

Stage 4: Develop models for service delivery

The aim of this stage in the planning process is to formulate the most appropriate management arrangements for implementing sanitation improvement strategies in line with the improvement options defined in Stage 3. Agreement between stakeholders on the proposed institutional and regulatory framework is critical to the success of the proposed sanitation strategy. A consideration of their financial costs in relation to the capital investment requirements is very necessary, but most importantly for sustainable service delivery are the arrangements for cost recovery and management of finances.

Activities in Stage 4 of the planning process include:

- Develop appropriate management arrangements
- Derive cost-recovery mechanisms
- Strengthen financing mechanisms
- Develop arrangements for monitoring and regulation

Outcome from Stage 4: The outcome from Stage 4 should be a number of defined service delivery models that can be adopted by the city to upgrade sanitation services throughout the city. These service delivery models should utilise the agreed technologies for upgrade defined in Stage 3 providing the necessary details to describe the arrangements for management, financing and cost recovery. The service delivery models should be linked to the institutional arrangements for monitoring and regulation to ensure that service providers meet the agreed service level improvements.

Develop appropriate management arrangements

All facilities along the sanitation service chain need to be managed effectively for the system to function as a whole. Due to the failure of the traditional institutional set up in the majority of situation instances, some form of public-private partnership is likely to be the most effective means to ensure sustainable and affordable sanitation services. These partnerships have a potential to bring in resources and technical expertise, and can be an effective means to achieve more efficient service provision by fostering market competition. Contracting out operation and maintenance to private sector operators can provide a means to bridge some of the deficiencies in the public institutional setting and provide a better quality of service delivery. This does not mean that the local authority

loses control to the private sector, as assets can be owned by the state or local government or joint ownership.

Neighbourhood and city-level infrastructure may require different types of management arrangements (see Table 5). Larger cities are often divided into a number of administrative areas which have a dedicated organisation responsible for operating and maintaining services. This may be a sub-division of the main organisation responsible for service provision – generally a public or private utility – or services may be provided under a delegated management model. The management arrangements for servicing on-site sanitation is generally more complex than that for sewerage because various organizations from the public or private sector need to play a role in operating and maintaining different components of the sanitation chain. Successful implementation with various actors is dependent upon clearly defined responsibilities and lines of accountability in contractual terms. Ambiguities in the contracts and a lack of transparency will mean that the benefits of engaging with the private sector are likely to be lost.

Derive cost-recovery mechanisms

For ongoing operation and maintenance costs, the main source of revenue should be service charges from households and institutional/commercial customers. Matching customer aspirations with the proposed level of service and the respective charges associated with different options will be important; especially because improved services generally result in higher costs. Recovering costs for sanitation services associated with operation and maintenance of sewerage and wastewater treatment plants generally poses a greater challenge than for other municipal services, notably for water supply. Where sewerage is proposed the operational costs are substantial and there is a significant risk that insufficient numbers of households will connect and become paying users of the service. This ends up in the situation that sewerage systems often need to be subsidized whereas the costs of on-site systems are paid directly by the users themselves. Treatment costs are generally not perceived to be of direct benefit to the user and there is generally a lack of willingness to pay for these costs. This may be overcome by the utility including additional sanitation charges in the water supply charges or potentially introducing a municipal sanitation tax.

Table 5: Service provider options for contracting out operation and maintenance requirements at different levels

Level of infrastructure /service	Operation and maintenance activity	Management option
Household level Management	<ul style="list-style-type: none"> • Emptying of pits/septic tanks. • Collection and transportation of excreta. • Operation of holding tanks/transfer stations. • Unblocking of household connections. 	<ul style="list-style-type: none"> • Small-scale service providers (operated either by a small-scale private operator or an NGO).
Lane and neighbourhood level services	<ul style="list-style-type: none"> • Emptying and repairing communal septic tanks, toilet blocks, and lane sewers. • Maintenance of decentralised treatment plants. 	<ul style="list-style-type: none"> • Small or medium scale enterprise, CBOs, non-profit company, or non-governmental organization
City level - Primary infrastructure and services	<ul style="list-style-type: none"> • Maintenance of trunk sewers • Operation of pumping stations. • Management of facilities for faecal sludge / excreta / wastewater treatment and reuse. 	<ul style="list-style-type: none"> • Utility (public or private), concession to private company.

Strengthen financing mechanisms

For development projects, funding for capital investment often comes from international financing institutions (e.g. bilateral or multilateral donors or development banks), or from central government. The type of financing mechanism and ability to mobilize funds will relate to the fiscal strength of the urban utility or municipal authority and may require the agreement from central government to accept liability for repayment if the borrowing agency defaults. In most situations, there is a need to 'ring-fence' the finances for sanitation services to ensure that there is no utilisation of funds in another sectors. Different types of financing instrument may be more appropriate for different points in the sanitation chain and for different purposes. The most obvious differentiation is between grants and loans but there are a range of financing instruments that may be utilised. For example, output based aid and the application of performance-based contracts is increasingly being utilised as a means to provide the incentives to improve the quality of service delivery. Examples of output indicators to trigger payment for performance based subsidies are described in Table 6.

Box 9: Performance based subsidies to improve sanitation service delivery

A few national governments have adopted output-based approaches to delivering subsidies for sanitation. Examples of such programs include the Improved Latrine Program, which started in Mozambique in the late 1980s and supported the development of a network of latrine-building workshops throughout the country's main cities via subsidies based on latrine sales. In Morocco, the World Bank (through the Global Partnership for Output Based Aid (GPOBA) provided a US\$7 million grant to three service providers (both public and private) to extend water and sewerage services into unplanned urban settlements which were formerly excluded from regular service provision.

In Senegal, another GPOBA project provided subsidies for on-site sanitation facilities in poor urban and peri-urban areas of Dakar, the capital city. The project faced challenges related to the economic crisis which significantly affected Senegalese households to pay for improved sanitation and many households were expect to pay the full amount of their upfront contribution before the construction starts. To overcome these challenges, a micro-finance institution (PAMECAS) was introduced to overcome the constraint related to the up-front contributions.

Source: Trémolet and Evans, 2011

Table 6: Examples of output indicators to trigger payment for performance based subsidies

(Source: Tremolet and Evans 2011)

Value chain	Services	Output Indicators
Demand promotion	<ul style="list-style-type: none"> • Sanitation marketing • Social mobilisation, triggering 	<ul style="list-style-type: none"> • Number of households who build/rehabilitate a latrine following demand promotion • Number of communities becoming open-defecation free areas
Collection/Access	<ul style="list-style-type: none"> • Build on-site sanitation facilities • Build and operate community or public toilets 	<ul style="list-style-type: none"> • Number of facilities built and still operating x-months down the line • Number of toilet blocks in disadvantaged areas (used/ paid for)
Transport	<ul style="list-style-type: none"> • Transport pit waste to designated points • Build and operate waste transfer stations 	<ul style="list-style-type: none"> • Volume of waste transported to and disposed in designated locations • Number of waste transfer stations built and functioning x-years down the line
Treatment	<ul style="list-style-type: none"> • Build, maintain and operate wastewater treatment plants 	<ul style="list-style-type: none"> • Volume of waste collected and treated to required standard
Disposal/re-use	<ul style="list-style-type: none"> • Build and maintain facilities which convert waste to agricultural inputs or biogas 	<ul style="list-style-type: none"> • Volume of productive agricultural input generated and sold to farmers or gas created (and sold

Develop arrangements for monitoring and regulation

Service providers need to be accountable to their customers and provide services according to an agreed set of performance and service delivery standards that can be measured by an independent body. The role of civil society will be crucial in terms of organizing civil society dialogue and engage them from beginning of the project. NGOs may also play an important role; offering specific resources that are unavailable within government agencies and a way to more effectively engage with households and communities.

Without effective monitoring which is open to public scrutiny, there is little incentive for city authorities to comply with the plan/commitments. There is a need to agree upon a monitoring plan for implementation of the city sanitation plan in order to ensure accountability of the different institutions involved in service delivery. Development of regulatory instruments should not only be focused on indicators suitable for sewerage. Monitoring according to an agreed set of performance indicators allows for improvements or deteriorations in service

delivery to be tracked and this information can then be used to inform decisions where to target investments for remedial action to enhance services (see Box 10).

The sanitation plan should also support the establishment of a register of on-site sanitation systems in order to keep a record of site visits by Environmental health officers who may look for evidence where septic tank overflows have been directly discharged into adjacent surface drains. As part of this, service providers responsible for septic tank cleaning should be registered and their disposal and occupational health practices should be monitored.

Box 10: Monitoring Service Level Benchmarks (SLBs) to assess sanitation service improvements in India

The Government of India faced problems in the implementation of a large infrastructure and reform programme called as Jawaharlal Nehru National Urban Renewal Mission (JnNURM 2007-12) as many cities were not able to implement important reforms along with the investments. Therefore a system of indicators was introduced to link the effectiveness of investment through a set of Service Level Benchmarks (SLBs) and the defined baseline and proposed improvements proposed in the City Sanitation Plan. Measuring performance as per set norms and measuring parameters helps the utility and service delivery managers to draw the baseline and set targets to reach the benchmarks established for the particular type of service at the National Level. With this perspective, Ministry of Urban Development has published a Handbook on Service Level Benchmarks covering four sectors i.e Water Supply, Sewerage, Solid Waste Management and Storm Water Drainage to be adopted by the cities in setting service level targets.

For the success of the SLB, there is a need to look at the above issues under three areas:

- *Comprehensive data management:* The usefulness of SLBs depends upon the availability and reliability of data and information from city level and this feeding into a State and National monitoring system as a means of improvements from a higher level.
- *Knowledge management and capacity development:* To enable sector related staff to feed their relevant information into the monitoring system, enabling them to access and retrieve data for their sectorial requirements.
- *SLBs as a mandatory requirement for all urban/sector related schemes:* All urban and sector related schemes at the Centre and State level should use the SLB as the minimum basic criteria for reporting and performance monitoring.