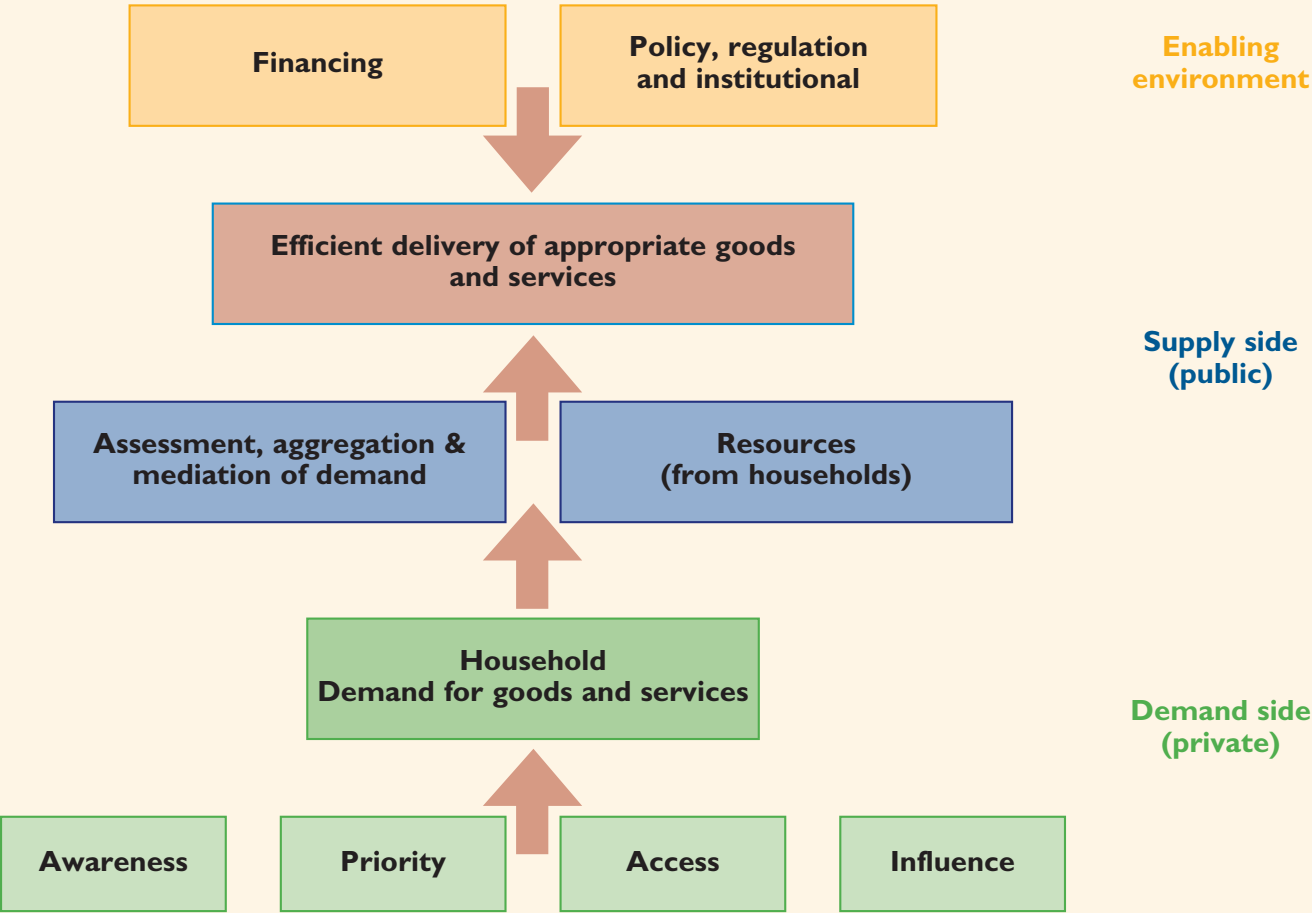
Any sanitation marketing approach probably needs to address these four areas. While there is little empirical knowledge to date of how this can be done most effectively some ideas and suggestions are laid out in **Table 16** which shows an indicative approach to breaking down the four barriers listed above.

Sanitation marketing has to become more sophisticated. It has to move from the current approach which is heavily skewed towards public sector promotion of fixed ideas, to a more innovative approach which explores the

potential of the market to provide some of the solutions. Marketing expertise can be linked to technical expertise to create the right mix of messages and promotional approaches which can start to make purchasing and using a toilet a high-priority choice for households. The challenge for programmers at the moment is to come up with such new approaches almost from scratch since

there is so little experience to build on. Ultimately the challenge is to turn toilets into attractive consumer items for those with some money to spare, while maintaining a focus on the supply-side of the market to ensure that cheap and appropriate versions are accessible by the poorest households.

Figure 5: Household demand in the context of service delivery



Importantly marketing latrines (along with all other changes in household hygienic practices) is a long-term undertaking and cannot be achieved in a short time frame. Programmers need to establish marketing systems that will have adequate resources to work with

households in the long term to improve their awareness of sanitation, raise its priority, increase household access to providers of goods and services, and equip households to influence those providers as required.

Table 16: Illustrative sanitation marketing approaches

Demand Factor Settlement/ Technology	Awareness	Priority	Access	Influence
On-plot/ rural	Mass media campaigns (based on a hygiene improvement framework) linking hygiene behaviour change and household investments in sanitation to improved lifestyle, higher earnings and status.	Household level participatory evaluations and planning to emphasise the need and potential of HH sanitation. Link to primary health care and micro-finance interventions.	Public schemes to support mason / plumber training, including business-support to small scale independent service providers. Public marketing of small scale private services.	Mass media campaign to emphasise the relative ease of household / shared sanitation in rural and some urban areas.
Networked/ urban		Household / community level participatory evaluations and planning to emphasise the need and potential of community sanitation.	Public schemes to licence and support small scale independent providers (ie pit emptying services). Public funds to train support agencies providing planning, micro finance and management support for low cost networks.	

10.7 Key issues and barriers

This chapter has emphasized that there needs to be a major shift away from the idea of public provision of latrines towards the idea of building, promoting, and supporting a sanitation business. Such a business will have the following key elements:

- Informed demand from households;
- Responsive supply from providers of goods and services; and
- Appropriate support from the public sector on both the demand- and supply- side.

In some countries this “business” already exists, and the real need is to ensure that it is legalized, appropriately supported so that it scales up, and then (and possibly only then) regulated to secure long term public policy objectives. In other countries the ‘business’ does not yet exist. Even where this “business” is likely to remain well within the public sector, much more emphasis is needed on promoting demand, supporting innovation and enabling

local choice to drive incremental improvements in sanitation.

In most countries there will be a number of barriers to this including;

- Inappropriate skills (in public and private sector agencies);
- Excess of technical staff in public agencies;
- Lack of capacity in the small scale private sector (for both delivery and marketing);
- Lack of knowledge and experience of marketing sanitation;
- Technical norms and standards which preclude innovation and drive up costs; and
- Other regulations which hamper innovation including outdated building codes, planning regulations and environmental controls.

All of these barriers need to be addressed at the programmatic level.

10.8 Applying the Principles

The principles of good programming apply equally to the selection of technologies as can be seen on **Table 17**.

Table 17: Applying the Principles to the selection and marketing of sanitation technologies

Maximising public and private benefits	Achieving Equity	Building on what exists and is in demand	Making use of practical partnerships	Building capacity as part of the process
Assess and promote sanitation technologies which are acceptable and likely to be used by households in the short term while developing longer term strategies to move households up the sanitation ladder.	Ensure that sanitation technologies are available which the poorest can access and use effectively. Specifically make sure technical norms and standards do not preclude solutions appropriate for poor households	Understand how people currently manage, what they aspire to, and invest in finding locally-appropriate solutions	Expand the range of participants – so that as much effort as possible goes into developing innovative new technologies and marketing approaches	Invest in building capacity of technical staff. Emphasise the importance and credibility of innovation and development of appropriate local solutions

10.9 Programming Instruments

Recognising that approaches to technologies have to change, may be difficult but could be one of the most significant programming decisions to be taken. Once it becomes clear that a different range of technologies could be employed to tackle the sanitation challenge, those working at field level may find a huge number of options opening up to make incremental improvements. But before this can happen people need to feel that they will be supported, that innovation will be rewarded rather than penalized, and that they are free to work with a range of non-traditional partners to develop new approaches. Programmers can help to signal this shift by:

- Instituting consultative processes to review and update technical norms and standards;
- Earmarking funds for sanitation marketing;
- Making funds available for training technicians in new and non-traditional technological approaches;
- Finding ways of working with small scale independent providers, and possibly establishing funds which can support them as they build up and improve their businesses;
- Making funds available for research and field-based trials of new technologies;
- Licensing providers and products;
- Training regulators (where they exist) to help them oversee appropriate sanitation interventions; and
- Finding ways to publicise and promote new and innovative technologies and approaches.

10.10 Practical Examples from the Field: What Sort of Sanitation do we Want?

The adoption of the Blair VIP latrine as a standard technological choice in Zimbabwe in the 1980s had a profound impact on the ability of the government's sanitation programme to go to scale. While the approach does allow for local innovation, in the choice of materials for the superstructure for example, the simplicity of the standard design, and the fact that it was developed *in Zimbabwe* from an analysis of the *existing approaches and sanitation conditions*, have both been significant factors in its success. Once the design had been proven, an explicit effort was made to roll out the program by building the capacity of extension workers from the health department, as well as through technical training of engineers and promotion of the technology at the national and local level. The impact of the Zimbabwean sanitation programme is clear; at the peak of the programme in 1987 nearly 50,000 latrines were built.

Despite the success of the Zimbabwean approach, standardizing on a single technology may be problematic. In many countries, a range of technologies may be needed to reach all those households who are excluded. When the NGO VERC started to work intensively in Bangladeshi villages to identify sanitation and hygiene improvements, people themselves developed more than 20 variations of low-cost latrines, which were both affordable and appropriate to their situation. By contrast the adoption of the TPPF as a standard in India led to high costs and constrained the roll out of the national program, despite the fact that the TPPF latrine is technically quite satisfactory as a rural technology. The TPPF was adopted after detailed research and benefited from the support of UNICEF and other external support agencies active in water supply and sanitation. But in this case technical training of engineers, which focused on the TPPF left little room for local innovation.

The perils of defining "acceptable" sanitation technologies may be avoided if policies and programmes focus on *outcomes* rather than *inputs*. The Government of South Africa defines "access to sanitation" in terms of the adoption of hygienic behaviours including safe disposal of excreta. This leaves projects and localities with freedom to adopt approaches which are locally appropriate, and for the impact to be evaluated using simple indicators.

In many Latin American countries, levels of services for sanitation are relatively high and many urban households expect to connect to a networked sewerage system. In many congested urban slums, this may be the only option as there is no room for on-site disposal. But sewerage is expensive. In Brazil an alternative approach to conventional sewerage, known as condominial sewerage, was developed over twenty years ago, and is now adopted as standard in many cities and towns. Condominial approaches are cheaper to build and operate than conventional systems, but have not expanded into neighbouring Latin American countries as fast as could have been expected. In Bolivia, the intervention of an external support agency (Swedish International Development Cooperation Agency - SIDA) and support from the Water and Sanitation Program (WSP) enabled the government and the private operator in La-Paz El-Alto to experiment with the condominial approach. External support agencies in such a case can provide access to skills (technical or social development skills) and provide funds for activities which perhaps cannot initially be funded from the governments' own programme because the rules and approaches being piloted fall outside the existing government rules and standards.

In the arena of sanitation marketing, there is much less experience than in the area of direct technology development. Research from Africa shows that many small-scale-independent providers are relatively good at tailoring their services to the needs of "customers", but few countries have looked at ways to use the skills of the private sector, and marketing experts in particular, as part of a sanitation marketing effort. More work is needed to explore this potentially important area of hygiene improvement.

Case Study Box 8: What Sort of Sanitation do we Want?

Information about the adoption of Blair VIP latrines in Zimbabwe is taken from Robinson, A. (2002) *VIP Latrines in Zimbabwe: From Local Innovation to Global Sanitation Solution* Field Note 4 in the Blue-Gold Series, Water and Sanitation Program – Africa Region, Nairobi

The analysis of the impacts of India's use of the TPPF latrine is based on 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

Definitions of Access are discussed in Evans, B., J. Davis and Cross, P. (2003) *Water Supply and Sanitation in Africa: Defining Access* Paper presented at the SADC conference, Reaching the Millennium Development Goals, August 2003

South Africa's systematic reforms are described in Muller, M. (2002) *The National Water and Sanitation Programme in South Africa: Turning the 'Right to Water' into Reality* Field Note 7 in the Blue-Gold Series, Water and Sanitation Program – Africa Region, Nairobi and Elledge, M.F., Rosensweig, F. and Warner, D.B. with J. Austin and E.A. Perez (2002) *Guidelines for the Assessment of National Sanitation Policies* Environmental Health Project, Arlington VA p.4

The El Alto experience is well documented on a dedicated website at www.wsp.org For an introduction to the programme, and information on the costs and benefits of the approach see Foster, V. (n.d.) *Condominial Water and Sewerage Systems – Costs of Implementation of the Model Water and Sanitation Program*, Vice Ministry of Basic Services (Government of Bolivia), Swedish international Development Cooperation Agency.

A discussion of the role of small-scale-independent providers is in Collignon, B. and M. Vezina (2000) *Independent Water and Sanitation Providers in African Cities: Full Report of a Ten-Country Study* WSP

Notes for Chapter 10

- i In urban situations, the cost of providing what is sometimes the only 'allowable' technology – conventional sewerage – also swamps the provider (usually the utility) who may respond by doing nothing.
- ii This option will have high operating costs if pumping is required. Non-conventional approaches to sewerage (variations on the "small bore" or "shallow" sewer) may reduce operating costs.
- iii cited in 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.

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ISBN 92 4 159303 2



9 789241 593038