

Landscaping and Review of Approaches to support service provision for Water, Sanitation and Hygiene

September 2006



Acknowledgements

This report was commissioned by the Bill & Melinda Gates Foundation. It was prepared by Jan Teun Visscher and Carmen Da Silva Wells with important inputs from Harold Lockwood, Paul van Koppen, Ton Schouten, Patrick Moriarty, Richard Franceys, Catarina Fonseca, Christine Sybesma, Kathleen Shordt, and Régis Garandau.

This document should be read alongside the other outputs of the Project “Landscaping & Review of Approaches and Technologies for Water, Sanitation and Hygiene: Opportunities for Action” commissioned by the Bill & Melinda Gates Foundation and prepared by a Consortium of Cranfield University, IRC and Aguaconsult.

The other outputs are as follows:

- The main landscaping and review report
- **Landscaping of Approaches** (this document)
- Landscaping of Technologies

Disclaimer

The views expressed in this document are those of Cranfield University, Aguaconsult Ltd., and the International Water and Sanitation Centre (IRC), and may not reflect the views of the Bill & Melinda Gates Foundation.

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Acronyms

CBO	community based organization
EF	enabling factor
IDE	International Development Enterprises
JMP	WHO/UNICEF Joint Monitoring Programme on Water and Sanitation
LA	Learning Alliance
LA21	Localizing Agenda 21 Programme
MOH	Ministry of Health
NGO	non-governmental organization
O&M	operation and maintenance
OBA	output based aid
SDA	service delivery approach
SSHE	school sanitation and hygiene education
SSP	small scale provider
SPWP	small private water provider
UNICEF	United Nations Children's Fund
VLOM	village level operation and maintenance
WB	World Bank
WHO	World Health Organization
WP	water provider
WSP	Water and Sanitation Program
WS&H	water sanitation and hygiene
W and S	water and sanitation

Summary

This document presents the landscaping of approaches and enabling factors applied in the water, sanitation and hygiene (WS&H) sector, which was commissioned by the Bill & Melinda Gates Foundation. It provides a background to past and present approaches and follows a framework based on three main driver categories for improving service provision (see Figure 1. on page 8):

- Self-initiated approaches (building of own or communal wells and latrines etc.);
- Opportunity-driven approaches (entrepreneurs providing different W and S services etc.); and
- Externally initiated or supported approaches (governments/donors providing services etc.)

In each of the approaches a number of enabling factors is presented grouped into three main clusters: financing (credit, cross subsidies etc.), demand stimulation (social marketing etc.), and support systems (legislation, supply chain etc.). A detailed overview of approaches and enabling factors is included in Annexes 1 and 2. Hygiene promotion is not included as a separate item but as an integral component of demand creation in water and sanitation respectively. The annexes provide more detail and an assessment of the scope and sustainability of specific approaches. They include references (website links) of case studies and further information. The assessment is indicative only because approaches always relate to specific technologies in a specific socio-economic, organizational, legal, and political context.

In general, interventions in water supply are more communal and sanitation interventions more household based, but similarities exist in approaches and enabling factors between the two. Although overlap exists, they are dealt with separately as some readers may be more interested in either one of the two. The most important findings and current trends in approaches and enabling are presented in Table 1. This overview shows that a number of changes are taking place, but that in general learning is slow and sharing of lessons often does not appear to be included in the activities that are undertaken.

Table 1. Overview of trends in approaches and enabling factors

Service delivery approaches	<ul style="list-style-type: none"> • Similarities exist in approaches between water supply and sanitation, but the former are more institutionalized; sanitation is less advanced and much more a household issue • Increasingly combinations of approaches (drivers) are used creating partnerships between government, private sector and/or NGOs • Opportunities for private sector involvement are growing, as government agencies change their role from provider to facilitator.
Financing	<ul style="list-style-type: none"> • Clear change is occurring in financing, moving towards users paying a larger share (at least operation and maintenance cost), because earlier grant-based interventions proved unsustainable. In sanitation several actors are shifting from subsidies for hardware to promotion, advice and credit • Volunteer-based interventions are not sustainable and are shifting to incentive-based interventions • Financial resources from donors are moving away from project support towards budgetary support. This seems to improve efficiency, but on the downside reduces potential for innovation as research has a very low priority for national governments • Poverty focus and gender sensitivity of interventions is still more lip-service than mainstream practice
Demand stimulation	<ul style="list-style-type: none"> • Interest in demand stimulation is growing as supply driven interventions prove not very successful • Health based promotion of service improvement has been the main way of demand stimulation but a clear shift is taking place towards marketing based on convenience, status etc. and demonstration
Support systems	<ul style="list-style-type: none"> • In many places legislation does not support the growing potential of private sector interventions • Partnership approaches are increasingly benefiting from the different strengths of the actors • Interest in the forming of associations of water providers (water committees) is growing • Institutional reform is being applied by some public utilities. Further support of this reform is needed as earlier expectations of privatization is not materializing because of political tension and low profitability • All actors suffer from limited access to objective information and advice, and lack of innovation, resulting in a considerable economic loss because of inadequate solutions • Promising experience exists with learning alliances, learning projects and capacity building networks

It is equally clear that considerable potential exists to improve and further develop and share innovations and particularly stimulate more comprehensive partnership approaches. A summary of the main areas for potential support is provided in Table 2.

Table 2. Development challenges and opportunities in assessed approaches and enabling factors

Service delivery approaches	<ul style="list-style-type: none"> • Self-improvement has much greater potential particularly in sanitation but requires better understanding and support • Considerable untapped potential exists for private sector interventions particularly when working more in partnership • Public utilities are the main suppliers in many countries; strengthening utility reform will improve performance and with proper cross subsidies may help to expand services to poor people in slums
Financing	<ul style="list-style-type: none"> • There is growing understanding that sustained service delivery depends on user payments, but stimulation of users and ‘polluters pay principle’ is essential • Further development of innovative financing, including exploring sustainable credit facilities, rotating funds and output-based subsidies, but also creating a better financial basis by adopting principle of multiple (productive) water use • Pro-poor and gender sensitive financing including cross subsidies needs to be tried at large scale
Demand stimulation	<ul style="list-style-type: none"> • Comparative analysis is needed of different hygiene and marketing-based interventions to promote service improvement and improved hygiene behavior, including their potential to reach the poor
Support systems	<ul style="list-style-type: none"> • Promotion of improved legislation to support the growing potential of private sector interventions • Strengthening of partnership approaches to benefit from the different strengths of different actors • Stimulation of the formation of associations of water providers (water committees) (economy of scale) • Explore possibilities of franchising to improve service delivery by private sector and ensure its quality • Strengthening of institutional reform including emphasis on staff capacity and incentives to adopt pro-poor and gender sensitive interventions • Strengthening supply chains in support of enhanced implementation and maintenance • Improving access to information and advice will improve quality of interventions, reduce costs, enhance possibilities for ‘user control’ and limit possibilities for corruption • Expansion of existing experience with learning alliances, learning projects and capacity building networks • Create mechanisms such as ‘challenge funds’ to enhance scalable innovation in the sector based on involvement of all actors in setting the research agenda and the learning

The list of challenges and opportunities is substantial and priorities will depend on the different actors that want to take issues further. As indicated earlier many of these potential challenges and opportunities should not be seen in isolation. The work presented in the ‘Main Report’ and in the ‘Report on the Selected Opportunity Areas’ provides a good entry point to prioritize potential action on specific approaches and enabling factors. But some more generic, higher level issues can also be identified which would provide important entry points for further development. These include:

- How to make economic principles start to work better in the sector while ensuring that the poorest members of society also get a fair share? This is an important challenge which would need to explore solidarity issues in terms of sharing with people the need to pay reasonable tariffs which allow subsidizing services to the poorest. This implies that it is necessary to explore how to adopt a client-focused approach and ensure good communication;
- How to better benefit from the potential embedded in utilities and small water providers? It is important to realize that these are the backbone of water and sanitation provision in industrialized countries.
- How to encourage Non Governmental Organizations (NGOs) to work together with other NGOs and other actors including government because they often have a limited area where they implement their activities and a limited time span for their involvement? and
- How to ensure that access to information and experience is available and learning becomes a priority? A much stronger role can be played for example by universities in the developing world if they would establish research and development activities that match the needs of sector organizations and develop them together. Funding for this type of activities through a targeted challenge fund that requires multi stakeholder participation in the research could address a considerable number of the challenges and opportunities mentioned in chapter 4.

1. Introduction

Different service levels exist in water supply and sanitation with polluted wells or surface water sources at walking distance and open air defecation and wrap and throw being the lowest ‘service’ levels and piped supplies and sewers the highest. Table 3 provides an overview of the principal service levels differentiating between on-site services that users can access in or close to their house and off-site services that are further away. It is important to realize that everybody has a certain level of service, with the poor and extreme poor often having the lowest levels and facing the biggest difficulties to upgrade their facilities unless they receive some help, whereas the better-off in general have more possibilities to help themselves or to benefit from or pay for interventions from others.

Table 3. Service levels from a users’ perspective

	Water supply service (1)	Sanitation service (2)
On-site service	Private well Rainwater harvesting Water vendors Yard connection House connection	Wrap and throw Pit latrines (dry, compost, pour-flush) Septic tank Flush toilet connected to sewer
Off-site service	Open surface water sources and wells Handpump supply Public stand posts	Open field defecation (dry and wet) Shared toilets (with other families) Communal facilities (‘free’ or pay and use)
1. Water quality may require an extra effort; contaminated groundwater (fluoride, arsenic) and surface water (bacteriologically unsafe) requires treatment or may force users to buy drinking water separately. 2. Hygienic disposal of faeces may require a removal and a treatment system		

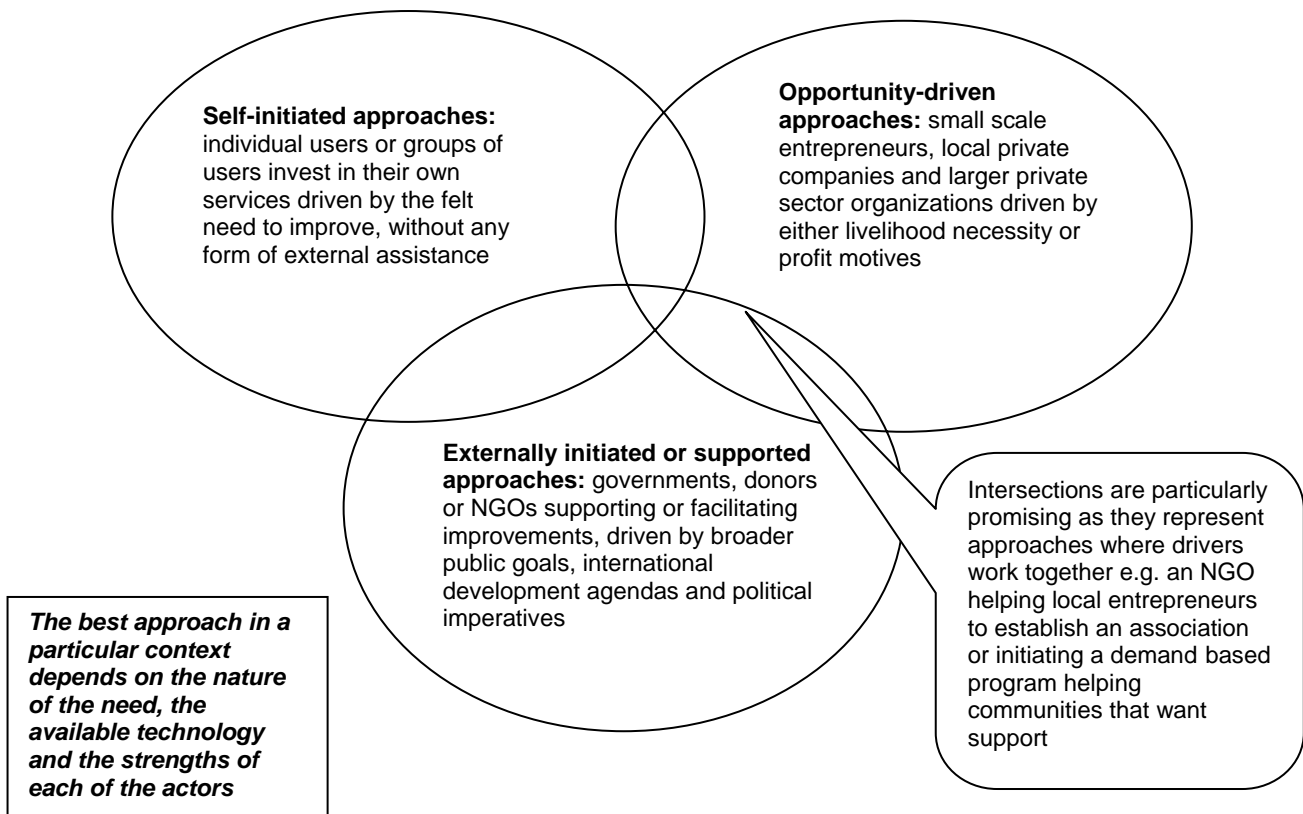
Different approaches to upgrade and sustain service levels are being reviewed in this paper. It is important to stress that approaches do not deliver services from scratch but are meant to improve and sustain service levels, starting from what people have. The particular user ‘pays for’ a ‘service’, either directly or indirectly because of the consequences of poor service, and may perceive such services as: good, acceptable or unacceptable. This is already subjective because many people may have learned to live with what they have, even if it is unhygienic or not convenient and inadequate. Some pay too much whereas others pay too little because of poorly targeted subsidies.

The first difficulty was to decide on the word *approach* which in the sector is used for widely different meanings and at different levels. Collins Cobuild English Dictionary defines an *approach* as ‘a way of thinking about or dealing with a situation or a problem’. However, many people interchange the word approach with other related terms such as *concepts* (the theoretical justification of an approach); *models* (the institutions, resources and arrangements to give shape to an approach) and *tools or methodologies* (the implementation of an approach).

Taking a drivers’ perspective

We recognize that the concept of ‘approaches’ is not easy to classify or define. We have therefore chosen to restrict the use of the word approach to **service delivery approaches** (Figure 1); within each service delivery approach we have identified a number of what, for the sake of clarity, we refer to as **enabling factors**, instead of approaches or sub-approaches. The choice to take service delivery approaches as the entry point for our analysis is based primarily on the motivation, or driver, behind efforts to improve services as illustrated in figure 1. We have distinguished three main drivers: i) the users themselves who see the need for improvement and take action or seek support; ii) opportunity driven ‘entrepreneurs’ who see an opportunity to make a living; and iii) external organizations who ‘have a legal or moral obligation to provide ‘services’ or assist in other ways.

Figure 1 Overview of approaches to service delivery and their drivers



The relative importance of each of these driver categories will vary according to the context. In a highly aid-dependent country such as Ethiopia, externally initiated and self-initiated approaches have been more dominant than opportunity-driven approaches. By contrast, in a country such as Colombia, opportunity-driven approaches are much more dominant. Also driver categories operate in some cases side by side and increasingly establish partnerships that benefit from the relative strength of each of the actors; for example in cases where externally supported approaches (through donor financing) seek to engage private sector companies or small scale providers to improve delivery.

Within each of the driver categories we have identified a number of service delivery approaches. Interestingly, as is shown in Table 4 (on page 9) and 5 (on page 20), there is a grey area where a number of approaches can actually span between two driver categories; for example community-controlled management approaches, which contract out part of the operation and maintenance of their system to private sector providers. In each of the service delivery approaches several enabling factors are indicated that are being applied or tested. These enabling factors are grouped under three headings:

- Financing;
- Demand stimulation; and
- Support systems.

The service delivery approaches and enabling factors for water supply and for sanitation and hygiene are addressed below and those in bold italic are described in more detail in Annex 1. When considering these approaches and enabling factors it is important to stress that to be truly successful, they must be *relevant*, and satisfy the perceived *needs and desires* of people and/or institutions, and they must be *feasible* within the reality of existing resources, whether at the household or national level. Looking at the collective experience it is clear that efficient, sustainable water and sanitation services are difficult to achieve, particularly in poor communities. After decades of work we are still getting it right.

2. Approaches and enabling factors for water supply

Table 4 provides an overview of the main service delivery approaches (SDAs) that are currently applied to develop and sustain water supply services. For each specific SDA a number of predominant enabling factors is also included. The full list of SDAs and enabling factors is described and assessed in Annex 1, which includes links to relevant web pages.

Table 4. Overview of service delivery approaches and enabling factors for water supply

	Service Delivery approach (SDA)	Financing (Fin)	Demand stimulation (Dem)	Support systems (Sup)
SELF-INITIATED	Self service	<ul style="list-style-type: none"> ▪ Self-financing ▪ Loans/credit ▪ Revolving F. 	<ul style="list-style-type: none"> ▪ Hygiene promotion ▪ Entrepreneurs 	<ul style="list-style-type: none"> ▪ Supply chain
	Community controlled water providers	<ul style="list-style-type: none"> ▪ Cost sharing ▪ Recovery O&M cost ▪ Loans/credits ▪ Social development fund 	<ul style="list-style-type: none"> ▪ Hygiene promotion ▪ Demonstration projects ▪ Participatory approaches ▪ Demand responsive approach ▪ Gender sensitive approach ▪ Multiple use promotion 	<ul style="list-style-type: none"> ▪ Legislation ▪ Supply chain ▪ Institutional support mechanisms ▪ Partnership approaches ▪ Knowledge and information support systems ▪ Association of service providers / water committees ▪ Learning Alliances ▪ Joint learning projects
OPPORTUNITY DRIVEN	Small scale private water providers	<ul style="list-style-type: none"> ▪ Loans/credits ▪ Guarantees ▪ Output-based aid ▪ User financing ▪ Social development fund 	<ul style="list-style-type: none"> ▪ Marketing by provider ▪ Broader promotion by franchiser 	<ul style="list-style-type: none"> ▪ Legislation ▪ Supply chain ▪ Franchised water providers ▪ Partnership approaches ▪ Networking for capacity development and learning ▪ Knowledge and information support systems
	Private utility managed systems	<ul style="list-style-type: none"> ▪ Loans/credits ▪ Revenue financed expansion ▪ Output-based aid 	<ul style="list-style-type: none"> ▪ Marketing by utility 	<ul style="list-style-type: none"> ▪ Institutional reform ▪ Partnership approaches ▪ Networking for capacity development
	Sub-contracts with utilities for part of the service area	<ul style="list-style-type: none"> ▪ Cross-subsidies and differential tariffs ▪ All other aspects under small providers 	<ul style="list-style-type: none"> ▪ All aspects under small providers; ▪ Utility can also be the franchiser 	<ul style="list-style-type: none"> ▪ All aspects under small providers ▪ Utility can also be the franchiser
	Municipal water supply and public utilities	<ul style="list-style-type: none"> ▪ Cost sharing ▪ Recovery O&M cost ▪ Loans/credits ▪ Cross subsidies and differential tariffs ▪ Output based aid ▪ Innovative financing (bonds, equity financing) 	<ul style="list-style-type: none"> ▪ Marketing by utility ▪ Multiple use 	<ul style="list-style-type: none"> ▪ Organizational reform ▪ Institutional support mechanisms ▪ Knowledge and information support systems ▪ Networking for capacity development ▪ Learning projects
	Regional / multi-community schemes	<ul style="list-style-type: none"> ▪ Same as municipal water supply and public utilities 	<ul style="list-style-type: none"> ▪ Same as municipal water supply and public utilities 	<ul style="list-style-type: none"> ▪ Same as municipal water supply and public utilities
EXTERNALLY INITIATED	(De-)centralized government system	The performance of this type of service delivery was very common in the 1980s but is gradually abandoned because of poor results		
	NGO and Donor supported projects	This concerns primarily project based interventions which may have good results during the project period, but can only be sustainable in the long term if based on partnership models		
The different SDAs and enabling factors presented in this overview are described and assessed in Annex 1.				

Context and local conditions have a very important impact on the way in which an approach is applied, and can determine to a large extent whether it is successful. Therefore, we can only make a relative assessment when considering ‘an approach’ in isolation from the context into which it is

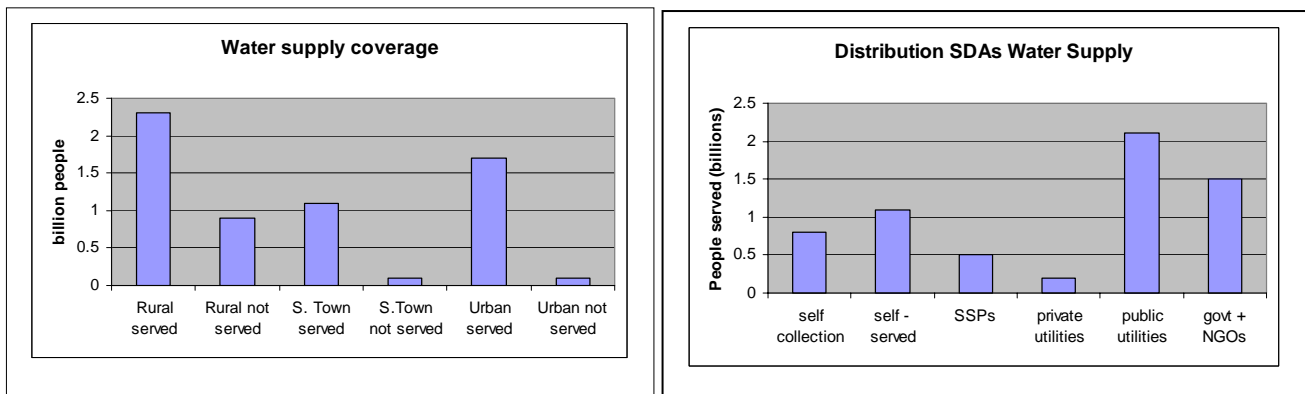
applied (*i.e.* the political and socio-economic conditions, water resources, population densities, relative development of legislation, state of the private sector markets *etc.*).

Self-initiated approaches may work well in a country with many easily accessible water resources, but even in the same country areas may exist where this is not the case. Another very important factor is the level of resources available to the users; whereas poorer countries may benefit from donor support and as a result can ‘afford’ some approaches and develop certain positive enabling factors, the support is usually not sustained over time and as a result we see that initially optimistic results are short-lived. This does not necessarily mean that the approach a failure, but the assessments given on the following pages should be considered as indicative only.

Distribution of approaches

Before entering into a more detailed discussion of the different approaches, first an indication will be given of the magnitude of the different approaches. Figure 2 provides an overview of the water supply situation and the estimated distribution of SDAs based on the assumptions presented in Annex 3. The number of people without access to improved water supply is largest in rural areas (some 0.9 billion) and only 0.2 billion in small towns and urban areas. Growth in rural areas will be minimal although regional differences occur as the rural population in Sub-Saharan African will increase, in other areas the rural population will shrink. The population in urban areas and small towns, however, will grow with some 0.8 billion by 2015.

Figure 2. Overview of Distribution of water supply coverage and SDAs (based on JMP 2002)



The potential of service delivery by small scale providers (SSPs) is only partly reflected in Figure 2, because they also have considerable involvement in construction of water supply facilities for the other categories, this seems to create an important potential for expansion of service delivery by SSPs.

2.1 Self-initiated service delivery approaches

At least 1.1 billion people have developed their own wells or more complex communal services including piped water supplies. This is a very sizeable group of people. Many of them use their own ‘historic’ knowledge to solve their water problems, receive help from neighbors, contract private sector organizations. Others are receiving support from NGOs and government. Particularly the latter two partnership options are interesting intersections (see Figure 1). Such partnerships can lead to better and more sustainable services.

▪ **Self-service driven by individual households;**

Current situation

- A considerable part of the 1.1 billion people in this category depend on their own facilities (open wells, rainwater harvesting, standpipes, etc.), which they have constructed or improved themselves using their own 'historic knowledge' and creativity or with help of local contractors and NGOs.
- Self-service requires considerable efforts, resources and knowledge about possibilities. Limited access to finance, advice and good materials may result in low quality systems and low gender sensitivity leads to a considerable burden for women and children in collecting water. The situation is worse if land and tenure rights are not legalized as this restrains people from making what they perceive as high risk investments.

Challenges and opportunities to improve the situation

- NGOs, and sometimes staff from Ministries of Health, will often encourage people to change the situation and provide them with advice and occasionally provide material and credit facilities often in the form of rotating funds. *In Thailand for example, the government started a program to introduce self-help rainwater jars, which has widely spread and is taken over by private sector (Self-service see Annex 1).*
- Enabling factors supported by NGOs, but even from line ministries, are usually project based which initially may lead to good results. However, these results are often not sustained over time because projects end and policies may change without taking into account the effect this may have on existing programs. Political bias and promises made during electioneering can, and frequently do, disrupt planning and favor one group of society over others by distributing resources on the basis of political patronage, rather than assessed need.
- **Entrepreneur based support** is more sustainable particularly in less poor areas, but entrepreneurs often lack access to **good information** and advisory support, **credits** and a **reliable supply chain**.
- Self-initiated approaches have a growing potential in quite some countries, because of the impact of significant financial resources sent as remittances by migrant workers.
- Technologies need to be simple, particularly in terms of management requirements. Furthermore users require access to **good advice, good materials and credit**. Special measures (**subsidies**) will be required for the poorest sections in the communities.

▪ **Community driven approaches;**

Current situation

- Another important part of the 1.1 billion people, often driven by one or a few leaders, have taken the initiative to jointly develop water supply systems (wells, piped supplies etc.). The performance and track records of these systems vary considerably, with many having operation, maintenance and financial problems. They often lack access to good information and advice.
- Service delivery often only reaches part of the community, mostly favoring the better off; service provision is often intermittent, water quality is frequently problematic and testing is limited or non-existent.
- The lack of supportive regulatory frameworks poses problems as systems are not built to standard and often do not take into account potential conflicts over sharing of water resources between adjacent communities.
- Increasingly governments, NGOs and donors promote community management, but do not really develop a support system that can advise and assist when more important operational problems arise.

Challenges and opportunities to improve the situation

- A large number of 'community managed systems' start on a voluntary basis, sometimes only having one person as an operator. This frequently leads to problems in terms of continuity and

- therefore gradually community management systems are tending towards more **business type models** with paid staff positions (payment in cash or kind), but still under community control.
- A wide range of programs have provided support to community managed systems through project based interventions, research activities and learning projects. This implies that a considerable knowledge base exists which can be used for strengthening partnership approaches and learning alliances such as the existing group on scaling up community management in which several international and national organizations collaborate.
 - **Financial support** for community managed systems is provided through different mechanisms from government, donors and NGOs which all may be helpful particularly if a **partnership model** is used. Long term sustainability however depends primarily on users' contributions based on **differential tariffs** (preferably volume based) and is positively influenced by **gender sensitive approaches** and offering a choice in service level.
 - A broad range of **hygiene promotion models** is currently being applied, mainly by NGOs, where emphasis is given to more participatory and gender sensitive techniques, which are more realistic in smaller communities.
 - **Legislation** of the management of water supply systems by community based organizations has progressed in many countries and provides a good basis for further development.
 - An important problem remains the lack of back-up support (**institutional support mechanisms**), which for example in the USA is arranged through a subsidized university-based clearing house model that can be accessed free of charge by telephone or email for advice and capacity building (see Annex 1). Some small scale experiments are being initiated along these lines with **information and support systems**, but require further development and support.
 - A positive development is that a number of community based organizations have established **water operator associations** (associations of water committees) for example in Honduras and Colombia which allows them to benefit from some economy of scale and to be a stronger player in the discussion with the government (see Annex 1).

2.2 Opportunity driven approaches

In many places in the world both in rural and urban areas private sector organizations have seized opportunities to make a living or considerable profits by providing water services such as the construction of wells, water transport, vending, construction and management of piped water supplies, some also take care of water treatment. They include on the one hand a large number of small entrepreneurs who operate small businesses involved in a broad range of issues (these typically are individuals operating informally or small and medium size indigenous private companies providing services to over 500 million people globally) and on the other hand large private utilities, providing services to over 200 million people including utilities from industrialized countries and their subsidiaries. Formal private sector concessions in developing countries often receive strong support from the World Bank, other development banks and the International Monetary Fund.

A heated debate has grown around the contentious issue of privatization, especially where large foreign-owned or controlled companies are perceived as extracting profit from concessionary agreements. But in fact the private sector is involved, and has been for a long time, in one way or another in most of the water supply systems in the world, often through small local companies or individuals. What differs per situation is the level of 'control' that is being applied by users and governments. The users contracting services from a supplier can refuse to pay or get services from someone else, provided these are available and are not controlled for example by the Mafia. Also in a growing number of countries the government has established 'control agencies' for water supply provision to which water providers are accountable. Several of these are still relatively new but they are of great importance for the sector.

▪ **Small scale water service providers;**

Current situation

- Small scale providers (SSPs) are a very diverse group operating in rural as well as peri-urban and concentrated urban areas. In some cities they provide services to a larger number of users than formal utilities do at a cost that is not always higher (although this is not commonly perceived to be the case).
- Most SSPs face quite similar problems in terms of having limited technical knowledge and financial means, which they sometimes manage to overcome by taking out costly loans but also by obtaining financial support from their clients.
- Service delivery is not well regulated and as a result users have few opportunities to file complaints particularly as the SSPs may have a monopoly in certain defined geographic areas. In general the enabling environment (policies, laws, government institutions, access to spare parts etc.) is not very supportive and in many places the SSPs are illegal.
- Water quality is almost never addressed nor controlled and the service may not be affordable to the poorest people.
- Increasingly some governments are trying to encourage the development of private or mixed types of service providers to start operating water supply facilities or encourage community based organizations to become more business minded.

Challenges and opportunities to improve the situation

- A large number of SSPs operate in a legal vacuum, but in a number of countries their importance is being recognized and their involvement is formalized and some donors and NGOs are providing support.
- The knowledge base about SSPs is scattered but some initiatives exist to make an effort to enhance understanding and improve performance (e.g. studies commissioned by WSP-World Bank, IDE etc.).
- Financial support for SSPs comes from a wide range of sources including their *own capital*, (expensive) *private local funding*, *investments by users*, but also from *micro-credits* and *guarantees*. Increasingly they are contracted by large NGO and donor supported projects including the *social development fund* mechanism. Long term sustainability of SSPs depends fully on user contributions.
- Whereas the SSPs benefit from *hygiene promotion models* they are primarily involved in *self-marketing*, often based on mouth-to-mouth promotion. SSPs could benefit from further development in this area by exploring more poverty oriented and gender sensitive techniques. There is also great potential benefit from having a *franchiser* as umbrella organization to boost consumer confidence and to guarantee quality.
- *Legislation* of the role of SSPs is progressing, but only in a limited number of countries. SSPs need to gain much wider recognition in order to maximize the potential benefit from the services these types of providers can supply.
- The existing barriers in access to materials and advice need to be overcome, which usually will require improvements in the *supply chain*. Economy of scale is crucial and can perhaps be best supported by *franchised models*. Access to advice and information may also be established through a (subsidized) clearing house model.
- A positive development is that some SSPs *such as the water kiosk owners in Kibera in Kenya* are forming *associations* thus increasing their collective capacity to seek advice and to negotiate with water utilities and government (see Annex 1).
- However, without adequate capacity building and access to good information, innovation and finance, SSPs will not be able to make the step-change that is necessary to quickly expand and improve their services.

▪ **Private utility managed system;**

Current situation

- Typically many private utilities started out as public utilities and have been subsequently transferred into private or public-private ownership. They differ in size and in the way they are controlled by municipalities and governments. They are usually well operated and staffed and have clear contractual obligations and most seem to aim at making a modest (not excessive) profit. Experience is very mixed and many private utilities have run into problems and have been forced out of concessions.
- It is common for a number of private utilities to be responsible for the water supply of capital cities or the larger metropolitan conurbations, often with a concession or management contract held by private utilities from industrialized countries.
- In general private utilities have been able to improve the service provision while reducing operational cost. They also normally have expansion targets built into their contracts to extend the service network to new areas. Good examples also exist of mixed utilities such as the utility in Cartagena (*utility water supply* Annex 1)
- Most systems provide house connections to the better-off and try to expand their service area. Sometimes cross subsidies are provided to poorer groups and water is made available to them through water kiosks or often ill-maintained public standposts.
- As part of reform of the old public utility, many privately managed companies seek to increase tariffs to establish a financially viable operation; in some cases, tariff increases are part of the concessionary contracts.
- Tariff reform is a highly contentious issue, especially in countries where access to water is considered a social issue. Studies have shown that in many places a considerable part of the population is willing to pay more for a reliable service than the actual tariff. On the other hand tariff reform needs a careful strategy because in a significant number of cases including *for example in Cochabamba, La Paz, Manila, Jakarta etc.* (*utility water supply* Annex 1) private utilities failed to find a careful approach and this resulted in political pressure which has caused the (costly) withdrawal of concessionary contracts. Lack of political security and volatility in many countries, are the main reasons why international utilities do not want to expand their investments unless they get better financial *guarantees*.

Challenges and opportunities to improve the situation

- The knowledge base on private utilities is mostly embedded in the utilities and consultant firms from industrialized countries, with good technical and organizational knowledge, but less understanding of poor consumers living in slum areas of cities.
- Financial support for private utilities comes from loans from development banks, investments from the parent utility, and municipal funding. Long term sustainability depends on user contributions, but utilities are often not allowed to increase their tariffs without the explicit consent of the government. They may use *differential tariffs* (cross subsidies) to bring their service to poorer population groups but usually fail to reach the poorest groups.
- Private utilities have their own consumer department that encourages people to obtain a house connection. Some may also have campaigns for example to encourage efficient water use. They could benefit from adopting more poverty oriented and *gender sensitive techniques* and *partnership approaches*.
- Private utilities operate in a *well-defined legal environment* with usually clear contractual obligations. Contracts usually begin with a reorganization phase, the establishment of benchmarking arrangements and the introduction of staff incentives, all aiming at improving the operational efficiency of the utility.
- Access to materials and advice is usually embedded in the link with the parent utility, but could benefit further from public-private *partnerships* particularly aiming at better understanding of the concept of limited but sustained service provision in slum areas.
- *Supply chains* are not much of a problem because of the large volume of materials and equipment that can be obtained if required even on the international market.

- A positive development is the establishment of public-private partnerships, which for example were used in the *case of Cartagena* and the *case of CONHYDRA in Marinilla (utility water supply Annex 1)*. These more participatory approaches may reduce the political controversy, and may also entail better opportunities to provide services to the poorer sections.
- In many cases staff from the utility does not have adequate experience to engage with poor consumers living in slums and so they simply duplicate approaches used in other urban areas which are often inadequate. However, increasingly utilities are starting to provide services to poorer sections in their service area using a system of cross subsidies or external funding and some also document the lessons that are being learned.
- Capacity building is often done as in-company training which has the advantage of a clear focus and the possibility to link it to specific problems and needs, but it could be strengthened by linking up through a shared capacity building network, partnering with public utilities and NGOs.

▪ **Sub-contracts with utilities for part of the service area;**

Current situation

- Community groups or small scale providers may establish a contract with a private or a public utility to obtain bulk water supply and subsequently distribute and/or sell this on to individual users. Different forms exist ranging from water kiosks or tanks connected to the water supply system to water supplied by tanker and bottled water.
- The situation for these sub-contracts largely resembles community-driven approaches or SSPs.

Challenges and opportunities to improve the situation

- The challenges and opportunities to improve the situation depend to a great extent on whether or not the approach being adopted involves community management or is based on SSPs. Perhaps the main issues for both forms concern water quality control, cross subsidies to reach the poorest households, efficient water use to reduce costs and community/user control. A franchise model may be feasible, under which the utility can also be the franchiser, but this is less well understood.

2.3 Externally initiated approaches

Different actors including governments, donors and NGOs are initiating activities to provide water supply services to users. Together they represent a large part of the service provision covering over 3.5 billion people. The largest share is in the hands of municipal utilities (public utilities) covering some 2 billion people. Government and NGO projects cater for some 1.5 billion people. The common denominator of almost all of these actors is that they are typically supply driven, seeing users as beneficiaries and not as clients. The drive behind the supply driven approach may be quite different for each actor. Governments may be particularly interested to provide services to their constituency, municipalities may have the obligation to provide water in the area under their jurisdiction and the motivation of donors and NGOs may be to help poor people in developing countries, but 'on terms' that are (partly) decided in their home country (tied aid).

Typically in the 1960s and 1970s this resulted in technology driven approaches, offering just one service level in a 'take it or leave it' approach. In response to considerable failure, initial efforts in the 1980s focused on improving the technology, which resulted for example in the so-called *VLDM pumps (Village Level Operation and Maintenance) for rural areas, that were supposedly better suited to be operated and maintained at village level (SDA2a Annex1)*. When this did not prove to be sufficiently successful the emphasis shifted to greater community involvement, capacity building, hygiene promotion and more demand based instead of supply driven interventions.

The poor performance of many systems operated by central government and the pressure of different donors and development banks has stimulated governments to adopt a decentralization process in which responsibilities for water supply are transferred to municipalities, but usually without adequate capacity building and financing. This leaves local government in a difficult position and with poorly performing systems. In some cases however, local governments try to solve this by moving towards community management models and in other cases by involving private sector. NGOs are also now changing their approach and starting to seek more support at community level and are trying to become more demand responsive. Another important development is that a number of donors are moving away from their earlier more fragmented project-based funding approaches towards sector wide approaches and basket funding where they provide financial and sometimes technical support to governments on the basis of concrete sector plans, together with other donors. However, some bi-lateral donors still seem to distrust government and provide direct funding to regional and local organizations.

▪ **Municipal water supply and public utilities;**

Current situation

- Public utilities are the most common form of municipal water supply. They differ in size, performance, efficiency and effectiveness. Typically they serve part of the municipality with a piped system which often serves the better-off in the community. The poorest sections may obtain poorly functioning public stand posts or no service at all.
- Many utilities are not very well operated and staffed, although a few examples exist of properly managed utilities that perform very well.
- Political influence may be considerable and an important reason for substandard performance.
- Many utilities apply tariffs that do not cover the true cost of service provision. They are subsidized partly through grants and loans from donors, development banks and also in part by central government. Whereas many public utilities are not performing very well, several have taken up a utility reform process and have been able to improve the service provision while reducing operational cost. Also they have been able to expand the service network to new areas.
- Attempts are being made in different places to improve utilities, through benchmarking which makes it possible to compare performance, staff incentives and reform processes with sometimes very good results.

Challenges and opportunities to improve the situation

- Public utilities operate in a political arena with a legal environment that often gives them insufficient independence particularly in relation to tariff setting.
- The knowledge base on utilities is mostly embedded in the utilities themselves. The larger utilities may obtain support from consultant firms from industrialized countries, with good technical and organizational knowledge, but less understanding of, for example, slum water supply and slum inhabitants.
- Financial support for public utilities comes from a range of sources including cost sharing in construction (users providing inputs), loans from development banks and municipal funding. Long term sustainability depends on user contributions and on contributions from the municipal budget. Possible increases in tariffs are often politically constrained. They may use *differential tariffs* (cross subsidies) to bring services to poorer population groups but usually fail to reach the poorest groups.
- Experience is being established with innovative financing such as *bonds, equity financing* (obtaining funding on the basis of existing assets) and *output based aid*. Results are claimed to be positive, but are very recent and need confirmation through further research.
- Larger public utilities may have their own consumer department that encourages people to obtain a house connection. Some may also have campaigns for example to encourage efficient water use. They could benefit from adopting more poverty oriented and *gender sensitive techniques* and *partnership approaches* to reach out to poorer user groups.

- Smaller utilities in particular may explore options for **multiple water use** to increase the resource base for the financial viability of the system by enhancing opportunities to productively use the water from the system.
- Access to materials and advice usually depends on the size of the utility and locally available supply chains. The smaller utilities can benefit considerably from pooling resources and from public-private **partnerships** to obtain better advice and jointly work out approaches to sustained service provision in slum areas.
- **Supply chains** for smaller utilities can be a problem because of the relatively small volume of materials and equipment that they require. Often these smaller entities may not have access to the international markets, but this may even be the case for some of the larger public utilities.
- A positive development is that some utilities seem to become more open to public-private **partnerships**, which may help reduce political tension, and may entail better opportunities to provide services to the poorer sections.
- Utilities are starting to provide services to poorer sections in their service area using a system of **cross subsidies** or external funding. Whereas this is a positive development, the downside is that the utility staff often does not have experience with client based approaches in slums and so they copy the approach they use in other areas, which are usually inappropriate.
- One of the crucial issues is **utility reform**, which has improved the performance of a number of utilities, but needs to be taken up at a much larger scale bringing in benchmarking and incentive based operation. Interesting examples exist such as the *incentive based systems that is used in China with staff salaries depending on tariff collection*.
- Access to knowledge and information is a limiting factor in many (smaller) utilities. As a result they may miss many opportunities to be more efficient and effective. In some cases this is being addressed by forming associations of water providers, but this is not happening at scale.
- Capacity building is often carried out in the format of company training which has the advantage of a clear focus and the possibility to link it to specific problems and needs, but it could be strengthened by linking up through a shared capacity building network by partnering with public utilities and NGOs. *Some good examples exist of utilities that become member of an association of service providers which provide training and advice such as the case of ANESAPA (Asociacion Nacional de Empresas de Servicio de Agua Potable y Alcantarillado) an association of service providers in Bolivia (Annex 1).*

▪ **Regional and multi-community schemes;**

Current situation

- *Experience exists both with regional and multi-community schemes. In the regional schemes one public utility takes responsibility for the water supply of different municipalities, which each have their own water supply system. In multi-community schemes one piped network serves several communities in an area (Annex 1);*
- The main advantage of this approach is the economy of scale, which particularly applies to the regional water utilities.
- The multi-community model may bring economies of scale, but at the same time if not properly organized, may lead to conflicts between the different communities over issues such as water distribution, especially during dry periods when rationing may be necessary.

Challenges and opportunities to improve the situation

- The challenges and opportunities to improve the situation are similar to those of the public utilities

▪ **(Decentralized) government systems;**

Current situation

- Central government agencies are still responsible for operation and maintenance of a large number of small water supply systems in a number of countries, including individual handpump systems.

- Performance of these systems is often substandard and in most countries alternatives are being explored. Decentralized responsibilities to municipal level, community management, but also some private sector arrangements are being explored.

Challenges and opportunities to improve the situation

- The challenges and opportunities to improve the situation are considerable, with a clear focus on phasing out the involvement of central and regional government, adopting one of the other service delivery approaches which have been described in this section.

▪ NGO and donor supported projects;

Current situation

- Many donors and NGOs have developed, and some indeed are still developing, their own projects sometimes completely in parallel with the existing national initiatives. Initially these may have good results and they may also be able to better target the poorest groups, but the long term performance of these projects is often not good. The large numbers of handpumps introduced by this type of program that show substandard performance are a clear example of this. It is therefore positive that many donors, and to a lesser extent NGOs, move away from this type of project-based intervention.
- There are many different types of NGOs. They range from small local NGOs which in some cases are in fact operating as contractors making a living by constructing facilities, to large international NGOs. An important limitation is that they rarely are able to establish country wide interventions as their operating area is often much more limited. With a few exceptions collaboration among NGOs is in fact very limited. This may be because they feel the need to put their own stamp on results to be able to sustain their funding base.
- On the other hand donor and NGO supported projects have encouraged innovative approaches to be developed and tested. In that sense these projects have been very important, but all suffer from the problem of going to scale, basically because they are project based and do not build in the concept of *learning projects* into their mainstream programs.
- Donors also have supported universities to carry out research activities in the sector, but are in fact moving their support more to sector wide approaches or budget support. Less funding is made available for research, possibly partly because earlier, research often was not linked to mainstream activities and did not lead to changes in the university programs in developing countries.

Challenges and opportunities to improve the situation

- The challenge to improve the situation is to ensure that interventions based on isolated projects are phased out, but without losing the innovative character that some of these interventions have had in the past. An important limitation of current mainstream projects in the developing world is that they still focus primarily on construction and less on sustained service delivery and innovation. Encouraging the establishment of *partnerships and learning projects* could be a viable way forward to mainstream innovation and investment in long-term support. The latter are seen as critically important.
- Another important issue is to encourage NGOs to collaborate to avoid overlap both with local government and private sector to ensure longer term sustainability. *Partnership approaches* are essential to ensure that innovations can truly be taken up in mainstream programs and become sustainable.

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Ensuring a stronger role of national universities in the sector is a challenge that needs to be taken up because they *build the capacity* of the new generation of engineers and social scientists that will need to continue the innovation of the sector.

3. Approaches and enabling factors for sanitation and hygiene

Sanitation in the developing world is lagging behind water supply with over 2.4 billion people not having access to improved facilities, many of whom practice open field defecation. Sanitation does not have a real institutional home in most countries, and is almost always given less priority than water supply by users for a variety of social, cultural and economic reasons. Women and girls play a vital role in water provision, sanitation and hygiene and have specific needs that are often not taken into account. Women’s active involvement in planning, design, management and implementation of (water and) sanitation programs has proven fruitful and cost-effective, but is often not put into practice.

In the context of the Millennium Development Goals, a step-change has been initiated and there is now much greater attention for sanitation, as evidenced in the enclosure of sanitation goals in the agreement from the Johannesburg Summit in 2000. This has already led to a larger number of programs that put sanitation as a priority and undertake advocacy approaches to raise sanitation on the political agenda. Donors are more aware of the situation and are earmarking funding for sanitation, partly shifting away from the earlier emphasis on construction of free latrines to providing support to promotion and marketing and to subsidies in response to failing grants from the past.

In this section we have combined sanitation and hygiene because approaches related to improvement of hygiene behavior in practice are very much linked with sanitation improvements. This avoids the considerable overlap that would occur if a separate hygiene improvement table would have been included.

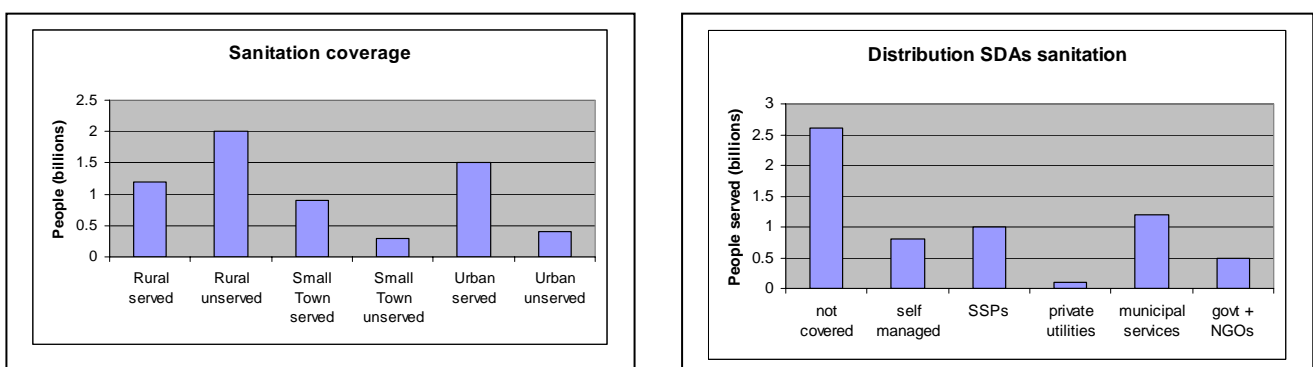
Table 5 provides an overview of the main service delivery approaches (SDAs) that are currently applied to develop and sustain sanitation services and hygiene promotion. For each specific SDA a number of predominant enabling factors are also included. The full list of SDAs and enabling factors is also described and assessed in Annex 2, which includes links to relevant web pages.

As in the case of water supply, context and local conditions have a very important impact on the way in which an approach is applied, and can determine to a large extent whether it is successful or not. Therefore, the assessments given in the following pages should be considered as indicative only.

Distribution of approaches

Before entering into a more detailed discussion of the different approaches, first an indication will be given of the magnitude of the different approaches. Figure 3 provides an overview of the water supply situation and the estimated distribution of SDAs based on the assumptions presented in Annex 3. The number of people without access to improved sanitation is largest in rural areas (some 2 billion) and 0.7 billion in small towns and urban areas. Growth in rural areas, however, will be minimal although regional differences occur as the rural population in Sub-Saharan African will increase, in other areas the rural population will shrink. The population in urban areas and small towns, however, will grow with some 0.8 billion by 2015 thus raising the challenge to 1.5 billion people in small towns and urban areas.

Figure 3 Overview of Distribution of sanitation coverage and SDAs (based on JMP 2002)



The potential of service delivery by SSPs is only partly reflected in Figure 3, because they also have considerable involvement in construction of sanitation facilities for the other categories, which is likely to entail important potential for expansion of service delivery by SSPs.

Table 5. Overview of service delivery approaches and enabling factors for sanitation and hygiene

	Service Delivery approach (SDA)	Financing (Fin)	Demand stimulation (Dem)	Support systems (Sup)
SELF-INITIATED	Self-management and improvement	<ul style="list-style-type: none"> ▪ Self-financing ▪ Loans/credit ▪ Revolving funds ▪ Donor funds ▪ Social development fund 	<ul style="list-style-type: none"> ▪ Health focused approaches ▪ Social marketing ▪ Participatory approaches ▪ Promotion by entrepreneurs ▪ Total sanitation 	<ul style="list-style-type: none"> ▪ Supply chain ▪ Knowledge and information support systems
	Community initiated / managed	<ul style="list-style-type: none"> ▪ Self-financing ▪ Partial subsidies ▪ Tariffs ▪ Pay and use ▪ Loans/credits ▪ Social development fund ▪ Cross subsidies 	<ul style="list-style-type: none"> ▪ Health focused approaches ▪ Social marketing ▪ Participatory approaches ▪ Promotion by entrepreneurs ▪ Total sanitation 	<ul style="list-style-type: none"> ▪ Legislation and regulatory reform ▪ Supply chain ▪ Partnership approaches ▪ Knowledge and information support systems ▪ Learning Alliances ▪ Networking for capacity development
OPPORTUNITY DRIVEN	Small scale providers (SSPs) (entrepreneurs)	<ul style="list-style-type: none"> ▪ Users self-financing ▪ Tariffs ▪ Pay-and- use ▪ Loans/credits ▪ Micro-credit for SSPs ▪ Social development fund ▪ Output-Based Aid 	<ul style="list-style-type: none"> ▪ Marketing by SSPs ▪ SSPs benefit from demand stimulation from other programs 	<ul style="list-style-type: none"> ▪ Legislation and regulatory reform ▪ Supply chain ▪ Partnership approaches ▪ Networking for capacity development and learning ▪ Knowledge and information support systems ▪ Networking for capacity development
	Private utilities	<ul style="list-style-type: none"> ▪ Tariffs ▪ Loans/credits ▪ Output-Based Aid 	<ul style="list-style-type: none"> ▪ Marketing by utility ▪ Participation in demand stimulation programs of others ▪ Utility can also become a franchiser for public toilets 	<ul style="list-style-type: none"> ▪ Legislation and regulatory reform ▪ Supply chain ▪ Partnership approaches ▪ Networking for capacity development and learning ▪ Knowledge and information support systems ▪ Utility can also be the franchiser ▪ Networking for capacity development
	NGO-driven projects	<ul style="list-style-type: none"> ▪ Users self-financing ▪ Partial subsidies ▪ Tariffs ▪ Pay-and-use ▪ Loans/credits ▪ Output-Based Aid ▪ Cross subsidies 	<ul style="list-style-type: none"> ▪ Health focused approaches ▪ Social marketing ▪ Participatory approaches ▪ Demonstration systems ▪ Promoting re-use ▪ Gender sensitive approaches ▪ Combination of approaches ▪ Total sanitation 	<ul style="list-style-type: none"> ▪ Legislation and regulatory reform ▪ Supply chain ▪ Partnership approaches ▪ Knowledge and information support systems ▪ Learning alliances ▪ Capacity development ▪ Networking for capacity development
EXTERNALLY INITIATED	Municipal services	<ul style="list-style-type: none"> ▪ Cost-sharing ▪ Tariffs ▪ Loans/credits ▪ Output-Based Aid 	<ul style="list-style-type: none"> ▪ Marketing by utility ▪ Participation in demand stimulation by others ▪ Utility can also become a franchiser for public toilets 	<ul style="list-style-type: none"> ▪ Same items apply as for private utilities
	Line ministries	<ul style="list-style-type: none"> ▪ Budget support from government and donors 	<ul style="list-style-type: none"> ▪ Primarily health-focused approaches but changing 	<ul style="list-style-type: none"> ▪ Partnership approaches ▪ Learning alliances
	School sanitation	<ul style="list-style-type: none"> ▪ Investment by government, NGOs and donors ▪ Contributions from parents 	<ul style="list-style-type: none"> ▪ Primarily health-focused approaches but expanding ▪ Gender sensitive approaches ▪ Total sanitation 	<ul style="list-style-type: none"> ▪ Supply chain ▪ Partnership approaches ▪ Networking for capacity development and learning ▪ Knowledge and information support systems

The different SDAs and enabling factors presented in this overview are described and assessed in Annex 2.

3.1 Self-initiated service approaches

Over 1.2 billion people have access to latrines and toilets near their house, which they have built themselves or with help of the private sector. For poor families and those switching away from open-field defecation, these are usually simple, unimproved pit latrines. The middle-class have more elaborated facilities, some with septic tanks. Also joint activities of community groups and particularly women's groups have been undertaken to develop sanitation facilities and provide sanitation services as presented in this section.

▪ Self-service driven by individual households;

Current situation

- Many people have constructed their own facilities themselves or with the help of local contractors and NGOs, whereas many others continue to practice open field defecation. Problems include substandard construction, facilities which are difficult to clean and become unsanitary, falling into disuse.
- People without legal tenure rights, people in rental housing and the poorest people, who lack land, suffer particularly from lack of clean or working facilities, and are generally unable or unwilling to afford improved sanitation services.
- Many existing latrines need to be upgraded with technologies that safely compost the pit contents or with improved designs that allow safe pit emptying.
- Limited access to finance, advice and good materials often results in low quality systems.
- Low gender sensitivity does not allow capitalizing on the higher (latent) sanitation demand that often exists among women and girls. A related problem is that at household level, women often do not control the budget for sanitation improvements, thus men need to be involved as well. Gender sensitive design - and a more user-oriented approach in general - could benefit from the high interest of women in improved sanitation.

Challenges and opportunities to improve the situation

- NGOs, and sometimes staff from Ministries of Health, will often encourage people to change the situation and provide them with advice and occasionally material assistance and credit facilities often in the form of rotating funds.
- Enabling factors supported by NGOs and donors, but also from line ministries, are usually project based which initially may lead to good results, but which often are not sustained over time because projects end and policies may change without taking into account the effect this may have on existing programs.
- **Entrepreneur-based support** is more sustainable particularly in less poor areas, but entrepreneurs often lack access to **good information** and advisory support, **credits** and a **reliable supply chain**.
- Self-initiated approaches have a growing potential in some countries, because of the impact of significant financial resources sent as remittances by migrant workers and the shift in emphasis towards **total sanitation approaches**. The main emphasis is on facilities being paid for by the users, sometimes with specific subsidies targeted at the poorest community members.
- People require access to **good advice, good materials and credit** and the motivation to change their situation. Special measures (**subsidies**) will be required for the poorest sections in the communities.

▪ Community driven approaches;

Current situation

- Different groups at community level are jointly starting to become involved in improving sanitation. Successful community programs involve many types, including: existing groups such as women's organizations, local government and specially-organized committees.
- The groups become involved in hygiene and sanitation promotion as well as in the development of public (pay-and-use) facilities. Good examples also exist of **community**

managed systems where user groups become active in developing simplified (condominial) sewerage.

- In most cases the groups obtain external support for example from NGOs who provide professional facilitation, support capacity building, and stimulate hygiene promotion, but to a much lesser extent adequate promotion of demand and monitoring.
- Community managed sanitation services often reach the most active and interested groups, but do not necessarily reach full coverage and therewith do not sufficiently reduce the spread of disease.

Challenges and opportunities to improve the situation

- Community managed systems may often start on a voluntary basis, but this can lead to problems in terms of management of facilities and cleanliness.
- Pay-and-use systems and simplified sewerage for which users pay are showing good performance and sustainability and these approaches are gradually being taken up.
- A wide range of programs have provided support to community-managed systems through project-based interventions, research activities and learning projects. This implies that a considerable knowledge base exists which can be used by strengthening partnership approaches and learning alliances.
- **Financial support** for community-managed systems is provided through different mechanisms by government, donors and NGOs. Positive results can be obtained, particularly if a **partnership model** is used. Long term sustainability however depends primarily on user contributions based on **self-financing** and **differential tariffs** and is positively influenced by **gender sensitive approaches** and offering a choice in service level.
- A broad range of **hygiene promotion models** is currently being applied, mainly by NGOs, under which emphasis is given to more participatory techniques, specifically involving women in improving sanitation and educating their families and the community on hygienic practices. It is important to explore which techniques are more effective and efficient for which size communities and for which groups within the communities.
- **Legislation** of sanitation, adopting the polluters pay principle can be a good incentive to enhance self-initiated sanitation activities and merits further analysis.
- An important problem remains the lack of back-up support (institutional support mechanisms). Some small scale experiments with **information and support systems** are being initiated in the field of water supply but not for sanitation. Hence this area requires further development and support.

3.2 Opportunity-driven approaches

In many places in the world both in rural and urban areas, private sector organizations have seized opportunities to make a living or considerable profits by providing sanitation services. These include the construction of latrines, toilets and septic tanks, vending of materials, pit and septic tank emptying and construction and management of sewerage systems, sometimes with treatment plants. This includes a large number of small entrepreneurs who operate small businesses involved in a broad range of issues (these typically include individuals operating informally or small and medium size indigenous private companies providing both construction and waste management services to some 1 billion people) and also large private utilities from industrialized countries and their subsidiaries, often financed with loans from the World Bank and other development banks (providing support to over 100 million people).

Interestingly, the debate around the contentious issue of privatization is not really present in sanitation to the same extent as it is in water supply provision. This may be a result of the lower number of utilities involved in this but perhaps much more because it is not seen as a social good and the interest

of users is lower. Also users can decide not to take a connection if it is too expensive and proceed with open field defecation, latrines or public toilets.

▪ **Small scale sanitation service providers;**

Current situation

- Small scale providers (SSPs) are a very diverse group operating in rural as well as peri-urban and concentrated urban areas. They provide services to a much larger number of users than formal utilities, who often only deal with sewerage connections and sometimes with emptying of septic tanks.
- Most SSPs face quite similar problems in terms of having limited technical knowledge and financial means.
- Service improvement is not well regulated and as a result users have few opportunities to file complaints particularly as the SSPs may have a monopoly in certain defined geographic areas. In general the enabling environment (policies, laws, government institutions, access to spare parts etc.) is not very supportive and in many places the SSPs are illegal.
- Safe disposal of the content of pit latrines and septic tanks is an important problem often resulting in illegal dumping with negative consequences for the environment and fellow citizens (this is more problematic in some contexts than others; for example in arid regions, surface dumping of untreated fecal sludge may not be a severe health risk if this is removed from human contact).

Challenges and opportunities to improve the situation

- A large number of SSPs operate in a legal vacuum, but in a number of countries their importance is being recognized and their involvement is starting to be formalized and some donors and NGOs are providing support.
- The knowledge base on SSPs involved in sanitation is even more scattered than on those involved in water supply and no initiatives exist to change this.
- Financial support for SSPs comes from a wide range of sources including their *own capital*, (expensive) *private local funding*, *payments by users*, but also from *micro-credits* and *guarantees*. Long term sustainability of SSPs depends fully on user contributions.
- Whereas the SSPs benefit from *sanitation promotion models* implemented by other organizations as this increases the demand, they are primarily involved with *self-marketing*, often based on mouth-to-mouth promotion. SSPs could benefit from further development in this area by exploring more poverty-oriented and gender-sensitive techniques. There is also potential benefit from having a *franchiser* as umbrella organization to boost consumer confidence, guarantee quality and enhance sanitation marketing.
- *Legislation* of the role of SSPs is progressing, but only in a limited number of countries and they need to gain much wider recognition in order to maximize the potential benefit from the services these types of providers can supply.
- The existing barriers in access to materials and advice need to be overcome, which usually will require improvements in the *supply chain*. Economy of scale is crucial and can perhaps be best supported by *franchised models* but also by a (subsidized) clearing house model providing advice and information.
- A positive development is that a number of SSPs (but also women's groups who turn into an informal SSP) provide *pay-and-use services* that meet a considerable demand. In the case of Sulabh International in India, already 4000 units have been installed serving 11 million users. This type of system seems to have a huge potential and can be further stimulated through adopting a franchising model to guarantee quality of service, possibly also providing access to showers and locations to wash clothes.
- *Capacity building* of masons is an important support activity and several NGOs focus with good results on women masons as this also helps the women to generate income.
- Capacity building of SSPs in general needs to be enhanced to be able to make the step-change that is necessary to quickly expand and improve sanitation services. This includes technical,

managerial and ‘promotional’ skills which can assist the SSP to be a successful promoter of behavior change.

▪ **Private utility managed system;**

Current situation

- Typically many private utilities started out as public utilities and have been subsequently transferred into private or public-private ownership. They differ in size and in the way they are controlled by municipalities and governments. They are usually well operated and staffed and have clear contractual obligations and most seem to aim at making a modest (not excessive) profit.
- It is common for a number of private utilities to be responsible for the water supply and sanitation of capital cities or the larger metropolitan conurbations, often with a concession or management contract held by private utilities from industrialized countries.
- In general they have been able to improve the service provision while reducing operational cost. They also normally have expansion targets built into their contracts and extend the service network to new areas.
- Uptake of sewerage connections, however, is often a long-term process and particularly low among the poorer sections, because connection fees frequently represent very considerable financial outlay and often cannot be paid in installments.
- Tariff reform is a contentious issue, but less than for water supply because people simply do not connect if the price is too high. This in itself is symptomatic of the lower demand and priority given to sanitation as opposed to water supply.

Challenges and opportunities to improve the situation

- The knowledge base on private utilities is mostly embedded in the utilities and consultant firms from industrialized countries, with good technical and organizational knowledge, but less understanding of poor consumers living in slum areas of cities.
- Financial support for private utilities comes from loans from development banks, investments from the parent utility, and municipal funding. Long term sustainability depends on user contributions, but utilities are often not allowed to increase their tariffs without the explicit consent of the government. They may use *differential tariffs* (cross subsidies) to bring their service to poorer population groups but usually fail to reach the poorest.
- Private utilities have their own consumer department that encourages people to obtain a connection to the sewer. They could benefit from adopting more poverty-oriented approaches allowing people to pay in flexible installments.
- Private utilities operate in a *well-defined legal environment* with usually clear contractual obligations. Contracts usually begin with a reorganization phase, the establishment of benchmarking arrangements and the introduction of staff incentives all aiming at improving the operational efficiency of the utility.
- Access to materials and advice is usually embedded in the link with the parent utility, but could benefit further from public-private *partnerships* particularly aiming at better understanding of the concept of limited but sustained service provision in slum areas.
- *Supply chains* are not much of a problem because of the large volume of materials and equipment that can be obtained if required even at the international market.
- A positive development is that some utilities seem to become more open to public-private partnerships, which may entail better opportunities to provide services to the poorer sections. An example is the condominial sewer systems that are being implemented in many locations in *partnership* with NGOs and users. *For example, the experiences in Bolivia and Brazil with community-managed approaches to the construction of condominial systems in poor neighborhoods* (Annex 2).
- In many cases staff from the utility does not have adequate experience to engage with poor consumers living in slums and so they simply duplicate approaches used in other urban areas which are often inadequate. However, some utilities are starting to extend their sewer systems

- to slum areas using a system of cross subsidies or external funding. Lessons are being learned and some are documented.
- An area where hardly any experience is available in utilities concerns *sanitation innovation*, ‘alternative’ forms of sanitation (dry sanitation, ecological sanitation etc.). This area needs further development as it may help to enormously reduce the cost of sanitation. The sustainability of waterborne sanitation is a costly problem in the industrialized world, and may be unaffordable for developing countries. Another aspect is the growing level of water scarcity which calls for more efficient water use, resulting in less waste water production.
 - *Capacity building* is often done as in-company training which has the advantage of a clear focus and the possibility to link it to specific problems and needs, but it could be strengthened by linking up through a shared capacity building network by partnering with public utilities and NGOs.

3.3 Externally initiated approaches

Different external actors provide sanitation and hygiene promotion services to users. This includes municipal utilities operating sewer systems and pit and septic tank emptying services to some 1 billion people and Ministries of Health and NGOs providing long term hygiene inputs. These ministries and the NGOs also have their programs to help people obtain latrines with which they have served some 500 million people. Furthermore several of these actors also provide indirect support through SSPs. These actors state their own conditions for the people they serve, which they typically see as beneficiaries and not clients. These may be very different and range from forcing people to obtain or built a latrine as a condition for obtaining water supply, to providing opportunities to people to purchase subsidized or non-subsidized latrine components.

The drive behind the approach may be quite different. Ministries of Health may see it as their role to promote improved hygiene behavior. Municipalities may see it as a need or an obligation to provide sewerage systems. They may also see it as an attractive option for obtaining financial resources from corruption or to obtain votes for their re-election. Donors and NGOs may be particularly interested to help poor people in developing countries thus often including considerable grants and subsidies in their programs.

For a long time the main emphasis was on the introduction of improved pit latrines and pour-flush toilets, providing little choice in systems and often providing considerable subsidies, that frequently favored the better-off in communities. Only in the course of the 1990s did changes start to occur by putting greater emphasis on partnership approaches, increased user investment (rather than total subsidy approaches), different forms of promotion and marketing and providing a broader range of design options, now also including ecological sanitation.

Different actors including governments, donors and NGOs are undertaking activities to promote sanitation and hygiene behavior. Initially the emphasis was on health benefits as the driver for people to adopt improved sanitation facilities. The *health focused* promotion of latrines met with considerable difficulties and gradually some programs changed their approach toward one based on social marketing (i.e. benefits of convenience, privacy, status etc.). Including a gender and poverty-based focus is an even more recent trend, despite the fact that already for quite some time evidence has existed that sanitation demands of women and girls often are much more pressing than of men and boys.

The latest development concerns the focus on total sanitation and partnership approaches which help to move away from the fragmented approaches in the past. Nonetheless, much still needs to be learned about the true effectiveness of these types of approaches, particularly sanitation promotion and marketing.

▪ **NGO-driven projects;**

Current situation

- NGOs are extensively involved in sanitation promotion and implementation and their activities and results are varied. They often work in parallel with government and fail to set-up long term maintenance arrangements, although examples do exist of programs with a very long track record. Considerable differences exist between NGOs, with some implementing latrine construction or the development of pay-and-use toilets, thus operating more as an SSP. Other NGOs, and particularly the international NGOs, are much more involved in broader activities including sanitation promotion.
- The NGOs may also make special arrangements for poorer families, but often they also do not reach the poorest groups in society. Staff of NGOs (but also of governments) may be unwilling to enter poor urban areas for fear of their physical health. Most latrine programs require inputs in terms of finance and/or labor even from the poorer groups particularly with the growing emphasis on no longer providing *capital investments* in the form of subsidy. Special measures may be taken with targeting subsidies or *micro credits* and these indeed can reach the poor but not the vulnerable poor *as was shown in Bangladesh* (Annex 2).
- The advantage of NGOs is that they often are in a position to experiment more freely with innovative approaches, and some examples exist of NGO programs that have subsequently become a model for others. This includes for example the *total sanitation* model of an NGO in *Kerala that uses a combination of approaches and became the model for the whole state* (Annex 2).

Challenges and opportunities to improve the situation

- The challenges and opportunities to improve the situation depend to a great extent on whether NGOs will move towards *partnership approaches*. Examples exist particularly in relation to *total sanitation* approaches that move in this direction.
- Further experimentation and analysis is needed of the different approaches used for sanitation financing and sanitation promotion and marketing to test the assumptions that these are in fact markedly more effective. More specifically, health based and non-health based models should be compared to see which is more effective.
- NGOs have been involved in many innovative activities in sanitation implementation and promotion of behavior change. This implies that considerable experience exists, that can be built upon by the development of *learning alliances* (as developed for water supply) which can explore and consolidate possible innovations in *learning projects* (as used for water supply), thus creating an environment for innovation where they can also link up with universities.
- Some NGOs with support of some donors are strongly promoting *ecological sanitation*, a technology which puts sanitation in a different perspective by looking at solving the sanitation problem primarily at household level taking into account the potential fertilizer value particularly of urine. Exploring this further is valuable as it can change the conceptual thinking if large scale application can be realized.
- More emphasis on gender and poverty sensitive approaches is needed and further development and testing is required, for which NGO supported programs can be valuable testing grounds.

▪ **Municipal services (public utilities);**

Current situation

Municipal utilities are responsible for the design, construction and management of sewerage systems, which often only cover a very small part of the municipality. Sometimes they also cover the sewers that may have been built in the centre of smaller communities around the municipality, as can be found in Latin America. A significant proportion of these systems are already in need of considerable upgrading partly simply in order to keep up with growth of populations. Often the utility is also responsible for the water supply.

- Treatment of the waste water is rare and if included only deals with partial treatment thus entailing an environmental risk
- Typically the utilities are under-funded and under-staffed.
- Political influence may be considerable and an important reason for substandard performance.
- Many utilities apply tariffs that do not cover the true cost of service provision. They are subsidized partly through grants and loans from donors, development banks and also in part by central government.
- Attempts are being made in different places to improve utilities, through benchmarking which makes it possible to compare performance, staff incentives and reform processes. These experiences have very good results sometimes, but relate more to water supply.

Challenges and opportunities to improve the situation

- Public utilities operate in a political arena with a legal environment that often gives them insufficient independence particularly in relation to tariff setting and connection fees.
- The knowledge base on utilities is mostly embedded in the utilities themselves. The larger utilities may obtain support from consultant firms from industrialized countries, with good technical and organizational knowledge, but less understanding of, for example, slum sanitation services and slum inhabitants.
- Financial support for public utilities comes from a range of sources including cost sharing in construction (users providing inputs), loans from development banks and municipal funding. Long term sustainability depends on users' contributions and on contributions from the municipal budget. Possible increases in tariffs are often politically constrained. They may use *differential tariffs* (cross subsidies) to bring services to poorer population groups but usually fail to reach the poorest groups also because on-site sanitation options may be much more affordable for this group and utilities have no expertise in that area.
- **Output-Based Aid** may be an option to encourage utilities to adopt *institutional reform* to try to improve their performance.
- Larger public utilities often have their own consumer department that encourages people to obtain a sewer connection. Staff from these departments could benefit from learning about *gender and poverty sensitive techniques* and from developing *partnership approaches* with NGOs to reach out to poorer user groups.
- Access to materials and advice usually depends on the size of the utility and locally available supply chains. The smaller utilities can benefit considerably from pooling resources and from public-private *partnerships* to obtain better advice and for example jointly work out approaches to sustained service provision in slum areas.
- **Supply chains** for smaller utilities can be a problem because of the relatively small volume of materials and equipment that they require. Often these smaller entities may not have access to the international markets, but this may also be the case for even some of the larger public utilities.
- Access to *knowledge and information* is a limiting factor in many (smaller) utilities. As a result they may miss opportunities to be more efficient and effective. In some cases in the water sector this is being addressed by forming associations of water providers, but this is not happening in sanitation.
- **Capacity building** is often carried out in the format of company training which has the advantage of a clear focus and the possibility to link it to specific problems and needs, but it could be strengthened by linking up through a shared capacity building network by partnering with private utilities and NGOs. *Some good examples exist of utilities that become member of an association which provides training and advice* (Annex 2).

▪ **Programs of line departments of ministries;**

Current situation

- Rural development agencies, local government and particularly Ministries of Health may play a role in sanitation promotion through their field staff, but ministries often have other priorities.
- In the past these ministries also had sanitation implementation programs providing for example latrine slabs and hygiene promotion, but these programs have not been very efficient and effective.

Challenges and opportunities to improve the situation

- The challenges and opportunities to improve the situation are considerable, with a clear focus on phasing out the involvement of central government in implementation and moving towards a stronger role in effective promotion of sanitation demand and demand acceleration and behavioral change.
- The real challenge is to build partnerships for *total sanitation* because it is recognized that it is very important to ensure that all members of communities practice safe excreta disposal. Experience is growing with total sanitation or 100 percent sanitation, but further review of different promotional models and technology options is needed. This review also needs to explore combinations of activities and roles of the different actors including government, private sector and NGOs.

▪ **School sanitation;**

Current situation

- Schools are an important entry point for sanitation and hygiene. Although school programs are underway in a number of countries, the overall situation in most schools is appalling. Sanitation facilities are often of very poor quality or non-existing.
- It is frequently the case that no separate facilities are available for girls with the consequence that many girls do not complete their school.
- Many teachers and school staff do not see it as their task to improve the hygiene behavior of children.

Challenges and opportunities to improve the situation

- The challenge to improve the situation is enormous and involves different actors including the ministries of education, municipalities, school boards, teachers, parents and children, but also support organizations.
- National programs are in place more than 40 countries including India (600,000 schools), Vietnam, Zambia, but require further strengthening.
- Further assessment and review of the different techniques and activities that are undertaken in the context of school sanitation is very important. Hygiene behavior instilled in children when they are at school will stimulate demand in the future.

4. Some conclusions and next steps

Some conclusions can be made and some steps for possible follow-up can be identified, but only in general terms because approaches and enabling factors can only be judged in a specific context and in relation with specific technologies. Therefore the suggestions and ideas in this chapter are indicative only and need to be tested in the specific context in which they may be used.

In general interventions in water supply are more communal and sanitation interventions more household based, but similarities exist in approaches and enabling factors between the two. More experience exists with approaches for water supply which reflects the larger coverage and higher interest of users, NGOs, private sector and governments. The higher demand for water supply brings a larger number of opportunities. Unfortunately water and sanitation interventions are often still separate and fall under different ministries. To avoid that water supply interventions have a detrimental environmental impact they should not be dealt with in isolation; for example, addressing wastewater disposal as a consequence of increased water supply to high density urban populations or looking for adequate water saving and on site excreta disposal to reduce waste water discharge and make it less harmful.

4.1 Overview of trends in approaches and enabling factors

The most important findings and current trends in approaches and enabling factors are presented in this section. Water supply, sanitation and hygiene approaches and enabling factors have a considerable number of similarities which makes it possible to deal with them collectively. Another common feature is that change is taking place in these three themes, but learning in general is slow and sharing of lessons often does not appear to be included in the activities that are undertaken. More specific findings of this review include the following:

Service delivery approaches

- Similarities exist in approaches between water supply and sanitation, but the former are more institutionalized; sanitation is less advanced has still lower priority and is much more a household issue that requires less communal systems particularly in settlements with lower population density where latrines can be accommodated
- Increasingly combinations of approaches (drivers) are used, creating partnerships between government, private sector and/or NGOs. These partnerships benefit from the strengths of the different actors involved and are promising for sustainability. However, they require a sound legal and institutional framework to ensure smooth collaboration
- Opportunities for private sector involvement are growing, as government agencies change their role from provider to facilitator. Increased sanitation marketing and knowledge sharing will stimulate this further.

Financing

- Clear change is occurring in financing, moving towards users paying a larger share (at least operation and maintenance cost, because earlier grant-based interventions proved unsustainable). For sanitation several actors are changing subsidies for hardware to promotion, advice and credit.
- Volunteer-based interventions are not sustainable and are shifting to incentive-based interventions
- Financial resources from donors are moved away from project support towards budget support. This seems to improve efficiency, but on the downside reduces potential for innovation as research has a very low priority for national governments.
- The poverty focus and gender sensitivity of interventions are still more lip-service than mainstream practice. This is unfortunate because both may contribute to more sustained service delivery and higher impact. In sanitation for example one hundred percent coverage is needed to break the cycle of excreta related diseases.

Demand stimulation

- Interest in demand stimulation is growing as supply-driven interventions have not proven very successful.
- Health based promotion of service improvement has been the main way of demand stimulation but a clear shift is taking place towards marketing based on convenience, status etc. and demonstration. Yet the impact and efficiency of such new approaches is not yet fully understood and further (comparative) analysis is needed.

Support systems

- In many places legislation does not support the growing potential of private sector interventions nor does it sufficiently embrace the users and the 'polluter pays' principal. This needs to change to enhance the sustainability of interventions.
- Partnership approaches are becoming more popular which allows interventions to benefit from the different strengths of the actors involved.
- Interest in the formation of associations of water providers (water committees) is growing which helps to establish economies of scale.
- Institutional reform is being applied by some public utilities. Further support for this reform is needed as earlier expectations of privatization are not materializing because of political tension and low profitability.
- Access to objective information and advice and development of innovations remain weak areas in the sector resulting in a considerable economic loss because of inadequate solutions.
- Promising experience exists with learning alliances, learning projects and capacity building networks. Building on this experience is essential for sector development in order to capture lessons (both good and bad), to disseminate best practice and to avoid duplication in an environment of limited financial resources.

4.2 Development challenges and opportunities in assessed approaches and enabling factors

It is clear that considerable potential exists to improve and further develop and share innovations and particularly to stimulate more comprehensive partnership approaches. The most important challenges and opportunities that can be distilled from this review of approaches are included in this section.

Service delivery approaches

- Self-improvement has much greater potential particularly in sanitation but requires better understanding and support
- Considerable untapped potential exists for private sector interventions particularly when working more in partnership and receiving support from their own umbrella organizations or others
- Public utilities are the main suppliers in many countries. This makes strengthening of utility reform very important in order to improve sector performance. Proper reform, well-designed cross subsidies and better collaboration with private sector seems to be key to expanding services to poor people in slums

Financing

- There is a growing understanding that sustained service delivery depends on user payments, but stimulation of users and the 'polluter pays' principal is essential.
- Further development of innovative financing is needed and should include exploring sustainable credit facilities, rotating funds and output based subsidies, but also creating a better financial basis by adopting multiple (productive) water uses.
- Pro-poor and gender sensitive financing, including cross-subsidies need to be tried at large scale.

Demand stimulation

- Comparative analysis is needed of different hygiene and marketing based interventions to promote service improvement and improved hygiene behavior including their potential to reach the poor.

Support systems

- Promotion of improved legislation is needed to support the growing potential of private sector interventions and reduce political interference in the sector.
- Strengthening of partnership approaches is needed to benefit from the different strengths of different actors.
- Stimulation of the formation of associations of water providers (water committees). This is important because it creates economies of scale in the support mechanisms for these service providers.
- Explore possibilities of franchising to improve service delivery by private sector and ensure its quality.
- Strengthening of institutional reform including putting emphasis on staff capacity and incentives to adopt pro-poor and gender sensitive interventions.
- Strengthening supply chains in support of enhanced implementation and maintenance.
- Improving access to information and advice will improve quality of interventions, reduce costs, enhance possibilities for 'user control' and limit possibilities for corruption.
- Expansion of existing experience with learning alliances, learning projects and capacity building networks.
- Create mechanisms such as 'challenge funds' to enhance scalable innovation in the sector based on involvement of all actors in setting the research agenda and in learning.

4.3 Next steps

The list of challenges and opportunities is substantial and priorities will depend on the different actors that want to take issues further. As indicated earlier many of these potential challenges and opportunities should not be seen in isolation. The work presented in the 'Main Report' and in the 'Report on the Selected Opportunity Areas' provides a good entry point to prioritize potential action on specific approaches and enabling factors. But some more generic higher level issues can also be identified which would provide important entry points for further development. These include:

- How to make economic principles start to work better in the sector while ensuring that the poorest members of society also get a fair share? This is an important challenge which would need to explore solidarity issues in terms of sharing with people the need to pay reasonable tariffs which allow subsidizing services to the poorest. This implies that it is necessary to explore how to adopt a client-focused approach and ensure good communication;
- How to better benefit from the potential embedded in utilities and small water providers? It is important to realize that these are the backbone of water and sanitation provision in industrialized countries.
- How to encourage NGOs to work together with other NGOs and other actors including government because they often have a limited area where they implement their activities and a limited time span for their involvement? and
- How to ensure that access to information and experience is available and learning becomes a priority? A much stronger role can be played for example by universities in the developing world if they would establish research and development activities that match the needs of sector organizations and develop them together. Funding for this type of activities through a targeted challenge fund that requires multi stakeholder participation in the research could address a considerable number of the challenges and opportunities mentioned in this chapter.

Annex 1. Summary assessment Service Delivery Approaches and Enabling Factors for Water supply

In this section a number of main Service Delivery Approaches (SDAs) and Enabling Factors (EFs) that are being applied in water supply are being presented and assessed. The assessments are indicative only because approaches always relate to specific technologies in a specific socio-economic, organizational, legal, and political context. Each of the descriptions also includes some comments and website links to background information and examples. It is very interesting to note that a considerable number of SDAs and EFs have high potential in that they have the potential to enhance coverage and system performance for at least 100 million people and some can reach out to a much wider group particularly if they are combined in a strategic way. However, whether this potential can be realized will also depend on the combination of the technologies that are most applicable.

For each of the SDAs and EFs a number of characteristics and assessments are being made using the following framework:

Population	Rural = dispersed + small rural concentrated; Urban = Small towns + Urban Slums + Peri-urban areas
Cycle	C = construction M = Maintenance
Proven	Trial = Being tested at small scale; Partly = Successfully tested at small scale; Fully = tested and applied at scale
Sustainability	High = good examples of long term sustainability; Medium = examples of both high and low sustainability; Low = many examples of poor sustainability; NC = not clear, no real performance record
Current Scale	Large = > 500 million; Medium = 100 – 500 million; Small = < 100 million people that are involved
Potential	High = good potential to enhance coverage and system performance for at least 100 million people; Low = limited potential enhance coverage and system performance; NC = Not clear (not enough known, tested etc.)
Abbreviations	SDA = service delivery approach; Fin = finance; Dem = Demand creation; Sup = Support system including capacity development

Summary assessment SDAs and EFs for Water supply

SDA	Approach / enabling factors	Summary	Pop.	Cycle	Proven	Sust.	Current Scale	Potential	Comment/Examples
SDA 1	Self-service and self-improvement	People collecting their own water or developing and managing their own individual water systems (wells, rainwater tanks)	All	C M	Fully	Medium	Large	High	Many people develop and manage their own facilities often with help of local private sector, but because of lack of support systems and low economy of scale, performance is generally low; Better access to support / stronger private sector would be very beneficial. In Thailand for example the government has supported the construction of rainwater jars since the early 1980s through promotion, loans, research and advice. This worked well, although corruption occurred. Now program is fully taken over by private sector. (http://www.unep.or.jp/ietc/publications/techpublications/techpub-8e/jar.asp). With growing access to credit and remittances from overseas workers more financial resources will be available
SDA 2a	Community controlled volunteer based water provider (community management)	A growing number of communities are becoming responsible for organizing the management of their own systems; This often involves voluntary informal or formal water committees overseeing the work of a paid caretaker to manage hand pumps or a small piped supply.	All	C M	Fully	Medium	Medium	Low	Widely embraced as mainstream policy approach in many countries and increasingly seen as essential, but not sustainable in the long term if only voluntary based, even with good back-up support. In 1990s, donor communities focused on introducing hand pumps using the concept of Village Level Operation and Management of maintenance (VLOM). (http://www.lboro.ac.uk/well/resources/well-studies/full-reports-pdf/task0162.pdf) This is not fully successful without broader support and incentive focus. Positive examples exist such as users' associations in informal settlements in Dar es Salaam (Tanzania) collecting user fees for O&M and caretaker. WaterAid supported them in forming a federation of water user associations to improve management of waterpoints. (http://www.devstud.org.uk/publications/papers/conf01/conf01calaguas.doc). Legally established Resident Development Committees in Lusaka (Zambia) successfully manage water supply systems with community taps, but results are threatened by high turnover, possibly because of voluntary nature. (http://www.wupafrica.org/toolkit/resources/examples-pdf)
SDA 2b	Community controlled incentive based water provider	Increasingly community managed systems are being handed over to formal community based organizations or small private sector companies who take responsibility for one or more systems under some supervisory arrangement from the community or municipality.	Rural	C M	Fully	Medium	Medium	High	Incentive-based operation is seen as essential but it also requires good facilitation, good back-up support and supply chain and a supportive legal environment to enhance sustainability. Although the law in Mauretania has legalized service provision by municipalities, communities and private sector, the latter have by far the largest share in water service provision. The concessionary system provides good results because the small private water providers try to solve their own problems, but back-up support is lacking (http://www.irc.nl/page/7605). Another example is the Hitosa Ethiopia water system that was established with support from WaterAid, but now people have taken over completely and run this gravity scheme themselves, expanding it to include more users. (http://www.wateraid.org.uk/uk/about_us/oasis/springsummer_03/137.asp). With growing decentralization this approach has high potential particularly for concentrated settlements.
SDA 3	small private water provider (SWP) managed facilities and small service providers;	A growing number of water supply systems are managed by small water operators; This concerns water transport and vending as well as small piped water supply systems; increasingly also private sector built systems	All	C M	Fully	Medium	Large	High	Number of SWPs is growing, but they lack economy of scale and advice and support; Formation of associations is positive development; Requires good enabling environment and back-up; Few experiments with tendering 'Build-Operate-Transfer' contracts for small systems, but no clear results. Examples include 15 private operators currently managing water supply services in 56 small towns in Uganda. They are contracted by the Ministry of Water, Lands and Environment and the water authority. (http://www.ppiaf.org/conference/sector3-paper2.pdf). A study in 1998 showed that in Asuncion and Ciudad del Este, Paraguay, between 350 and 600 independent providers built around one third of all water connections in a period of 20 years, serving up to half a million persons. They charged consistently less than the public water company. (http://www.wsp.org/publications/SSIP.pdf http://www.thewaterpage.com/ppp_debate.htm) A large number of SSPs are involved in construction, but not (yet) in water provision. This is a very high untapped potential particularly if they form associations or franchise models.

SDA	Approach / enabling factors	Summary	Pop.	Cycle	Proven	Sust.	Current Scale	Potential	Comment/Examples
SDA 3a	Franchised water treatment and sales	Entrepreneurs treating and selling water under an umbrella organization for quality control and back-up	All	C M	Trial	NC	Small	High	Experience exists with SWPs, but impact is likely to be much larger if they are grouped under an umbrella organization to guarantee quality of water and service delivery. More than 650 local entrepreneurs sell water through water kiosks to half a million poor people in Kibera (Kenya). They are now forming an association with support from WSP-World Bank, which is self-regulating and can negotiate with utility on lower block tariffs. (http://www.wsp.org/publications/Rogues%20No%20More-Water%20Kiosk%20Operators%20Achieve%20Credibility%20in%20Kibera.pdf). Application of franchising holds a promising potential of a high impact
SDA 4	Private utility water supply	Water systems operated and expanded by private utilities	Urban	C M	Fully	Medium	Medium	High	Private utilities operating water supply systems, including international utilities. Rate of success varies and interest from international companies seems to be decreasing as cases develop where concessions are terminated for political reasons (e.g. Cochabamba, Bolivia). (http://www.idd.bham.ac.uk/research/publications/Staff/water_reg.pdf). Early failures have been caused by poorly designed concessionary agreements and difficulties with the economic feasibility of tariff structures but also because of vested interest and political interventions (http://www.citizen.org/documents/privatizationfiascos.pdf); where these issues can be addressed results have been more promising. In Marinilla, Colombia with a population of 26,000, CONHYDRA, a private company was awarded a management contract for the water system. The community was actively involved through the municipality in developing the contract. Since the start of the contract, unaccounted for water has decreased, some 15% new connections were made and the tariff collection in 1999 was 84% (as opposed to less than 70% nationally). The utility relies on government transfers to the municipality, grants and loans. (http://www.ehproject.org/pdf/strategic_papers/lacdec/marinilla_colombia.pdf). Another positive example is the mixed utility in Cartagena (http://www.wsp.org/EXTERNAL/EXTERNAL/EXTWSS/0,,contentMDK:20917761~pagePK:210058~piPK:210062~theSitePK:337302,00.html). In Cambodia positive private utilities provide better services, but at a higher price (http://ideas.repec.org/p/mdl/mdlpap/0219.html) Potential can be high, but a lot needs to be learned to avoid political pressure
SDA 5	Subcontracting by utilities and municipal companies	Utilities and municipal companies giving subcontract (bulk supply) for retail in specific area	Urban	M	Fully	High	Small	High	Handing service delivery over to a local contractor may enhance the efficiency of non-piped service delivery, for example through water kiosks, but requires good management. The utility of Blantyre (Malawi) and an NGO opened water-kiosks at a subsidized rate. These kiosks were managed by committees chosen by the community, but unfortunately they failed to continue to pay and several kiosks are now in the hands of private sector charging high prices. (http://www.wupafrika.org/toolkit/funding/setup-pay-sys.html). Other examples of sub-contracted retail supply utilizing partnership arrangements between utilities and NGOs include community-managed stand posts in Dakar ('eau populaire') and from Haiti where the NGO GRET facilitates community on-selling of bulk water. (http://www.bpdwaterandsanitation.org/bpd/web/d/doc_34.pdf). With good functioning utilities these subcontracts may have high potential for quick expansions to slums population
SDA 6	Municipal water supply	A very common form of water supply provision by a public utility	Urban	C M	Fully	Medium	Large	High	Important to improve performance by for example benchmarking and providing better back-up support, possibly moving towards public private partnerships. Interesting experience comes from Eastern Europe where the development of municipality owned utilities with independent management and tariff setting is suggested to be one of the most important reform processes. (http://www.oecd.org/dataoecd/40/17/32509787.pdf). Experience in Asia shows that public utilities can perform well with proper staff incentives and adequate water pricing. (http://www.adb.org/Documents/Books/Asian_Water_Supplies/default.asp). An enormous challenge is service improvement but if successful it will have huge potential

SDA	Approach / enabling factors	Summary	Pop.	Cycle	Proven	Sust.	Current Scale	Potential	Comment/Examples
SDA 7	Regional schemes/ regional companies	This concerns regional piped schemes or umbrella companies covering different municipalities	Rural	C M	Fully	High	Small	High	Clustering the management of different smaller systems increases the economy of scale; This requires good facilitation and support because current experience is mixed. In Colombia positive examples exist of a quasi public regional water company managing 33 municipal systems, for which privatization is now being explored (http://www.acuavalle.gov.co/AcercaDeNosotros.htm) and a regional piped scheme, Aquasur, which serves twelve communities in one area. The service provider is also member of the regional water association Aquacol. Clustering of community systems under one management has potential; it brings economy of scale
SDA 8	Central government managed systems	Central government agencies (projects) maintaining (mostly hand pump) facilities	Rural	C M	Fully	Low	Medium	Low	Often established through donor supported projects. Increasingly uncommon because of ongoing decentralization and poor performance in terms of cost and sustainability.
SDA 9	Decentralized government managed	Water systems (often hand pumps) maintained by regional government agencies	Rural	C M	Partly	Medium	Medium	Low	It may be expected that this will be phased out in favor of SWPs, or be handed over to (possibly public-private) municipal companies. ACUAANTIOQUIA, a regional water company, was dealing with over 40 municipal systems including Marinilla (see SDA4) and has now tendered these to the private sector. A study in two states in India of 1708 water systems showed that around 75% are managed by the state government and 25% by municipalities, under NGO pressure to decentralize further. (http://wedc.lboro.ac.uk/conferences/pdfs/29/Asthana.pdf#search='decentralised%20government%20managed%20water%20supply).
SDA 10	NGO and Donor supported systems	Programs often providing handpumps and small piped systems which they manage for a period of time often sharing the management with communities	rural	C M	Fully	Low	Medium	Low	Direct interventions of donor projects may be expected to phase out in the context shifts towards Sector Wide Approaches and Budget support. The difficulty in the past was that maintenance of facilities often stopped when projects ended. NGOs follow the same project based approach and may stimulate innovation, but they often have a limited working area. Some may remain for very long periods and help communities on several occasions if they need to carry out important repairs.
Fin1	Self-financing	people investing individually or jointly in water supply	All	C M	Fully	Medium	Large	High	Widely used, but often substandard performance. Could benefit enormously from proper support (advice, materials, innovation). Legalization of property rights is key. Poorest need support. In Baroda (India) a 1999 study showed that households invested, on average, at least 70 USD in their own facilities such as rainwater tanks, underground tanks, lift pumps etc. (http://www.wsp.org/publications/sa_indiapoor.pdf). The World Bank estimated that half of the investments (totaling 1.8 billion USD) made in rural China between 1990 and 1995, were made by the users themselves. (http://www.chinadevelopmentbrief.com/node/248). High potential because of growing access also of poorer groups to credits and remittances of overseas workers
Fin2	Full capital investments by donor funds or government	People receive facilities as a gift; historically linked to large externally-funded projects	Rural	C	Limitation	Low	Large	Low	Significant in the past and applied by various funding agencies including national governments, foreign donors and even NGOs. Now discouraged, with a paradigm shift towards cost sharing because of overall costs involved and to enhance ownership. Leveraging public resources is seen as a key component towards increased financial sustainability (http://planningcommission.nic.in/plans/mta/mta-9702/mta-ch20.pdf).

SDA	Approach / enabling factors	Summary	Pop.	Cycle	Proven	Sust.	Current Scale	Potential	Comment/Examples
Fin3	Cost sharing for capital investment	People contribute, thus enhancing ownership and ensuring that service responds to demand	All	C	Fully	High	Large	High	Increasingly accepted as best practice and mainstreamed into many national policies, especially in rural sector. Users contribute in cash or kind or pay connection fee. Increasingly also needed for replacement and large repairs. Poor need support through differentiation in contributions. A 1999 report of the Swajal project in UP, India claims that for the first time in India users are paying 10% of the investment cost of water supply. (http://www.wsp.org/publications/sa_indiapoor.pdf). The NGO Dustha Shasthya Kendra in Dhaka has negotiated with the water authority to locate at least 90 community water points in slum areas, providing improved water to more than 8,000 poor households. Before a site is built, the community signs an agreement with DSK that covers its obligations to run the site and the charges made to recover the costs of the water, maintenance and capital costs. (http://www.developments.org.uk/data/issue21/for-sale.htm). High potential to reach also poorer sections of the community, if properly targeted
Fin4	Cost recovery for operation and maintenance	Users pay the cost for operation and maintenance	All	M	Fully	High	Large	High	The principle that users should pay for recurrent costs has gained widespread acceptance in the last ten years, specifically for the rural sector in many countries. Urban users pay through regularized billing in many cases. However, tariffs are often set too low (sometimes for political reasons) and generally do not cover the true costs of system replacement over the long-term. Tariff structures and costing need better incentives, strategies and support to enhance efficiency (benchmarking, water metering etc.). Poor need differential tariffs. In rural Gujarat 25 water user committees have successfully started to set-up O&M funds. (http://www.wsp.org/publications/sa_indiapoor.pdf). However, most urban and rural schemes in India survive on large operating subsidies. (http://siteresources.worldbank.org/INTINDIA/Resources/Bridging_the_Gap_Exec_Sum.pdf). The most suitable model for service delivery which can even have a higher impact if also repairs and replacement can be financed.
Fin5	Loans/credits/guarantees	Different models are available for people, water providers and private sector to obtain funding from banks or others, including guarantees from enterprises with too little collateral	All	C	Partly	High	Small	High	Funding of water sector loans is not very attractive because of relatively high risk, unfair competition from grant money. Procedures are often very complex, particularly for smaller settlements. Requires support to simplify procedures, guarantees and better local credits. In Cambodia, GRET, an international NGO has a Rural Infrastructure Fund, with a public development bank. This provides medium-term loans to local commercial banks, to finance investors of piped water systems, providing a 30% guarantee in case of default. The private sector has installed 10 water systems, representing coverage of up to 85%. (http://www.lboro.ac.uk/well/resources/Publications/Briefing%20Notes/BN16%20Local%20financing.htm) High potential because at present people and WPs may have to take expensive loans from local money lenders
Fin6	revolving funds	Funds established often by NGOs and managed by a community group; Repayments become loans for others	Rural	C	Fully	Mode rate	Small	High	Interesting approach in the absence of financial institutions, sometimes even in kind (chickens etc.). Current funds often do not include interest, so capital diminishes. Revolving funds have been widely used in Kenya for example, usually by church based NGOs providing financial resources to women's groups. As a result thousands of rainwater tanks have been built. (http://www.dams.org/docs/kbase/contrib/opt163.pdf). Provision of small-scale loans for investment in water supply systems has also been successfully implemented in peri-urban areas of Cochabamba in Bolivia, where the micro-credit agency CIDRE has joined forces with a private sector company, the municipal government, the utility and community organizations to expand infrastructure (http://www.aguatuya.com/html/our_partners.html). High potential for rural areas without banking facilities and areas with good social cohesion

SDA	Approach / enabling factors	Summary	Pop.	Cycle	Proven	Sust.	Current Scale	Potential	Comment/Examples
Fin7	Social development funds	Donor funding to mitigate effect of structural adjustment; Often linked to income generation and employment targets	Rural	C	Fully	Low	Large	Low	These funds have improved over the years, but the problem remains that they are typically project based with arrangements that are in parallel with existing structures and having their own rules. In Tanzania, regional development funds are now financing community identified projects (http://www.iadb.org/sds/doc/sgc-GN1930-2-E.pdf and http://www.wsp.org/publications/af_socialfunds.pdf). A recent report carried out by the World Bank's evaluation department found that social funds do not always reach the poorest sections of society and can be subject to political influence. Impact in the WS&H sector has varied and sustainability issues have not been well addressed (http://www1.worldbank.org/publications/pdfs/15141overview.pdf).
Fin8	Cross subsidies / Differential tariff systems	Differentiating tariffs based on volume or living area; Also used for connection fees	All	M	Fully	High	Medium	High	A good way to reach poorer sections, but ADB concludes that whereas it helps to sustain existing systems , current approaches do not reach the poorest (http://www.adb.org/Water/Policy/consultations/IND-2005-Consultation-Report.pdf#page=3). Tariffs based on volume are interesting, but metering is a problem and costly. Customer involvement in the process is very important. China's Rural Water Supply program has over 90 % payment compliance in households with metered systems whereby the salaries of the operations staff are tied to monthly bill collection and raising tariffs if they do not cover operating costs (http://www.wsp.org/publications/global_wtp_china.pdf). Cross subsidies have high potential particularly for poor slum dwellers
Fin9	Output based aid (OBA)	Using explicit performance-based subsidies to support basic services where conditions justify public funding to complement or replace user-fees.	All	C	Trial	NCr	Small	NC	Experience with OBA is new, but growing and interesting. The difference with other subsidies is that OBAs are targeted for example to the poorest families (Cambodia) or to the poorest neighborhoods (Paraguay) clarifying why subsidy is given and they are performance-based. The provider largely self-finances the service, receiving reimbursement mostly after the verification of successful delivery. The latter may reduce possibilities for small providers with limited capital. A bonus-malus approach might be more feasible, perhaps linked to longer-term system performance. (http://www.gpoba.org/documents/OBApproaches_What_is_OBA.pdf).
Fin10	Revenue financed expansion	Expansion of piped system based on revenues	Urban	C	Fully	High	Medium	Low	Common practice in utility water supply, but much less in developing countries, where often no or negative profit margins exist. It is applied in some places benefiting from increased efficiency, but insufficient to quickly speed up coverage.
Fin11	Innovative financing mechanisms:	Issuing bonds, equity mechanisms, pooling resources, etc.	Urban	C	Trial	NC	Small	NC	Experiments with innovative financing are ongoing in different locations. These often involve considerable transaction costs that may not be attractive for donors. Further testing is needed and interesting (http://www.euwi.net/download_monitoring.php?id=209).
Fin12	Guarantees / Micro credit for private sector	Helping small enterprises without sufficient collateral to obtain credit	All	C M	Trial	High	Small	High	Improving local access to micro-credit is essential to enhance private sector involvement. Requires good regulatory framework because there is a large difference in the performance of micro-credit organizations. (http://www.microcreditsummit.org/papers/fundspaperfinal.htm#4.7). High potential as opportunities for private sector involvement in sector are growing
Fin13	Improving financial efficiency	Reducing unaccounted for water by leakage control and improved billing	All	M	Fully	High	Small	High	A considerable source of funding is in fact available within existing systems by reducing leakage, optimizing consumption (through water metering, making it possible to extend systems to more users) and by reducing back-logs in payment by users. This approach is successfully followed in large systems, but much less in smaller ones. It includes both savings in the systems by repairs and adjustments and in households by repairing leakages, and introducing water saving devices and meters. Good facilitation and promotion is needed (http://www.irc.nl/content/download/11496/168599/file/Uso_Efficiente_2004.pdf). High potential as it can lead to expanded coverage and better use of water resources at low cost

SDA	Approach / enabling factors	Summary	Pop.	Cycle	Proven	Sust.	Current Scale	Potential	Comment/Examples
Fin14	Fighting corruption	Increased transparency will allow more efficient use of available funding	All	C	Trial	High	Large	High	Corruption is a widespread phenomenon and drains part of the funding that could be used for better salaries etc. It requires better procedures and access to information (http://www.irc.nl/content/download/21439/253860/file/How%20to%20hold%20a%20meeting%20tool%20(Stockholm).pdf). A study comparing productivity among 21 water utilities in Africa found that nearly two-thirds of their operating costs were due to corruption (http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2002/10/25/000094946_02101104032679/Rendered/PDF/multi0page.pdf). High potential because the part of the sector funds that are currently lost can be used for service improvement and expansion
Dem 1	Health Focused promotion	The conventional approach in many locations to promote water services and to stimulate demand for improved services	All	C	Fully	Low	Large	Low	Water quantity is often a priority, but water quality is not, unless problems occur such as cholera outbreaks or chemical contamination. Variation of marketing techniques including peer-to-peer seems better. In Thailand an intensive effort was made by government to introduce rainwater harvesting tanks for which they financed research, training and some tanks in the early 1980s. Now this has been taken over entirely by private sector. (http://www.unep.or.jp/ietc/publications/techpublications/techpub-8e/jar.asp). Focus on health promotion for WS&H to stimulate improved services and practices can also be combined with broader health campaigns. See the 'Blue Star' ('Estrella Azul') campaign developed in Nicaragua with the Ministries of Health, Education and the National Water Supply agency with technical support from John Hopkins University: (http://www.jhuccp.org/la/nicaragua/blue_star.shtml#2)
Dem 2	Multiple use promotion	Designing water systems for multiple use to allow profitable additional activities	All	C	Trial	NC	Small	NC	Informally practiced in many places, but still very incipient as structured approach. Good motivation for people and high potential for sustained functioning (requires paradigm shift). In Nepal 60% of drip irrigation users apply water from the domestic system (http://www.gwpforum.org/gwp/library/IWMI-GWP%20Multiple%20uses%20brief.pdf). In Las Palmas-Tres Puertas, Colombia, the rural water supply system is being redesigned to include productive water use. (http://www.musproject.net/content/download/456/4196/file/Informe%20completo%202nd%20taller%20valle%20del%20cauca,%20Colombia.pdf).
Dem 3	Demonstration projects	Experiments with community management and water treatment	Rural	C M	Partly	Medium	Small	High	Pilot and demonstration projects need to be changed into structured learning projects to support mainstream implementation; needs facilitation and stakeholder collaboration. In a collaborative effort the UN-Habitat sustainable cities program, IRC and LA21 are strengthening abilities of local governments and private partners for management and planning of basic urban water and sanitation services. Systematic documentation, information-sharing, advocacy and capacity building are key elements in a strategy to scale up the demonstration projects in 6 cities and improve services and institutional frameworks. (http://www.unhabitat.org/programs/sustainablecities/) High potential in combination with other EFs
Dem 4	Demand responsive approach	Basing project implementation on user demands	Rural	C	Partly	High	Medium	High	Introduced by donor community as studies showed that this increases sustainability. Needs options from which to choose and good facilitation. In Mozambique information was provided and demand created through radio, drama, workshops with traditional leaders and exchange visits. Strong organizations have to exist to be able to respond to demand. (http://adb.org/Documents/Books/Water_for_All_Series/Water_Poverty_Realities/Strengthening_Demand.pdf). Demand responsive approaches have also been criticized for by-passing poorer, less well organized communities that are generally less able to express demand. There are also practical lessons about the short-comings of this approach in very poor communities (http://www.wateraid.org/documents/elusive_sustainability_breslin.pdf). The potential relates to a change of mindset which is needed as many public utilities and NGOs will have to become service oriented

SDA	Approach / enabling factors	Summary	Pop.	Cycle	Proven	Sust.	Current Scale	Potential	Comment/Examples
Dem 5	Gender sensitive approach	Taking into account gender differences in the development and promotion of water and sanitation services	All	C M	Partly	High	Medium	High	A study in 15 countries shows that gender and poverty sensitive approaches lead to better and more sustainable water supply systems (http://www.wsp.org/publications/global_plareport.pdf). Increasingly gender is being recognized as being essential, but further strengthening is required. (http://www.wsscc.org/pdf/publication/FOR_HER_ITS_THE_BIG_ISSUE_Evidence_Report-en.pdf) High potential as it enhances sustainability, but it requires a change in mindset
Sup1	Legislation and control	Adequate legislative framework is essential for the sector	All	C M	Partly	High	Medium	High	Increasingly understood as being essential for good service provision. It concerns water resources management and drinking water supply (quantity, quality). In progress in several countries, also making efforts to separate management and control issues. In Latin America reform of legislation was initiated in most countries in the early 1990s, but progress is slow. (http://www.condesan.org/Agua/resumen/PP_Res_Rocio%20Bustamante.pdf) Legislative reform is considered essential especially for community-management models (http://pdf.dec.org/pdf_docs/PNACF340.pdf). High potential in terms of effect; it provides the necessary framework
Sup2	Partnership approaches	Different types of public private partnerships, often involving tri-partite links with civil society, including NGOs or CBOs	Urban	C M	Trial	NC	Small	High	Recent trend, but promising because water sector interventions often require involvement of different stakeholders. A wide range of different types of partnerships are being developed. Examples range from small partnerships such as the tripartite arrangement in Kahama Tanzania which includes the community as one of the partners (http://www.bpd-waterandsanitation.org/web/w/www_34_en.aspx) to large partnerships such as the WSUP a partnership between 4 NGOs, three business partners and one university (http://www.wsup.com/about.htm). The concept of partnerships as a means to resolving situation-specific challenges, based on win-win scenarios where each partner brings a complementary capacity has been extensively explored, researched and documented by 'Building Partnerships for Water and Sanitation', an international cross-sector learning network focused on improving access to safe water and effective sanitation in poor communities (http://www.bpd-waterandsanitation.org/web/w/www_1_en.aspx). High potential because it builds on the strengths of different actors
Sup3	Association of service providers	WSPs forming associations to jointly face problems	Rural	C M	Partly	NC	Small	High	Associations are very useful as they can provide the economy of scale that water providers need to ensure the necessary advice and support. This type of arrangement is more common in the industrialized world, but less in the developing world. Aquacol is an association of water committees in Colombia that has been established with support from CINARA of the Valle University. The WSP is assisting water kiosk owners in Kibera to organize themselves as an association. Another case is ANASAPA in Bolivia which includes all larger water utilities among its members to which it provides training and advice http://www.anesapa.org/ High potential as it creates economy of scale and support systems that are crucial
Sup4	Supply chain organization	Organization of local availability of spares and equipment including possibly piggy-backing on outlets of large companies	All	C M	Partly	NCr	Small	High	Spare parts and replacement is a major problem; a supply chain is needed that links the suppliers through retailers with the users. The importance of adequate supply chains for sustainability of systems, particularly in rural areas, has been highlighted by a recent WSP report (http://www.wsp.org/english/activiites/supply-chains.htm). Some examples exist around different pump types, such as the rope pump in Nicaragua (http://www.ropepump.com) and the treadle pump in Bangladesh which are being sustained through a supply chain (http://www.ideorg.org/Page.asp?NavID=217). Also some new ideas exist such as using gas stations as outlets for key spare parts. High potential in terms of impact because good supply chains are very much needed

SDA	Approach / enabling factors	Summary	Pop.	Cycle	Proven	Sust.	Current Scale	Potential	Comment/Examples
Sup5	Institutional support mechanisms	Providing back-up support to small providers and municipal water systems	All	C M	Partly	NCr	Small	High	Community-, SSPs- and utility- managed systems need support to enhance efficiency. Costs involved are often not covered by service providers. Institutional support mechanisms need strengthening and must be in-line with national policies, regulations and legislation regarding the WS&H sector. There are various models through which support services can be provided for rural communities, ranging from centralized to delegated (http://www.ehproject.org/PDF/Strategic_papers/SR-6.pdf). High potential in terms of impact because all smaller WPs and municipalities lack support
Sup6	Knowledge and information support systems	Improved access to information and experience	All	C M	Partly	NC	Small	High	Good documentation of experience and access to information is essential to improve sector performance (http://www.irc.nl/content/download/25395/280851/file/TOP14_KM_06.pdf). Examples include 'Development Clearing House' telephone based assistance (http://www.dec.org), GARNET information exchange; Using low-cost informal networks of researchers, practitioners and funders of research (http://www.info.lut.ac.uk/departments/cv/wedc/garnet/grntacti.html). High potential in terms of impact because all smaller WPs and municipalities lack access to good information and advice
Sup7	Franchising	Creating economy of scale, quality control and back-up support	All	C M	Trial	High	Small	High	Franchising is not used in the sector, but amply in other sectors. It could provide the economy of scale and back-up support that is now often lacking (http://wbln0018.worldbank.org/water/bnwp.nsf/files/WSS_Franchise_published.pdf/\$FILE/WSS_Franchise_published.pdf). High potential as a model to provide necessary information, support and control
Sup8	Institutional and organizational reform	Many organizations need to be reformed to improve their operations	All	C M	Partly	Medium	Medium	High	Enhanced efficiency of organizations and institutions involved in the sector is essential; A considerable number of private and public utilities are starting reform processes, often after a crisis or the introduction of new legislation. Good examples exist of bankable projects which range from management reform to full reconstruction (http://pdf.dec.org/pdf_docs/PNADE148.pdf). A number of the new public private approaches were found to be successfully reforming the direct public providers. However, these were usually serving poor people only by default through the general improvement in performance. A very limited number of public-private-community partnerships with international operators were found to be dramatically improving service to some of the poor, with better quality at lower price, but often with uncertainty in the long-term over contractual stability (http://www3.interscience.wiley.com/cgi-bin/abstract/106563319/ABSTRACT?CRETRY=1&SRETRY=0). High potential as most utilities need reform to enhance performance and reach more people
Sup9	Learning Alliances	Specific and promising approaches to improving capacity, organizations and institutions	All	C M	Partly	NC	Medium	High	Often focused on project-based training without strengthening institutional and organizational setting. A broader approach is needed. Applied in Colombia and Bolivia along the lines indicated in IRC Learning Alliance (LA) methodology. (http://www.irc.nl/content/download/16138/208040/file/Background%20paper%20symposium%20Learning%20Alliances.pdf). High potential as a model to better share experience and efforts to develop new materials and approaches and avoid parallel work
Sup10	Networking for capacity development	University and other training institutions share jointly developed training	All	C M	Partly	NC	Small	High	This approach overcomes wasteful repetition in the development of capacity building programs. Current approaches are positive, but project-based. CAPNET is a good example (http://www.cap-net.org/). At national level this can also take the form of a Water Academy as used in South Africa (http://www.thewateracademy.co.za/homepage.php?a_id=19). High potential as a model to better share experience and efforts to develop new materials and approaches, avoid parallel work and bring in universities

SDA	Approach / enabling factors	Summary	Pop.	Cycle	Proven	Sust.	Current Scale	Potential	Comment/Examples
Sup1 1	Joint learning projects	Using projects to jointly with different stakeholders develop/test new approaches in real-life setting	All	C M	Partly	Unclear	Small	High	Innovation and capacity development can be obtained by adopting a few projects as learning grounds working in parallel with mainstream projects. Good experience with multi stage filtration introduction through learning projects exist in Colombia with systems still operating ten years after the projects ended (http://www.wur.nl/UK/newsagenda/archive/agenda/2006/ir_JT_Visscher_Facilitating_community_water_supply_treatment_from_transferring_filtration_technology.htm). High potential as this creates a learning model that can help to enhance sector performance partly through learning by doing

Annex 2. Summary assessment Service Delivery Approaches and Enabling Factors for Sanitation and Hygiene

Area	Approach / enabling factor	Summary	Pop	Cycle	Prov.	Sust	Scale	Potential	Comments / Examples
SDA1	Self-management and improvement	People building and managing their own latrines and septic tanks by themselves or with help of local contractors	All	C M	Fully	Medium	Large	High	Millions of households construct toilets in or near their households. This ranges from unimproved pit latrines particularly for poorer households and improved sanitary facilities some also including septic tanks. Problems include limited or no access to good information, quality advice and materials resulting in substandard systems which are difficult to clean and become unsanitary and fall into disuse. Many existing latrines need to be upgraded with technologies that safely compost the pit contents or with improved designs that allow safe pit emptying. People in rental housing and the poorest people, who lack land, are often not in a position to build their own facilities. (http://www.ucl.ac.uk/DPU/pui/research/current/governance/outputs/Dar_ES_Report%202_2.pdf). In fact it is the natural thing that people construct their house with facilities. Hence high potential particularly if they involve SSPs
SDA2	Community initiated/managed	Community groups developing / managing (part of the) facilities (latrines, shallow sewers etc.)	Urban	C M	Fully	High	Medium	High	Different groups at community level jointly become involved in improving sanitation. This particularly includes women's organizations who often receive professional guidance, for example, from NGOs providing capacity building and hygiene promotion (http://www.irc.nl/page/7706). Demand creation and quality of construction however are often not dealt with. A women's group in Anjengo, a large coastal village (population of 16742), constructed "a Pay-and-Use Latrine Unit" and make a profit of Rs.1400 (USD 30.50) per month after all expenses. (http://www.lboro.ac.uk/well/resources/Publications/Country%20Notes/CN4.1%20India.htm). In urban areas in Brazil, Pakistan and South Africa, successful experience also exists with condominal sewerage and with user groups organizing payments. Simplified sewerage in urban areas can become cheaper than on-site sanitation systems as population density increases. Successful operation and maintenance (O&M) requires an effective partnership between the sewerage authority and the community. In Brazil condominal sewerage systems have been implemented on a large scale in urban areas. (http://www.wsp.org/publications/BrasilFinal2.pdf) High potential if they shift more towards using SSPs
SDA3	Small scale providers (SSP-entrepreneurs)	Provision of services by small companies (latrine construction, pit/septic tank emptying, selling sanitation materials, and managing public pay- and -use toilets)	All	C M	Fully	High	Large	High	SSPs have a large market share, providing different services including latrine construction and management of pit emptying. Private providers of parts and masons are more accessible in and around small towns. They often operate outside of regulatory framework with pricing based on market competition or cartel price-setting. The SSPs generally lack quality control and are constrained by limited access to credits and innovation. In Kibera (Kenya), SSPs provide a considerable share of sanitation facilities. In Dar es Salam (Tanzania), tariff guidelines and dumping permits for pit-emptiers have resulted in services for 66,000 people yearly at reduced prices (http://www.wupafrica.orgwww.wupafrica.org/toolkit/resources/caseExamples/narrative-form.html). In Bamako (Mali), COFESFA, a women's cooperative, is building and maintaining public toilets and toilets in schools, maintaining gutters, selling domestic waste bins, installing water fountains (http://www.undp.org/hiv/mayors/worldalliance/part2_24.html). Also, good privately operated public toilets exist, for example in Kampala (Uganda), where a private company has invested USD 38,000 in rehabilitating 105 public toilet facilities, ferrying water as municipal water supply is unreliable. (http://www.wupafrica.org/toolkit/resources/caseExamples/narrative-form.html). As with most of these options, SSPs do not reach the very poor. In view of the potential market SSPs have an enormous potential

Area	Approach / enabling factor	Summary	Pop	Cycle	Prov.	Sust	Scale	Potential	Comments / Examples
SDA4	Private utilities	In some large cities private utilities are responsible for sewerage and waste water treatment	Urban	C M	Fully	Medium	Small	NC	Some private utilities are operating waste water and treatment systems. Track records are mixed and connections are too costly for the poor. Large firms from the industrial world have developed waste water systems and treatment and in some cases manage contracts or concessions for municipalities (http://www.environmentprobe.org/enviroprobe/pubs/ev542.html ; and http://water.severntrentservices.com/pressroom/PressStreamer.aspx?ID=136).
SDA5	NGO driven projects	In many countries international and local NGOs implement sanitation projects often with support of large organizations such as UNICEF	All	C	Fully	Low	Large	NC	NGOs are extensively involved in sanitation promotion and implementation and their activities and results are varied. They often work in parallel with government and fail to set-up long term maintenance arrangements. In Kibera, sanitation blocks were developed by an NGO with the users, who continue to manage and use them. Yet the poorest residents may not be able to afford using the systems (http://www.odi.org.uk/wpp/publications_pdfs/Livelihoods%20and%20gender%20leaflet%20final.pdf ; and http://www.un-ngls.org/cso/NGOWater.doc). Unfortunately, NGO-driven projects are usually not sustainable, stopping at the end of a project. There are exceptions, for example, in Kerala state of Southern India, the Socio-Economic Units Foundation (SEUF) undertook a latrinization project with local government that became one of the models for the national Total Sanitation Campaign (TSC) (http://www.seuf.org/html/kozhikode.html). Another positive example is the Orangi Pilot project (Karachi), which is now being replicated in seven cities of Pakistan, the cost of community-based sewerage was about one quarter of that of conventional sewerage provided by government agencies. Strong community organization is needed (http://www.unescap.org/DRPAD/VC/conference/bg_pk_5_opp.htm).
SDA6	Municipal services	Municipal companies dealing with sewerage and sometimes waste water treatment. Some are being privatized sometimes under pressure of World Bank and donors	Urban	M	Fully	Medium	Medium	High	Dealing mainly with sewered systems. Rarely full coverage and efficient. Coping with aging systems is one of the greatest challenges in the industrial world. Model of management based on industrialized country contexts. Publicly owned utilities that provide sewered networks, normally operational only in part of small town populations and linked to the delivery of piped water supplies. Rarely provide 100% coverage and lack of end treatment poses environmental and public health risks. Piped sewerage systems serve less than a fourth of the people in Ho Chi Minh, Manila and Jakarta. Less than one-third of sewerage systems in Latin America reportedly have treatment plants. Often under-funded and lacking in management/technical capacity (http://www.sanicon.net/titles/topicintro.php3?topicId=8). Good experience exists in Brazil where the utility made the deliberate decision to promote condominal sewerage, teaming up in the process with NGOs. This experience has been introduced in several other countries (http://www.wsp.org/publications/BrasilFinal2.pdf). High potential because their current market share but requires enhanced efficiency in utilities
SDA7	Programs of Line departments of Ministries	Promoting of latrines by health workers sometimes with supply of material	Rural	C	Fully	Moderate	Large	High	Particularly ministries of health, rural development and local government may play a role in sanitation promotion and construction, although the latter is being reduced. Coordination among different departments is difficult but needed for critical mass, demand creation and management. Ministries usually have other priorities such as curative health that undermines the sanitation effort. In Uganda, for example, the role of the environmental health division is changing in that respect (http://www.health.go.ug/docs/ENV%20HEALTH.doc). With their decentralized staff structure they are in a good position to help promote sanitation, but better results can be achieved by a more comprehensive approach, which also involves private sector. This is recognized in the new program of the MOH in Uganda (http://www.wsp.org/06_FeaturedNews.asp?FeatureID=124). High potential if staff is properly oriented and has incentives as they reach out to communities

Area	Approach / enabling factor	Summary	Pop	Cycle	Prov.	Sust	Scale	Potential	Comments / Examples
SDA8	School sanitation	Improvement of facilities and behavior at schools	All	C M	Fully	Medium	Medium	High	School programs are used as entry points for building demand and improving household sanitation. National programs in more than 40 countries including India (600,000 schools), Vietnam and Zambia. However, conditions are still appalling in many schools. In 2006, UNICEF and IRC launched a joint project on global information sharing in support of UNICEF's global leadership role for school sanitation and hygiene education (SSHE). This is building on ten years of learning and best practices on school sanitation (http://www.freshschools.org ; and http://www.irc.nl/content/view/full/114 ; http://www.schoolsandhealth.org). High potential because it may influence children to adopt new behaviors
Area	Approach / enabling factor	Summary	Pop	Cycle	Prov.	Sust	Scale	Potential	Comments / Examples
Fin1	Self-financing	People investing individually or jointly in sanitation	All	C M	Fully	Medium	Large	High	Widely used but often poor quality because of weak management and supply chain and particularly because many toilet technologies are unaffordable for the very poor. Needs better access to micro-finance, information, advice and products. Better access to support / stronger private sector involvement would be very beneficial. Actual examples demonstrating success in leveraging household and community resources for sanitation can be found in countries as diverse as India, Lesotho, Vietnam, Bangladesh, Pakistan and Burkina Faso. (http://www.wsp.org/publications/af_finsan_mdg.pdf). Self-financing is increasingly becoming an issue as more and more externally supported programs pay for the software costs for demand creation but no longer for facilities. High potential because of growing access to funding
Fin2	Full capital investments by donor funds or government	People receive facilities as a gift	Rural	C	Fully	Low	Large	Low	In the past, governments often provided 50% to 100% subsidies for household latrines, which tended to ignore or even 'crowd out' household resources. It was a typically supply-driven approach which often resulted in many unused facilities. This approach is now discouraged, shifting to cost-sharing or no subsidy because of cost involved and to enhancing ownership (http://www.wsp.org/publications/af_finsan_mdg.pdf).
Fin3	Partial subsidies in latrine programs	Users contribute in cash or kind or pay connection fee.	All	C	Fully	High	Large	High	Good approach to enhance ownership. Also needed for replacement. Some examples of no-subsidy for hardware, but poorest sections may require subsidy. The governments of India and Bangladesh suspended subsidies because they did not reach the poor but then re-introduced them at lower levels (the equivalent of about USD 10) in order to reach the poorest of the poor. Management of subsidies remains a challenge. In Ouagadougou (Burkina Faso): a surtax on water supply is applied by ONEA, an autonomous public water and sanitation company, to subsidize on-site sanitation facilities (25% contribution and supervision of trained masons). 20,000 facilities have been constructed in schools and households. Management of funds presents difficulties, but approach was extended to other towns (http://www.wupafrica.org/toolkit/resources/pdf-files/good_practices/good_practice_Africa.pdf) Good potential to reach the poorer sections of society
Fin4	Tariffs	Users pay the cost for operation and maintenance	Urban	M	Fully	Medium	Large	High	Accepted as a rule, but not always covering all costs in sewerage systems. Poor often cannot afford the fees. Also used for communal facilities which are managed by groups of families, paying monthly rates, for example in Nairobi (http://wupafrica.org/toolkit/resources/caseExamples/narrative-form.html). In South Africa differential tariffs are used to support the poor, and no tariff is charged to families using less than 6000 liters of water per month (http://www.joburg.org.za/services/water3.stm). Potential relates to the need to sustain services

Area	Approach / enabling factor	Summary	Pop	Cycle	Prov.	Sust	Scale	Potential	Comments / Examples
Fin5	Loans/credits	Loans made available to households	Rural	C	Partly	Unclear	Small	High	Good potential as people cannot afford paying high investment. Results of loan schemes specifically for sanitation are mixed if the demand for sanitation is low (sometimes poor repayment) but work better for broader schemes (house improvements). Installment payments make capital investments easier for the poor. The vulnerable poor, (the poorest people) need additional support because they may not be reached (http://www.williams.edu/Economics/neudc/papers/What%20to%20Expect%20from%20Development%20NGOs%20July%209.pdf). Micro credit schemes exist in different contexts, often through local NGOs or with NGOs acting as a guarantor. Cases on sanitation loans show positive repayments in Honduras, but considerable back-logs in Ghana (http://www.lboro.ac.uk/well/resources/fact-sheets/fact-sheets-htm/mcfs.htm). High potential because it may be expected that attention for sanitation will create larger market
Fin6	Micro credit for private sector	Limited access to venture capital often restricts small private sector to expand	All	C	Partly	NC	Medium	High	Risk capital needed for further experiments; quality insurance. Often paid through local NGOs. Since the 1980s over 7,500 different types of small family businesses have received credit from the Orangi project in Karachi, with good repayment (http://www.oppinstitutions.org). In Bangladesh, Burkina Faso, Ghana, Peru and Senegal the private sector supply of latrine parts, construction and sale of soap has been supported, not by micro-credit but by social mobilization programs that increase the demand for the products. These programs are funded by governments and external agencies (http://www.wsscc.org/pdf/publication/Sanitationisabusiness.pdf). Potential exists in removing a barrier for private sector to grow
Fin7	Loans/credits for municipalities	Loans made available to municipalities	Urban	C	Fully	NC	Medium	High	Many municipalities are indebted by loans for water and sanitation facilities for which they pay from regular budget and to a much lesser extent from user contributions. Potential relates to changing this practice to a sound repayment on basis of user fees
Fin8	Revolving fund	Used at community level	Rural	C	Partly	NC	Small	High	Interest in this concept is increasing and good results are reported for example from Anhui province in China, particularly where community leaders were involved (http://www.unicef.org/evaldatabase/index_14260.html). In Nepal the government does not provide subsidies for sanitation but has established revolving funds which the community can keep if they have obtained 100% coverage (http://www.livelihoods.org/hot_topics/docs/CLTS_update06.pdf). Requires transparent management. High potential particularly in homogenous communities aiming at 100 percent sanitation
Fin9	Pay and use toilets / public bath houses	People pay when they use the facilities that are built and managed by NGOs, entrepreneurs or local government	Urban	M	Fully	High	Medium	High	Good approach if systems are kept clean. Can quickly enhance coverage. A wide range of approaches are existing including public-private arrangement with users paying per visit but also some with monthly contributions (http://www.wupafrica.org/toolkit/resources/pdffiles/good_practices/good_practice_Africa.pdf ; http://www.lboro.ac.uk/well/resources/Publications/Country%20Notes/CN4.1%20India.htm). A good option to guarantee quality and back-up support is to use a franchise concept. Sulabh International in India has developed 4000 "pay and use" community toilets serving more than 11 million people daily (http://web.mit.edu/urbanupgrading/waterandsanitation/resources/caseExamples/sanitation-services.html). Pay-and-use public toilets for crowded areas and slums, without space or funds for latrine construction. Also for transient populations at for example bus stops. Managed by local government, NGOs or entrepreneurs. This includes women groups jointly developing sanitation facilities (http://www.irc.nl/page/7706). High potential particularly in densely populated slums
Fin10	Social development funds	Often grant or food/pay for work-based interventions	All	C	Fully	Low	Large	Low	Mixed track record in sanitation with earlier interventions even frustrating work of others. Risk remains that it operates as a parallel program. Approach is for example promoted in Latin America and Caribbean by the Inter-American Development Bank (http://www.iadb.org and www.iadb.org/sds/doc/957eng.pdf).

Area	Approach / enabling factor	Summary	Pop	Cycle	Prov.	Sust	Scale	Potential	Comments / Examples
Fin11	Output based aid (OBA)	OBA uses explicit performance-based subsidies to support the delivery of basic services where it is justified using public funding to complement or replace user-fees	All	C	Idea	NC	Small	NC	The core of the OBA approach is the contracting out of service delivery to a third party, usually a private firm, where payment of public funds is tied to the actual delivery of these services. The Global Partnership for OBA is supporting programs in different regions and sectors, including working with SSPs for on-site sanitation in Dakar and utilities in Punjab (http://www.gpoba.org).
Fin12	Cross subsidies	Differential tariffs in sewered systems charging below cost to poor users and above cost to others	Urban	M	Fully	High	Medium	High	Good approach in relation to differences in income, provided total system costs are recovered which at present is often not the case. Also, it is difficult to ensure that subsidies reach the poorest groups (http://web.mit.edu/urbanupgrading/waterandsanitation/funding/estab-price-policy.html ; http://www.sanicon.net/themes/intro.php3?theme=3). High potential for connecting more people but costly and may reduce interest for dry alternatives
Fin13	Fighting corruption	Increased transparency will allow more efficient use of available funding	All	C	Trial	High	Large	High	Corruption is a widespread phenomenon and drains part of the funding that could be used to reduce costs to consumers, including the poor, to increase salaries, improve planning and the quality of construction. Better procedures and access to information are needed. (http://www.irc.nl/content/download/21439/253860/file/How%20to%20hold%20a%20meeting%20ool%20(Stockholm).pdf). A study comparing productivity among 21 water utilities in Africa found that nearly two-thirds of their operating costs were due to corruption (http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2002/10/25/000094946_02101104032679/Rendered/PDF/multi0page.pdf). High potential because the part of the sector funds that are currently lost can be used for service improvement and expansion
Dem1	Health Focused	Health focused sanitation promotion	Rural	C M	Fully	Low	Large	Low	Widely used, but health based promotion seems to provide limited results. On the other hand it is claimed that "hygiene promotion is more cost effective than other WATSAN interventions and is as cost effective as some of the most important child survival interventions in the health sector" (http://www.lboro.ac.uk/well/resources/Publications/Briefing%20Notes/BN14%20Hygiene.htm). Some donors still put a health-based approach at the centre of their sector investments and portfolios; see for example the Hygiene Improvement Framework model developed by USAID (http://www.ehproject.org/PDF/Joint_Publications/Jp008-HIF.pdf)
Dem2	Social marketing	Use of different communication means and messages to encourage latrine adoption and behavioral change	All	C M	Fully	High	Medium	NC	Increasingly seen as an important broader non-health based approach; Seems to work but requires good assessment of impact. Africa WSP is involved in assessing social marketing (http://www.wsp.org/03_Sanitation.asp). Requires continuing commitment. In Bangladesh, a three-year intensive social mobilization and marketing program resulted in increase in household latrine coverage from about 20% in 1992, to 44% in 1996. Then after the social mobilization program ended, coverage dropped and remained stagnant for several years at about 37%. The social marketing/mobilization had little impact in changing behaviors related to hand washing and disposal of children's feces. In part this was because many of the social marketing activities lacked enough personal or household contact (http://www.wsp.org/publications/sa_approach.pdf).

Area	Approach / enabling factor	Summary	Pop	Cycle	Prov.	Sust	Scale	Potential	Comments / Examples
Dem3	Participatory approaches such as PHAST	Participatory Hygiene and Sanitation Transformation (PHAST) is designed to promote hygiene behaviors and sanitation improvements at community level using specifically developed participatory techniques	All	C M	Fully	NC	Medium	NC	This approach has been applied with positive results although research is urgently needed to assess its cost effectiveness. Typically it is applied by NGOs to improve household and personal hygiene behavior together with toilet coverage. Developed and applied in East and southern Africa, and adapted to other countries such as Somalia and the Dominican Republic. A participatory approach in which people learn about their situation, make plans to improve this and then change their behaviors. Special techniques are used such as mapping and ranking for this self-discovery and analysis. Can be used where initial latrine coverage is low. (http://www.who.int/water_sanitation_health/hygiene/envsan/EOS96-11b.pdf) ; and for experience in Zimbabwe with PHAST: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10842797&opt=Abstract).
Dem4	Demonstration systems	Introduction of new technologies through demonstration	All	C M	Partly	High	Medium	High	Essential to provide users and entrepreneurs with examples from alternative sanitation (composting, Ecosan) and materials. In Bangladesh: sanitation marts, demonstration models. The WECF, a Europe based NGO, demonstrate sophisticated Ecosan toilets to show that ecological sanitation is equally nice as people perceive water-flush toilets to be – inside the house, shining, non-smelling and clean – but in addition the ecological toilets do NOT need an expensive sewage system, nor piped water, nor do they pollute groundwater. (http://www.wecf.de/cms/articles/2005/09/stockholm.php) High potential in combination with other EFs
Dem5	Promoting re-use waste water, urine and excreta	Reusing waste products for productive use	All	C M	Partly	NC	Small	High	Still incipient, but interest is increasing. Requires a paradigm shift about waste being too valuable to waste. Emphasis is on low-cost, low-energy, low-maintenance, high-performance systems that contribute to environmental sustainability by producing effluents that can be safely and profitably used in agriculture for crop irrigation and/or in aquaculture for fish and aquatic vegetable pond fertilization. (http://www.irc.nl/page/13348 ; http://www.sanicon.net/titles/topicintro.php3?topicid=3) May have high potential particularly for poor people with some land
Dem6	Gender sensitive approach	Taking into account gender differences	All	C M	Partly	High	Medium	High	Gender sensitive approaches are recognized as being essential although action at scale lags. In practice, the demand for toilets is greater among women although men tend to control money for such investments in many countries. Thus, sanitation and hygiene promotion should focus on men and women while recognizing their different roles (http://siteresources.worldbank.org/INTGENDER/Resources/watersanitation.pdf ; http://www.wsscc.org/pdf/publication/FOR_HER_ITs_THE_BIG_ISSUE_Evidence_Report-en.pdf). Good examples exist of gender and poverty sensitive programs that create employment for poor women in sanitation (http://www.irc.nl/page/227). Stronger emphasis on girls in school sanitation through providing separate facilities that are girl (and child) friendly, increases time spent in school (http://www1.worldbank.org/education/efafti/documents/NYT_article_girlsdec2305.pdf). High potential as it can build on the interest of people, but it requires a change in mindset

Area	Approach / enabling factor	Summary	Pop	Cycle	Prov.	Sust	Scale	Potential	Comments / Examples
Dem 7	Combination of approaches	Combining different demand creation and behavioral change promotion approaches	All	C M	Partly	High	Medium	NC	Many programs combine approaches, although the how to determine optimum mix in a particular situation is not yet known. The Village Education Resource Centre (VERC) in Bangladesh supported 100% sanitation approach in 100 Bangladeshi villages. The 16-month effort in each village combined participatory approaches and social mobilization with intensive field work in neighborhoods and households. Focused on latrine coverage, maintenance and personal hygiene behaviors. Quality of management appears to be a key (http://www.livelihoods.org/hot_topics/docs/CLTS_Allan.pdf). The SEUF program in southern India worked with local government (about 60,000 latrines) combined elements of mobilization, education, participatory and social marketing strategies with at least 8 different activities for behavioral change. Although there is a positive tendency overall between the project activities and outcomes, it was the required group classes which were significantly associated, statistically, with use of latrines and handwashing up to 9 years after the intervention ended (http://wedc.lboro.ac.uk/conferences/pdfs/30/Zacharia.pdf).
Dem8	Total sanitation	The approach is called total sanitation because it aims at 100% sanitation coverage in a target area, through raising awareness (participatory approaches) and encouraging latrine construction	Rural	C M	Partly	NC	Medium	High	Total sanitation aims to eliminate open air defecation based on mobilization of all community institutions often using a mix of promotional strategies in combination with affordable sanitation options. Good management and support are needed for organizations that support the communities. Experience is ranging from small NGO programs to large scale government programs. Essential features for the success of total sanitation are adaptive management with feed-back loops, capacity building of intermediate actors and the collaboration between government and others. Still several problems with monitoring, mediation and supply chain exist, and it is unclear which mix of approaches is most efficient and effective (http://www.wsp.org/publications/SANITATION%20STUDY_PRESS.pdf). Total sanitation is already applied in Bangladesh, Cambodia, Mongolia, Nepal, Pakistan, India, Indonesia, Uganda and Zambia (http://www.ids.ac.uk/ids/bookshop/wp/wp257.pdf). High potential as it builds on common experience and entails the potential to really reach 100 percent coverage and use
Sup1	Legislation and regulatory reform	Strengthening legislation and encouraging re-use of waste and waste water	All	C M	Fully	High	Medium	High	Increasingly understood as being essential for good service provision (polluters pay principle). Had major impact in industrialized countries. The Government of Peru passed a new law for the Promotion and Development of the Sanitation Sector. For the first time, rural areas and small towns have been included in the regulation of WSS services, and sustainability, efficiency, economy and equity have been accepted as the basic principles for WSS projects (http://www.wsp.org/Access_archives/ACCESS03.pdf). In Kenya, it was recognized that sanitation has lagged behind perhaps because it does not have an institutional home. The government is keen to address sanitation and hygiene and several laws include these aspects (http://www.odi.org.uk/wpp/publications_pdfs/Livelihoods%20and%20gender%20leaflet%20final.pdf). A unified sanitation policy may not, in each situation, be required. However, some targeted regulations and agreements are essential such as, for example, agreements to enable collaboration between institutions or regulations to allow government staff to take part in activities. (http://www.wsscc.org/dataweb.cfm?code=586 see section 3). High potential in terms of effect; it provides the necessary framework
Sup2	Partnership approaches	Different types of inter-ministerial and public private partnerships also including NGOs.	Urban	C	Trial	NC	Small	High	By enhancing collaboration among ministries, much better use can be made of different resources. This is difficult to achieve politically and to activate because of capacity gaps. Rapid growth of experience with public private partnerships. Examples exist including in Kathmandu, Hyderabad and Dhaka (http://www.adb.org/Documents/Books/Asian_Water_Supplies/asian_water_supplies.pdf). The real value and management of Public Private Partnerships for sanitation is, however, still not fully clear or consistent (http://www.lboro.ac.uk/departments/cv/wedc/projects/ppp-poor/index.htm). Example: Central American handwashing Initiative succeeded; Southern India did not. High potential because it builds on the strengths of different actors

Area	Approach / enabling factor	Summary	Pop	Cycle	Prov.	Sust	Scale	Potential	Comments / Examples
Sup3	Supply chain organization	Organization of local availability of sanitation components including possibly piggy-backing on outlets of large companies	All	C M	Partly	NC	Small	High	Different materials and parts (toilet pans, cement, soap) have to be available which requires a good supply chain. External agencies have helped to establish such chains (UNICEF supported sanitation marts http://www.unicef.org/india/wes_1433.htm). Networks of trained masons improve construction quality but can disturb the market, (see Bangladesh; http://www.wsp.org/publications/eap_harnessing.pdf). A Global Supply Chain Initiative exists to develop practical tools that enable and encourage the private sector to provide goods and services related to rural water supply and sanitation (http://www.wsp.org/publications/global_scrg.pdf). In Bangladesh 3000 privately operated latrine production centers account for over 65% of the sanitation market with competition keeping prices reasonable and products reliable and have been successful in creating supply chains (http://www.wsp.org/publications/sa_rwss.pdf). High potential in terms of impact because good supply chains are very much needed
Sup4	Institutional support mechanisms	Providing back-up support to communities and small providers can support sanitation expansion	All	C M	Partly	NC	Small	High	Providing advice and guidance to community groups and local entrepreneurs can make a considerable difference in performance and outreach. In some countries such as Honduras, the MOH has established Environmental Health Technicians who support committees in improving water and sanitation conditions (http://pdf.dec.org/pdf_docs/PNACR786.pdf). NGOs frequently provide back-up support but usually only on a short-term basis. An alternative that occurs in relation to water supply, but not sanitation, could be for local entrepreneurs or communities to form associations to obtain this support. High potential in terms of impact because all smaller providers and communities lack institutional support
Sup5	Knowledge and information support systems	Improved access to information and experience	All	C M	Partly	NC	Small	High	Good documentation of experience and access to information is essential to improve sector performance (http://www.irc.nl/content/download/25395/280851/file/TOP14_KM_06.pdf). Development Clearing House telephone based assistance: (http://www.dec.org). GARNET information exchange using low-cost informal networks of researchers, practitioners and funders of research: (http://www.info.lut.ac.uk/departments/cv/wedc/garnet/grntacti.html). High potential in terms of impact because all users, small providers and municipalities lack access to good information and advice
Sup6	Institutional reform	Many organizations need to be reformed to improve their operations	All	C M	Partly	NC	Medium	High	Enhanced efficiency of organizations and institutions involved in the sector is essential. A considerable number of private and public utilities are starting reform process often after a crisis or the introduction of new legislation. Examples exist of bankable projects for water supply and to a lesser extent sanitation which range from management reform to full reconstruction (http://pdf.dec.org/pdf_docs/PNADE148.pdf). High potential as most utilities need reform to enhance performance and reach more people
Sup7	Learning Alliances	Specific and promising approaches to improving capacity, organizations and institutions	All	C M	Partly	NC	Medium	High	Often focused on project-based training without strengthening institutional and organizational setting; needs a broader approach. Applied for example for water supply in Colombia and Bolivia along the lines indicated in IRC LA methodology (http://www.irc.nl/content/download/16138/208040/file/Background%20paper%20symposium%20Learning%20Alliances.pdf). The NGO consortium in Bangladesh on total sanitation would provide a good starting point for developing a learning alliance on sanitation (http://www.livelihoods.org/hot_topics/docs/CLTS_update06.pdf). High potential as a model to better share experience and efforts to develop new materials and approaches and avoid parallel work

Area	Approach / enabling factor	Summary	Pop	Cycle	Prov.	Sust	Scale	Potential	Comments / Examples
Sup 8	Capacity development	Important experience exists with building capacity particularly of local masons	All	C	Fully	NC	Medium	High	Good experience exists which can be built upon. The Socio Economic Unit in Kerala for example has been training over 1000 women masons who are now involved in the state-wide sanitation program (http://www.irc.nl/page/8287). High potential in view of the growing market for entrepreneurs
Sup9	Networking for capacity development	University and other training institutions share jointly develop training	All	C M	Partly	NC	Small	High	This approach overcomes wasteful repetition in the development of capacity building programs. Current approaches are positive, but project based. CAPNET (Capacity Building for Integrated Water Resources Management) is a good example of a broader approach (http://www.cap-net.org). High potential as a model to better share experience and efforts to develop new materials and approaches, avoid parallel work and bring in universities

Population: Rural = dispersed + small rural concentrated; Urban = Small towns + Urban Slums + Peri-urban areas

Cycle C = construction M = Maintenance

Proven: Trial = Being tested at small scale; Partly = Successfully tested at small scale; Fully = tested and applied at scale

Sustainability High = good examples of long term sustainability; Medium = examples of both high and low sustainability; Low = many examples of poor sustainability; NC = not clear, no real performance record

Scale Large = > 500 million; Medium = 100 – 500 million; Small = < 100 million people that are involved

Potential High = good potential to enhance coverage and system performance for at least 100 million people; **Low** = limited potential enhance coverage and system performance; **NC** = Not clear (not enough known, tested etc.)

SDA=service delivery approach; **Fin**=finance; **Dem**=Demand creation; **Sup**=Support system and Capacity development

Annex 3. Basis for the estimates of market share of the different approaches

Limited data on water and sanitation coverage exist and these are not very precise and difficult to compare. Yet we have tried on the basis of available data to make some estimates to be able to give an impression, be it only indicative, of the market share of the different approaches. The following assumptions have been used:

- Small town population and coverage data: is not available at JMP, but we assume that small towns are part of the total JMP urban population. In the table, TOTAL urban refers to Urban JMP data, while small towns and urban data have been estimated using World Bank data or estimates, in a way that makes the sum (small towns + urban) match with the total urban data from the JMP.
- For water, we assume that 2/3 of both urban and rural populations have coverage (communal wells). Population relies on handpumps
- For sanitation, we assume that 90% and 25% of rural and urban populations respectively with sanitation coverage rely on latrines.
- For estimates, we assume levels of service for water and sanitation increase from rural to small towns and from small towns to urban.

Water coverage data											
	Population ¹	Coverage ²		House / yard connections ²		Total piped water (house connections+standpipes) ²		Handpumps ²		Other (springs, wells, rainwater) ²	
	billion	% population	billion	% covered	billion	% covered	billion	% covered	billion	% covered	billion
Rural	3.2	72	2.3	27	0.6	30	0.7	41	0.9	29	0.7
Small towns	1.2	94	1.1	70	0.8	78	0.9	16	0.2	6	0.1
Urban	1.8	96	1.7	85	1.5	89	1.5	8	0.1	3	0.1
Total JMP Urban (urban + small towns)	3	95	2.9	79	2.3	85	2.4	12	0.3	3	0.1
TOTAL	6.2	83	5.2	52	2.9	60	3.1	24	1.3	15	0.8

Sanitation coverage data										
	Population	Coverage			House / yard connections		Septic tanks		Latrines	
	billion	% population	billion	% covered	billion	% covered	billion	% covered	billion	
Rural	3.2	37	1.2	6	0.1	4	0.0	90	1.1	
Small towns	1.2	78	0.9	47	0.4	13	0.1	40	0.4	
Urban	1.8	83	1.5	60	0.9	25	0.4	15	0.2	
Total JMP urban (urban + small towns)	3	81	2.4	55	1.3	20	0.5	25	0.6	
TOTAL	6.2	58	3.6	30	1.4	15	0.5	46	1.7	

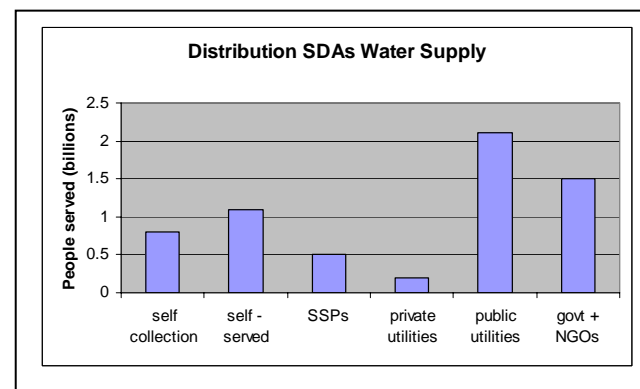
On the basis of the figures indicated above a rough estimate has been made of the market shares using the following assumptions

¹ Based on Joint Monitoring Programme 2002 and WB 2006

² Based on Joint Monitoring Programme 2002

For water supply (numbers in billions)

self collection (users fetching the water)	0.8	unserved 1.1 but 0.3 buy water from vendors and kiosks
self-served; users having their own or communal systems	1.1	Other rural 0.3, Small Town 0.1, Urban 0.1; handpumps rural 0.2, Small Town 0.05, Urban 0.05; piped 0.4
SSPs	0.5	unserved 0.3 other 0.1; piped 0.1
private utilities	0.2	10% of share of public utilities
Public utilities	2.1	piped urban but 0.1 covered by SSP and 0.2 by private utilities
Government + NGOs programs	1.5	Other 0.2; handpumps urban 0.2 handpumps rural 0.9; piped 0.2



For sanitation (numbers in billions)

not covered	2.6	
self managed	0.8	55% of rural latrines, Small Town latrines 0.2
SSPs	1	latrines Small Town 0.2; latrines urban 0.2 50% septic tanks urban 0.2 septic tanks Small Town 0.1
private utilities	0.1	10% of share of public utilities
municipal services	1.2	all piped sewers - 10% private utilities
govt + NGOs	0.5	45% rural latrines

