

Stage 2: Understand the existing context and define priorities

Sanitation plans need to be based upon a good understanding of the existing physical and socio-economic context in different areas of the city that influence the viability of different types of sanitation services. In most settlements, some level of investment in sanitation infrastructure will already have been made, whether by government agencies, households or others. The condition and functionality of these existing facilities will have a strong influence on the options for improvement. As well as assessing the types of facility / infrastructure that already exist, it is important to learn from the successes and failures of previous projects designed to improve sanitation in the city.

Activities in Stage 2 of the planning process:

- Collect and review information about existing services
- Identify constraints to service provision
- Undertake a sanitation market assessment
- Identify priority areas for improvement

Outcome from Stage 2: The outcome from this stage should be a clear understanding of problems to be addressed, priority areas for improvement and locations which require service expansion and those that require upgrading. It should also include details of short, medium and long term priorities.

Collect and review information about existing services

Table 3 outlines key information about existing services that should inform decisions about the types of sanitation system and strategies for upgrading. Initially, existing documentation should be collected and reviewed as the basis for the development of the sanitation plan. This should include existing policies and strategy papers, maps, project documents and other plans (including those that were not implemented).

Records about infrastructure coverage and service provision are often out of date, incomplete and may well be inaccurate. Information about informal service providers is often very limited or non-existent. There may be a need for some surveys to collect quantitative or qualitative information to help inform and support decision-making processes. However, extensive and resource consuming surveys are not recommended as these activities can cost a lot and distract the city sanitation task force from other more strategic considerations.

Comparing the volumes of wastewater and faecal sludge with the capacity of the collection and treatment facilities will indicate those areas which are most underserved and therefore prone to the highest environmental health risks.

It is important to focus on the actual capacity rather than the design capacity as these are often not the same. This approach has been used to map sanitation stressed areas in various cities in India as part of the National City Sanitation Planning (CSP) programme (see Figure 8).

An important aspect is whether people are already using toilets or if there are still parts of the population that practice open defecation. Figure 9 shows faecal waste flows in Dakar and the relative proportion managed by different forms of sanitation and the extent to which the waste is adequately treated. A graphic illustration such as this can quickly and easily convey to stakeholders the prevailing sanitation situation in the city, which can communicate effectively the magnitude of the problem and the critical areas to be addressed.

Table 3: Relevant information about existing systems and services (adapted from WSP 2008)

<p>On-site facilities</p> <p>Open defaecation</p> <p>Toilets/Latrines</p> <p>On-site treatment</p>	<ul style="list-style-type: none"> • Areas where open defaecation (or 'flying toilets') is practiced. • Types and coverage of household, communal and public latrines. • Cost of construction and charges for use of latrines • Types of on-site treatment utilised and which areas they are used.
<p>Waste collection & conveyance</p> <p>Faecal sludge and septage collection services</p> <p>Existing sewerage infrastructure</p> <p>Costs of providing services</p> <p>Management arrangements</p>	<ul style="list-style-type: none"> • Extent and frequency of desludging, existence of transfer stations • Coverage of sewerage and proportion of households with household connections • Cost of sanitation services • Costs of services and ability to pay • Details and capacity of service providers in the formal and informal sector
<p>Downstream treatment and reuse</p> <p>Treatment facilities</p> <p>Discharge / reuse</p> <p>Management arrangements</p>	<ul style="list-style-type: none"> • Location and types of treatment facility • Volume of wastewater and faecal sludge discharged at the treatment facilities. • Locations where wastewater and faecal sludge is disposed / reused. • Details of operator, regulatory requirements, licencing etc.

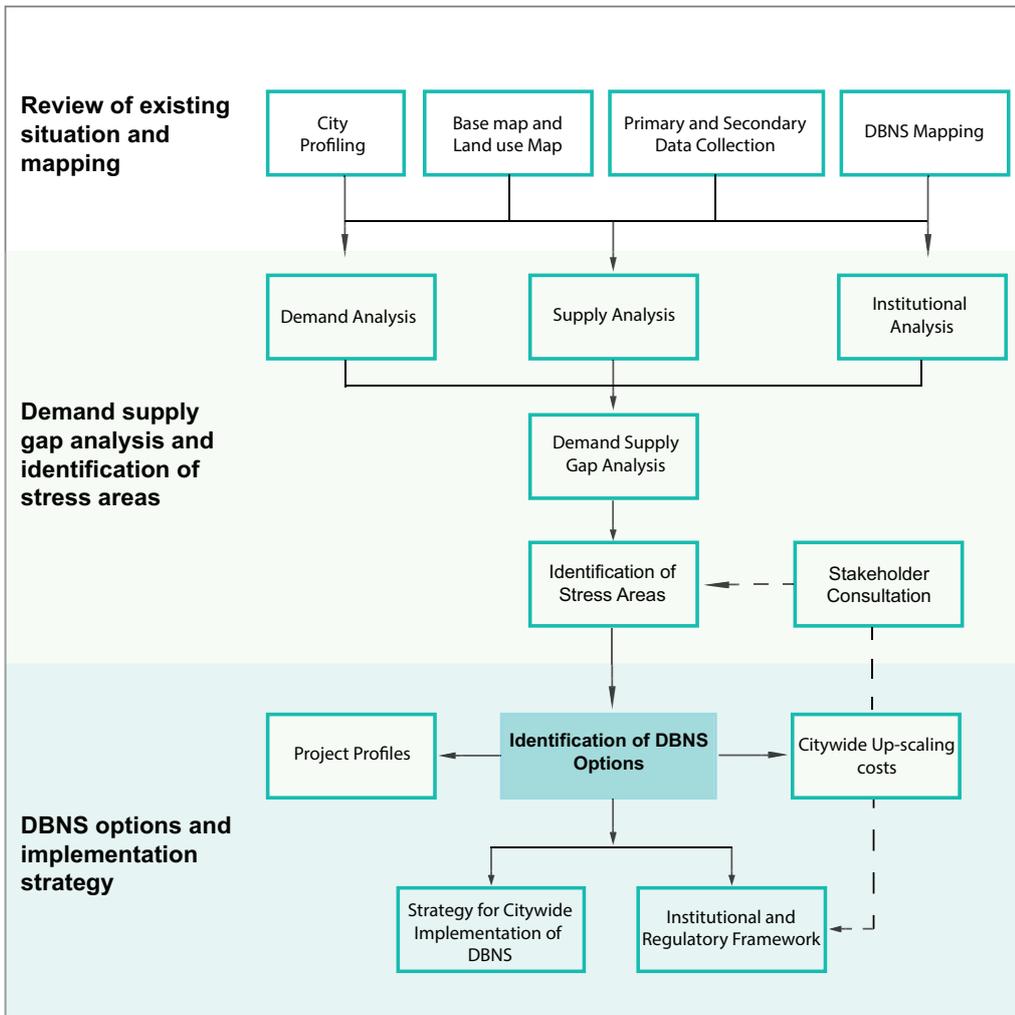


Figure 8: Methodology for city-wide planning for decentralized basic needs services (Source: Kraemer et al, 2010)

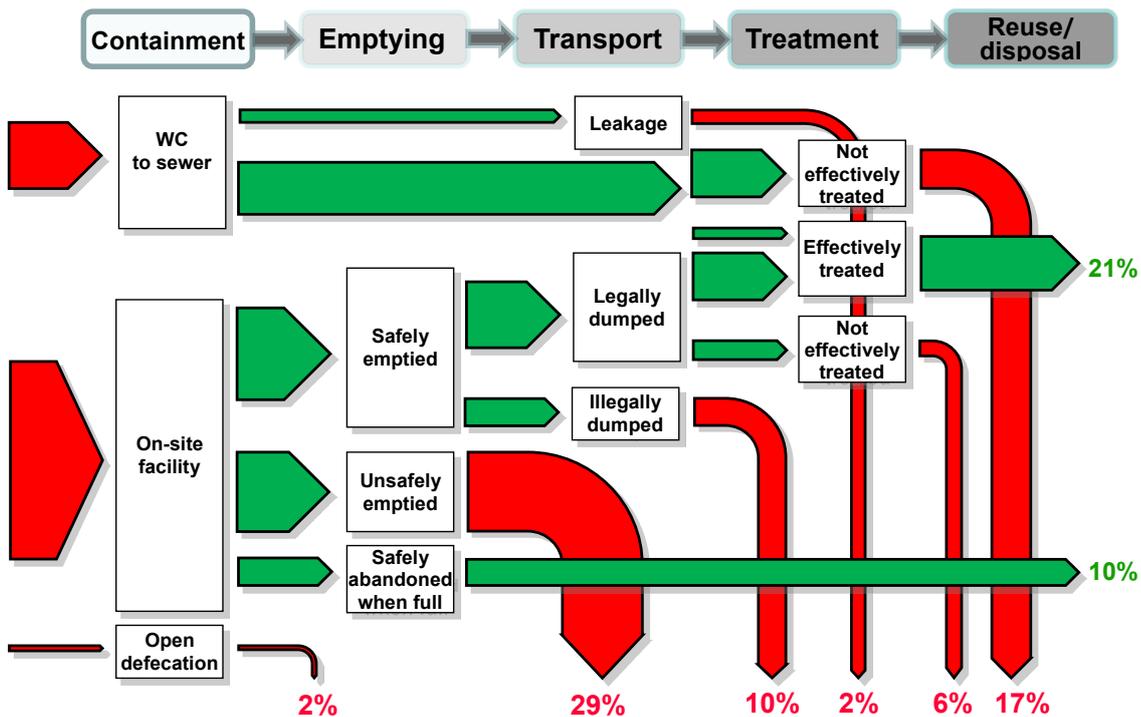


Figure 9: Faecal waste flows in Dakar, Senegal (WSP, 2014)

Identify constraints to service provision

Looking in detail at existing constraints as well as reviewing the successes and failures of previous recommendations embedded in sanitation improvement strategies is an informative part of the process. For example, it is important to understand the constraints that affect sanitation services in different parts of the city. This may be due to physical factors such as lack of water, rocky ground, lack of space and/or socio-economic factors such as the lack of ability. A common constraint is that low-income communities may not be recognised by the local authority due to lack of tenure and therefore the official service providers are not able to extend services to these areas.

This activity should also consider critical hygiene and sanitation issues/behaviours in the respective communities which will subsequently determine the relevance/importance for the later awareness raising interventions. In this case, special measures for awareness-raising and achieving behaviour change may subsequently be recommended in the strategic plan to support the implementation process.

Undertake a sanitation market assessment

Different communities and user groups are likely to have different requirements and may also differ in capacities in which they can contribute towards improving sanitation. As described in Box 5, a sanitation market assessment is an important activity to understand better the current types of service being provided and the demand for improved levels of service with a view towards answering key questions necessary to provide services that people can afford. The market assessment should include an assessment of existing sanitation service providers of these services and their customers in terms of what people would like; what they are willing to pay for, and their ability to pay.

This involves household surveys and focus group discussions with representatives from different stakeholders to collect both quantitative and qualitative data about existing services and demand for improvements. This will also make it easier to do the sanitation promotion and awareness raising to support the implementation of the plan. The sanitation market assessment also looks into detail at existing service providers (both public and private) taking into account their capacity in terms of the number of staff and equipment which affects their ability to respond to market demands for improvements.

Box 5: Landscape analysis and business model assessment in Cambodia

The landscape analysis and business model assessment aimed to better understand the arrangements for extraction and transportation of faecal sludge in Cambodia. It collected information about the conditions in which operators provide services; their technical, financial and economic situation, and their share of the market. Following on from this it provided key data and recommendations about the opportunities, constraints, conditions and potentiality of development of these markets in a prospective analysis.

The assessment identified that most mechanical extraction and transportation operators are small enterprises owning one truck with two to three staff. These operators were characterized as being:

Type 1: *Survivors* with low number of customers and low profit but often used as a mean to supplement income from other sources.

Type 2: *Competitors* – older operators having 2-3 trucks with a medium sized client base and reasonable profit, but losing customers as a result of emerging new operators as competitors.

Type 3: *Performers* – dealing with the highest number of customers and making a good level of profit per year and per truck.

The study showed different results for different cities but a great deal of competition in a market that is increasing but already saturated. As a result, there is no need for more operators but a need to formalise and strengthen the regulatory framework and construction of decentralized treatment systems managed by private operators or public utilities in order to reduce transportation costs. These treatment plants could be managed both by private or public authorities with more regulation from public authorities.

Source: GRET, 2012

Identify priority areas for improvement

Decision makers require tools to distinguish areas of the city which need prioritization based upon an assessment of risks. As described below in Box 6, spatial planning tools to map risks can be effective communication tools to visualise the existing situation and target attention towards those parts of the city where deficiencies in the sanitation chain are most concentrated. These diagrams and maps can be used to promote discussions amongst stakeholders about the priority areas and potential solutions to recognised problems.

Box 6: Environmental Health Risk Assessment for targeting improvement strategies

A mapping of sanitary conditions using rapid Environmental Health Risk Assessment (EHRA) is one of the key elements of city sanitation planning in Indonesia. The assessment typically takes about 6 weeks and consists of the following activities:

- i) Clustering of areas with similar features in terms of poverty, urban density, and
- ii) Risk assessment of a sample in each defined cluster of typically 400 households per city.

The priority areas are identified according to risk which is based on an assessment of:

- i) impact (poverty levels, pop density, size of population in a district and urban/rural characteristics), and
- ii) exposure which takes into account behavioural issues (e.g. hand washing), water supply, wastewater and solid waste services and drainage.

A map of the Sanitation Risk Index is the final result of EHRA study and, for each city, the results are documented in a 'white book' (buku putih) with the aim to ensure that funds for upgrading are allocated for the priority areas.

Source: Personal communication: Sjoerd Kerstens
(Royal Haskoning/DHV)