Sanitation21 – a Strategic Approach for Tackling Complex Urban Sanitation Problems

This paper focuses on the key elements of strategic planning that are required to address the complex nature of urban sanitation problems.

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Abstract

The paper presents a planning framework developed by the International Water Association (IWA) to be used by local authorities to systematically address the complexity of urban sanitation problems and develop a strategic response to these problems. The framework encourages the development of plans that are grounded within the context of the local environment. Evidently, sanitation technologies need to be compatible with the physical environment; but equally important is the need to ensure that proposed sanitation improvements are also compatible with the social and institutional context. The authors focus on the importance of a developing a comprehensive assessment of the capacities of the relevant institutions in terms of their organisational structures, human resources and interrelationships. They also focus on the need to develop a coherent policy for urban sanitation and the need for organisational strengthening to support the development and implementation of sanitation plans.

Introduction – the need to plan strategically

There is an increasing demographic imperative to focus attention on addressing the crisis in urban sanitation. Strategic sanitation planning is an approach that responds to local demands for improved services and identifies the most appropriate sanitation technologies and service delivery mechanisms. It builds upon the capacities of different stakeholders in order to prepare plans that have both temporal and spatial dimensions that are realistic given the limitations of existing resources. It involves a process in which stakeholders reach a collective understanding of the current situation and consensus about the way forward, where roles and responsibilities are clearly defined in the resultant plan. A key pre-condition for the development of sustainable sanitation solutions is therefore better coordination between various actors. It also involves engaging with local communities in a way that uses their resources to contribute towards the development and implementation of the plan.

Sanitation 21: a framework for strategic sanitation planning

The Sanitation21 framework produced by the International Water Association (IWA, 2006) aims to support municipal and local authorities prepare rational and realistic citywide sanitation plans; ensuring that decisions about investments to improve service delivery are embedded in the local context. The Sanitation21 framework divides the city into different 'domains' for decision-making and action from household to city level (see Figure 1). Each domain is used as the basis for analysis of stakeholder interests and factors that influence the identification of the appropriate sanitation systems (including both technology and management arrangements), which may vary according to the location within the city.

Key factors for successful strategic planning:

- Strategic sanitation plans need to take into account both spatial and temporal dimensions affecting the demand for sanitation in different parts of the city.
- Good planning involves effective engagement with the various actors in order to mobilize their support in the development and subsequent implementation of the plan.
- Successful planning is dependent on a clear understanding about the relationships between institutions and a clear definition of roles and responsibilities of the different actors.
- A lack of a planning 'culture' often constrains efforts to adopt a more strategic approach for sanitation planning.
- Strategic planning is unlikely to take root at municipal and local levels unless the policy context supports it.
- As part of the planning process, there is a need to build capacity to prepare and implement strategic plans.

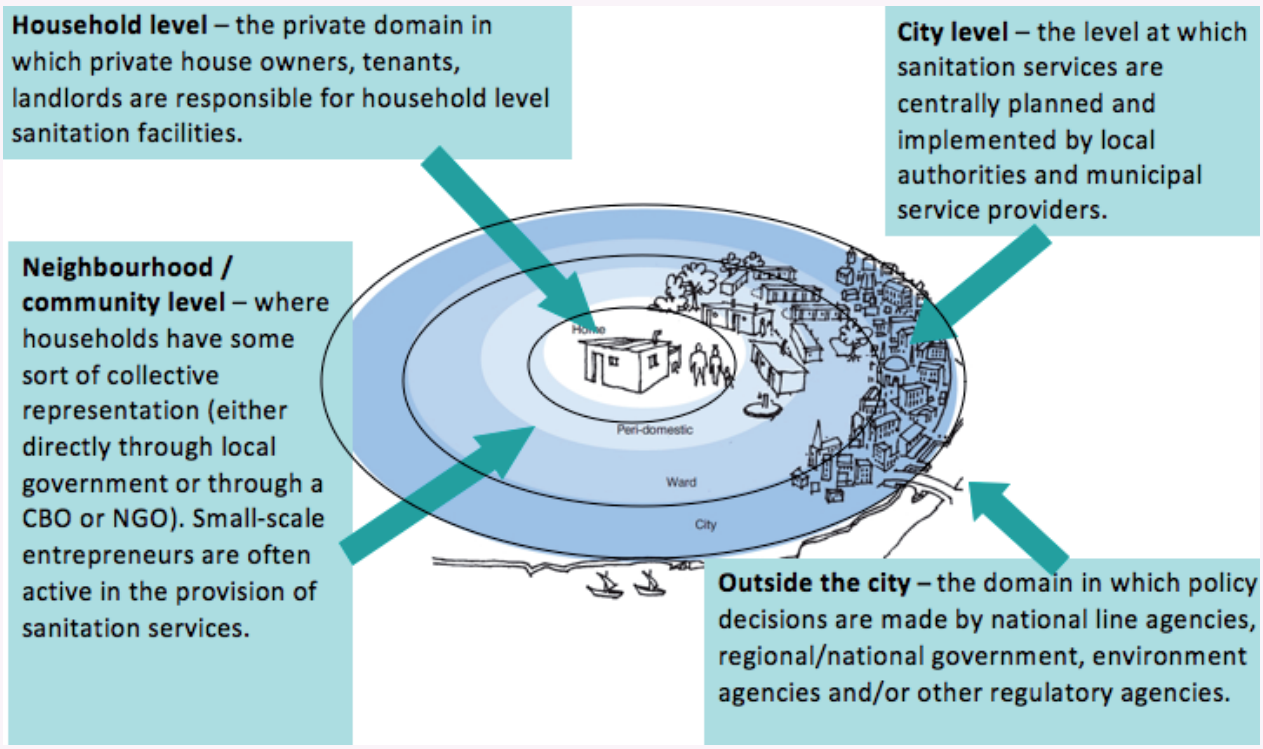

Figure 1 Stakeholders in different domains of the city and their strategic interests related to urban sanitation services

The planning process

Building upon the planning framework introduced above, this section elaborates upon the planning process in relation to the activities and outputs at different stages in the process. The ouputs should document the decisions made by the stakeholders and correspond with the three stages in the process as described below and illustrated in Figure 2:

Stage 1 - Understand the existing context and ensure commitment
Stage 2 - Review technical and management options
Stage 3 - Assessment of options and preparation of plan

These may be undertaken in the sequence of activities presented but in many instance the activities are likely to be concurrent and/or iterative and therefore one activity does not necessarily need to be fully completed before the next one is initiated.

Stage 1 - Understand the existing context and ensure commitment

1. Identify institutional stakeholders and establish level of commitment: This activity identifies the main stakeholders, their interests and priorities and the main roles that they play in the provision of urban sanitation services. The assessment should include both official political representation and non-governmental organizations representing community interests as well as private sector organizations (both formal and informal) involved in the provision of sanitation services.
2. Understand the existing context: The objective of this activity is to obtain a detailed understanding of the existing context in terms of the physical, environmental, social and institutional parameters in each domain (as shown in Figure 1). It is informed by a process of collation and sharing of information, combined with studies to assess the level of demand in relation to supply of sanitation services. This information should include spatial maps, demographic and socio-economic data, and details of existing service coverage at the household, communal and public levels, as well as extent of waste collection systems (sewerage and desludging services) and waste treatment infrastructure. Any previous planning documents related to urban sanitation should also be collected at this stage to provide a basis for reviewing the degree of success of previous initiatives.
3. Define objectives of improved sanitation and propose service levels: Based on the interests of the stakeholder groups, expectations for improvements in sanitation facilities and services are likely to be different. In order to develop a consensus about the focus of the planning activity and objectives of investments, it is necessary for stakeholders to understand each other's interests. This involves a process of consultation and reconciliation of stakeholder interests in order to agree upon the level of service in relation to the capacity and

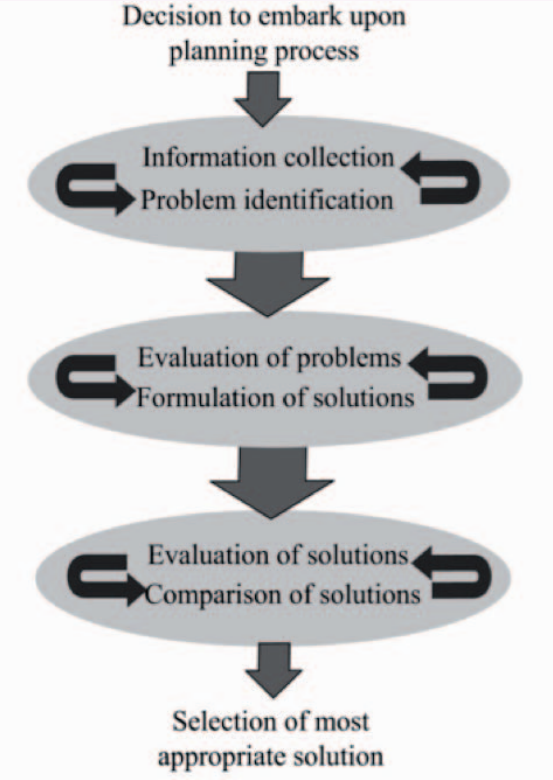

Figure 2 Stages in the planning process (Parkinson and Mark, 2005)

willingness to pay for improved services.

4. Confirm stakeholder commitment: As good planning requires a commitment to cooperate between different institutional stakeholders, there is a need to ensure that the local authority and the main organisations responsible for service delivery are in overall agreement about their roles and responsibilities related to urban sanitation. These stakeholders should be encouraged to sign a 'Sanitation Charter' as described below.

Output from Stage 1: Sanitation 'Charter':
The 'Charter' is a policy statement for the principle institutional stakeholders to agree upon common values to improve urban sanitation and show commitment to collaborate on the planning and work required to improve the delivery of urban sanitation services in their city. Referring to relevant national policy where appropriate, the charter should provide a set of fundamental principles that govern the way that service delivery is programmed. In doing so it should mitigate future disagreements about overall policy towards sanitation services in the city and to demonstrate the commitment to citizens to improve sanitation in the city.

Stage 2 – Review technical and management options

5. Identify viable sanitation technologies in relation to the physical environment: The aim of this activity is to identify feasible sanitation technologies that are considered appropriate and viable within the context of the physical environment. Factors that need to be taken into consideration include operational performance and expected levels of service, construction and operational costs and flexibility for adaptation to future urban development. Specific attention is required for those areas that are hard to serve and different technologies are likely to be more appropriate for use in different parts of the city.

6. Costing options: This activity involves a financial assessment of the relative costs of each of the proposed solutions. Technologies should be costed in terms of their capital, operational and routine maintenance, as well as capital maintenance costs. The costing should take into account costs associated with promotion and management as well as hardware costs. These costs are used as the basis for whole life-cycle assessment to calculate the Net Present Value (NPV) for each option in order and identify the most cost-effective option in the long term.

7. Assess alternative management and financing arrangements: All facilities in different domains need to be managed effectively for the system as a whole to work. This activity looks at the various management arrangements and the alternative approaches for financing sanitation improvements. Neighbourhood and city-level infrastructure may require a different type of management arrangement. The local authority does not have to be the sole player. Contracting out operation and maintenance to private sector operators may result in a better quality of service delivery. NGOs and CBOs may also have a role to play; offering specific human resources that are unavailable within government agencies and a way to more effectively engage with households and communities.

Output from Stage 2: Draft Strategic sanitation plan
The draft strategic improvement plan should build on the agreements enshrined in the Sanitation charter; providing indication of the priority areas for intervention throughout the city. The draft plan should describe the options for sanitation service delivery, including details of technologies, management arrangements and costs.

Stage 3 - Assessment of options and preparation of plan

8. Review viable technical options in relation to institutional and managerial capacity to sustain: This review involves an assessment of the proposed technologies and management arrangements in relation to the technical, managerial and regulatory capacity of the local institutions that are responsible for sanitation services or likely to be involved in the delivery of these services. Generally speaking, the

more complicated the technology, the greater the need for specialist personnel and equipment. This suggests that it is best to use simpler technology options where these are viable.

9. Check proposed service delivery option meets public expectations and willingness to pay: This activity involves consultation with local communities to ensure that the proposed approach (or approaches if different systems are proposed for different areas) towards delivery of improved sanitation services meets their expectations and is within their capacity to pay service charges. This should enable residents to engage in an informed discussion with representatives from the proposed service provider and local authority to reach consensus on the way forward. Some options may meet with a negative response due to residents' concerns over issues such as the level of service, cost sharing arrangements or operation and maintenance requirements. If the proposed improvement option is not considered to be acceptable, then it may be necessary to revert to previous stages of the decision making process and consider other technologies or service delivery and financing arrangements.

10. Reach consensus and finalise plan: The final activity in the planning process involves pulling together the various components of the plan into one coherent document and using this as the basis for final consultation with the various actors and institutional stakeholders. The feedback from this consultation should also enable the municipality to design an appropriate implementation process that encompasses not only physical works but addresses communication needs. The outcome should be consensus on the preferred option(s) in technical, financial and managerial terms and provide clear definition of the roles and responsibilities for implementation and operation and maintenance.

Output from Stage 3: Final strategic sanitation plan

The final sanitation plan identifies the priority areas for intervention and be the reference document upon which future investments are made. The plan sets goals and measurable objectives to address existing critical issues and future demands due to population expansion. It should be disseminated to all relevant stakeholders and used as the basis for discussing financing with the Ministry of Finance, development banks banks and other potential sources of international finance. The plan should provide the basis for design but does not need to include details for implementation or operation that are required at a later stage. These do not need to be elaborated until funds are made available.

Understanding the social and institutional context

The section describes the importance of increasing understanding of the social and institutional context as part of the strategic planning process.

Stakeholder analysis

In each domain, there is a need to identify and consider those factors that influence and incentivise the behaviours of different stakeholders. It is important to understand these interests as it will help to explain why some proposed solutions are likely to work better than others. The activity should involve a review of any relevant policy documents and an assessment of the key factors that influence the activities of each stakeholder. Referring to the domains in the Sanitation21 framework in Figure 1, there are a wide range of motivations for improving sanitation in the urban environment and different stakeholders may have different perspectives on the same problem. For example, the local authority's primary interest is likely to be to keep the city clean and to avoid outbreaks of infectious disease. Residents on the other hand are usually more concerned with their everyday needs for a convenient, safe and sanitary latrine to perform their basic bodily functions. Meanwhile, the mandate of environmental agencies and river basin authorities is to safeguard the quality of natural water courses. Strategic planning requires understanding and reconciling these different interests.

Assess organisations and their institutional relationships

This activity looks at the organisational set-up of the main institutions involved in service delivery and the staffing within the institutions. It should also assess information management and communication channels within the organizations and the capacities of the key actors that will influence the potential for successful implementation and sustainability. Human resource audits may be used to provide a profile of the capacities in different parts of the organization and identifies employees qualified for specific positions. The activity also assesses the effectiveness of organisations which depend upon complex behavioural factors. These behaviours may be influenced by a wide range of incentives; many of which are associated with financial gain. Power relationships between different groups that may influence decisions and actions should be analysed and understood. Micro-political mapping diagrams may be used to assess the relationships between actors in order to evaluate intra-sectoral support for new policies or ideas from the perspective of different stakeholders.

Assess the effectiveness of different initiatives

This activity reviews the effectiveness of past initiatives and programmes directly or indirectly related to sanitation and wastewater management. The factors

that are identified to determine the success or failure of these initiatives may also influence future initiatives. Problems are often attributed to technical deficiencies in service delivery, whereas in reality the primary challenge is a symptom of a larger problem related to institutional performance of relevant agencies and authorities. As a result, too much focus on technical problems may mean insufficient attention is paid to the diagnosis of institutional problems and the importance of management and leadership to address these problems. Problem tree analysis can help stakeholders identify the fundamental causes of problems, and the most important effects that they generate. The main output of a problem tree design exercise is a cause and effect diagram which creates a logical hierarchy of causes and effects and the links between them. It is crucial that there is good representation of stakeholders during problem tree design sessions – as there may be considerable difference of opinion between different stakeholders.

Concluding remarks

There are a number of areas that may undermine efforts to embark on a successful planning process. As noted above, one of these relates to broader policy issues. If national policy is not formulated in a way that enables flexibility on the ground to adopt appropriate technical and managerial solutions, then it is likely that the planning process will be continually challenged and may not be successfully completed. The signing of a 'Sanitation Charter' may overcome some of these constraints but constraints enshrined in policy may avert the process from the onset. If this is the case, then the focus of attention should be at a higher level to address more fundamental issues related to national policy before proceeding with strategic planning (Tayler and Parkinson 2005).

Institutional factors have a significant impact on the successful implementation of sanitation policies and are linked directly to the efficacy of urban management in general. It is therefore important that plans are developed in way to ensure that there are sufficient institutional capacity and managerial and technical competences to produce and implement them. Capacity building activities will vary from overall improvements in the technical and managerial capacity of staffing to the formulation of procedures that promote accountability and transparency, and to the introduction of information technologies to assist in administrative functions. The most obvious focus for efforts to improve capacity for strategic planning will be on courses designed to provide the knowledge and skills that are directly relevant to the strategic planning process. This training should ideally be linked to strategic planning activities in the field so that the trainees can see how strategic principles and processes might apply in concrete situations (Tayler et al .2003)

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