

Strategic sanitation: A step towards good health

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Abstract

Chronic sanitation problems are faced by rapidly growing towns and cities throughout the developing world. Good sanitation is a prerequisite for healthy cities, protecting people from a range of excreta-related diseases and water borne diseases, which are likely to be chronic in some areas. We use the term sanitation to cover excreta disposal, sullage, safe water for good health and storm water drainage and solid waste management and stress the need to be concerned with services rather than facilities alone. The ultimate aim of sanitation must be to lead to changes at the level of city as a whole rather than to create isolated pockets of good practice and also that a strategy must concern itself with the way in which a desired outcome is to be achieved as much as with the outcome itself. Sanitation is just one of the issues that vie for the attention of politicians and other decision-makers. The aim is to convince them of the benefits of adopting a strategic approach to sanitation planning which takes into account both constraints and available resources and recognizes the importance of relevant information decision-making.

Keywords: chronic, sanitation

1. Introduction

Rapid urbanization is occurring throughout the developing world, creating a demand for housing, infrastructure and services. Sanitation services present a particular problem, especially in the informal areas – those built outside formal rules and regulations – in which most poor people live and work. The World Bank estimates that almost 26% of the global urban population, over 400 million people, lack access to the simplest latrines¹⁰. Clean water is life. Contaminated water is death. Human health depends on the provision of safe, adequate, accessible and reliable drinking water supplies³. During the World Health Organization's (WHO's) Drinking Water Supply and Sanitation decade (1981 to 1990), an effort was made to increase access to potable water in developing countries but was nearly outstripped by population expansion and migration from rural to urban areas⁸. Safe drinking water for all remains an elusive and expensive goal. In 1990, more than 1 billion people depended on rivers, streams, or other unsafe surface sources for drinking water⁸. In many developing countries, even municipal piped well water is unsafe, because of inadequately maintained pipes, low pressure, intermittent delivery, lack of chlorination, and clandestine connections. For example, *Vibrio cholerae* was repeatedly isolated from unchlorinated municipal water systems in Peru that caused large epidemics of cholera^{4,6}. In Guayaquil, Ecuador, even central chlorination of the municipal water system was insufficient to maintain adequate free chlorine residuals at peripheral distribution sites, and drinking unboiled municipal water remained a primary source of cholera⁹. Many low-income settlements lack adequate drainage and solid waste collection services. This lack of services, serious as it is, represents only one aspect of the challenge faced by policy makers and practitioners. A combination of poor planning and design, poor operation and inadequate maintenance mean that the services that do exist are often of poor quality. It is very important that we aim high. That is, the target should be to provide appropriate and

sustainable supply of safe water and adequate sanitation to everyone.

2. Importance of sanitation

Good sanitation is a prerequisite for healthy cities, protecting people from a range of excreta-related diseases, which are likely to be chronic in some areas and have the potential to reach epidemic proportions in the absence of adequate household waste disposal arrangements. The health risks of poor sanitation are likely to be higher in densely populated low-income urban areas. Healthy people are stronger and less likely to be absent from work because of sickness, and therefore benefit health care, discharge of untreated excreta into the environment causes widespread pollution. A failure to develop effective solutions to excreta disposal stores up massive environmental problems for the future which, once started, are difficult and improved sanitation on individual livelihoods and the environment are likely to feed through to the wider economy so that improved sanitation has potential economic benefits for both individual households and the economy as a whole.

3. A strategic approach towards sanitation planning

3.1 Strategic planning

A strategy may be defined as a way of tackling a problem or working towards an objective². The term is equally relevant to a 'high level' task such as deciding to involve the private sector in aspects of infrastructure provision and a relatively 'low level' task such as planning for improved sanitation and drainage in a particular neighborhood. In practice, it is usually used in relation to higher-level goals. For instance, FAO (1995)^[1] has defined strategy as "a set of chosen short, medium and long term actions to support the achievement of development goals and implement water-related policies". Rondinelli (1993)^[5] suggests that strategic planning in such circumstances should 'start with what is known and attempt to broaden the base of knowledge and to formulate alternative

interventions that will set other changes in motion'. He contrasts this approach with attempts to bring about sweeping and comprehensive reforms, the effectiveness of which cannot be predicted. This 'adaptive' approach to strategic planning underlies the thinking set out in this note. Acceptance of it leads to recognition that longer-term counterparts. Acceptance of the approach also has implications for thinking on where strategic processes can start and who should be responsible for them. In contrast to 'blueprint' plans, which are invariably prepared by professionals on behalf of government, adaptive planning processes should seek to build on experience from a variety of sources. While senior government decision-makers are likely to be involved in developing strategic plans, strategies for municipal sanitation provision can and do emerge from the activities and ideas of non-government stakeholders acting more locally.

3.2 Three questions that provide the framework for strategic planning

Three basic questions define the framework for strategic planning:

1. Where are we now?
2. What are the objectives of the planning process?
3. What options are available for moving from the first to the second?

Where are we now? – Grounding plans in the current situation.

To be grounded in the existing situation, a sanitation plan or programme must:

- a. Take account of what already exists, recognizing that existing facilities, including those provided by individual householders, community groups and the private sector, represent a considerable investment.
- b. Respond to actual problems and deficiencies, recognizing that sanitation problems are as likely to stem from management deficiencies, inadequate operation and maintenance and poor coordination between stakeholders as from an absolute lack of facilities.

Unless plans are grounded in this way they risk finding solutions to problems that do not exist while failing to address real problems and needs.

Where do we want to go?

At the most basic level, it is useful to develop a shared vision of the future sanitation situation in the town or city as a whole. The vision should be.

- Equitable in that it is concerned with the needs of all including the urban poor.
- Environmentally acceptable in that solutions to local problems do not cause deterioration of the wider environment or use resources that cannot be replaced.
- Sustainable in that it continues to address needs overtime. This means that its focus should be on services, including not just their provision but also their subsequent operation and maintenance.

There may sometimes have to be short-term tradeoffs between solutions to people's pressing need and a concern with the environment as a whole but sanitation planners should be aware of those trade-offs and look for solutions to problems that minimize adverse environmental impacts.

There are likely to be situations in which resource limitations mean that change at the level of the city as a whole will be unattainable. In other situations, it may be that an individual or group has a strategic vision but no remit to work beyond a particular locality. In both of these situations, immediate objectives may need to be defined in relation to a particular area, but it will be important to ensure that the approach adopted can be scaled up to cover other similar areas at a later date.

Getting from here to there

How to move towards objectives:

In an uncertain world, strategic plans need to be flexible and adaptable, with later interventions influenced by the outcomes of earlier activities. This suggests that need for a stepwise approach to setting, refining and working towards objectives, early activities provide opportunities to gain an improved understanding of problems and possibilities, allowing intermediate objectives to be defined and/or refined. As the process develops, the overall vision can be developed into a more concrete set of goals. Even after that individual components of the strategic plan have been decided, there will be need to review longer term actions and objectives in the light of the experience gained as the plan unfolds. The problem with this adaptive approach is that it will sometimes be difficult to determine whether a particular action will take us where we want to go. To overcome this problem, it is necessary to identify the fundamental principles that must be respected if efforts to improve sanitation services are to achieve overall objectives and thus be truly strategic in nature.

3.3 Principles for effective strategic planning

Principle 1 Respond to informed demand

A strategic approach to service provision must consider both supply and demand. It must first establish demand for improved services, and then inform it, in terms of what is possible and what is needed to bring about real change, and finally respond to the informed demand in an effective way. The last will often require capacity building, together with efforts to convince government officials and politicians of the need to recover costs from service users. Complex willingness to pay exercises should not be attempted unless there is a basic acceptance of the need to change for services.

Principle 2 Focus on sound finances

Expansion of sanitation systems will not be possible unless an institution or group of individuals, preferably the intended users, is willing to pay for the new facilities required. Even when facilities have been provided, they will fail sooner or later unless funds are available to cover their ongoing operation and maintenance. So, it will be impossible to first provide and then sustain services to cities as a whole unless the finances of those who are responsible for providing and managing them are sound.

Progress towards achieving sound finances can be made by increasing the amount that sanitation users pay for services. However, this is only one side of the equation, particularly in low-income areas in which people have limited ability to pay for services. It is equally important to consider the ways in which the cost of sanitation services can be reduced. Options in this respect include:

Choose an affordable technology. In many situations, on-plot or local sanitation facilities will be a lot cheaper to build and operate than centralized sewerage. However, experience in Africa has revealed that not all on-plot facilities are equally affordable. For instance, VIP latrines can appear to be an unaffordable luxury to those on low incomes. The experience in Mozambique with pre-cast slabs for simple pit latrines shows that other, more affordable, options can be found [7].

Select an appropriate level of service. Urban services need only satisfy the level of service that is appropriate to communities need and related to the communities willingness-to-pay for the service. For instance, storm water drainage systems need not be sized to drain the largest flood events and may be designed for a six month rather than a 10 year return period storm.

Select design standards in the light of the local situation. Design standards should be developed in relation to the function that the facility is intended to perform. For instance, shallow sewers with inspection chambers rather than manholes may be appropriate in areas with narrow access ways that do not carry heavy traffic.

Improve management efficiency. This may be achieved by encouraging the involvement of private sector and/or civil society organizations in aspects of sanitation provision, thus reducing costs and helping to make services more affordable.

Principle 3 Develop incentives for good practice Incentives help to ensure that individuals and organizations act in a way that ensures the ongoing availability of functioning sanitation services. Incentives can take the forms of:

- Rewards for beneficial actions – for instance, increased funding for municipalities that succeed in implementing effective sanitation programmes and promoting government officials who carry out their duties efficiently and effectively; and
- Sanctions against harmful actions – for instance, a ban, supported by fines, on the use of untreated sewage to irrigate crops.

Incentives will only be effective if there are clear rules for implementing them and regulatory bodies to see that the rules are enforced. At the local level, informed and organized users may be the best guarantors of effective services.

Principle 4 Involve stakeholders in appropriate ways

Stakeholders are people, groups and organizations with an interest in some particular subject, in this case sanitation. They include both primary stakeholders, those who will either benefit directly from or be adversely affected by and proposed sanitation improvements, and secondary stakeholders, all others who may be involved in developing the policy context for sanitation provision, delivering services and acting as intermediaries between service users and service providers. Different stakeholder groups possess different types of knowledge but all can contribute in some way to the planning lies in ensuring that the various stakeholders are involved in ways that are appropriate to their interests and capabilities.

The second relates to the fact that responsibilities for sanitation provision can be ‘unbundled’ (divided and devolved) with different stakeholders taking responsibility for services in different areas (horizontal unbundling) and/or at

different levels in the service hierarchy (vertical unbundling). It will be important to match responsibilities to interests and abilities. In practice, this will usually mean the following:

- Government will usually have statutory responsibility for sanitation planning and provision the therefore plays and important role in sanitation planning and provision.
- The private sector may take over responsibility for networked services such as sewerage and can also be involved in sanitation provisions at the local level. Like the involvement of civil society organizations, private sector participation (PSP) can help to remove resource constraints by providing access to capital and skills that are not available within government. It can also increase efficiency and cost effectiveness – because private sector organizations are not subject to the rigid rules that often bind government departments.

Unbundling is not something entirely new and you are likely to find that many individuals and groups are already involved in sanitation provision, albeit in some cases informally. The challenge for planners will often be to integrate this local more or less informal activity into the mainstream. This will require:

- Recognition of the validity of stakeholder efforts;
- Agreement on roles and responsibilities; followed where necessary by
- Changes in legislation and procedures as necessary to formally recognize the agreed roles and responsibilities

The first will often require major changes in attitude on the part of government officials. There is no easy way of achieving this although the current emphasis on participatory planning approaches may help to change the climate of opinion. The argument that devolving responsibilities allows limited government resources to go further may help to convince doubting officials of the need to integrate stakeholder efforts into strategic plans. Analysis of the current situation will often reveal poor coordination between the various stakeholders.

Principle 5 Take a wide view of sanitation

Sanitation strategies should look beyond local solutions to narrowly defined problems to recognize that links between different sanitation services. Excreta disposal, solid waste management and drainage are inter relating and the impact of improvements in one will be reduced if they are carried out without regard to the others. For instance, plans to replace drains with sewers must take account of the fact that existing drains may have a dual role as carriers of both foul and storm water. Uncollected solid waste tends to find its way to drains and sewers, greatly increasing maintenance requirements some excreta disposal methods (for instance pit latrines) may require separate provision for sullage disposal.

Taking a wide view also implies the need to go beyond local solution to local problems to consider the wider environmental impacts of proposed initiatives and activities. Where sanitation services at the household level are poor, the first priority of householders will normally be to remove excreta and wastewater from the living area. However, the potential that technologies will have wider environmental impacts should not be ignored and preference should be give to approaches that achieve local objectives with the minimum possible impact upon the wider environment.

Principle 6 Take manageable steps towards intermediate objectives

- The challenge for planners is to identify manageable steps towards achievable objectives that:
- Are consistent with the need to move towards overall objectives
- Are large enough to permanently overcome the fundamental problems that they set out to solve so that they result in sustainable benefits;
- Are framed in the light of existing systems and resources; and
- Help to change systems and develop resources in a way that enables more ambitious follow-on steps to be taken in the future.
- Keeping these requirements in mind will help to ensure that intermediate objectives are meaningful in the context of the overall strategy.

4. Strategic sanitation planning at the municipal level

4.1 Preparation stage

Strategic Planning must formulate a vision shared by the various organizations with the interest and resources to contribute to the plan. It cannot be the preserve of one individual or organization. Before starting a strategic planning process, it will therefore be necessary to:

- Identify potential partners in the planning process- including both government and nongovernmental

organizations, elected representatives and other representatives of low-income communities;

- Develop consensus on the need to plan- ideally be exposing local stakeholders to examples of successful strategic planning.
- Establish a core team form among the potential partners to lead the process.

4.2 Developing the strategic plan

Understand problems

This involves initial investigations, intended to develop an overall understanding of the existing situation in order to obtain some idea of priorities for further investigation. The investigations are to cover existing services, the problems and demands of primary stakeholders, existing human, institutional and financial resources and the ways in which social and physical conditions might affect the approach to sanitation service improvements.

The activities undertaken during the developing solutions stage will, of course, depend on the local situation and the priorities of the various stakeholders.

Plan citywide

The main aim is to decide the overall structure and contents of the plan in the light of the lessons learnt from the developing solutions stage. Work then continued on the development of the plan, which including the following:

Develop Solutions

Table 1: Tasks required understanding problems and developing solutions

Improve information base:	Map of the whole town, with particular focus on drainage facilities in order to facilitate drainage planning.
Review existing services and programmes	Technical and social review of existing low-cost sanitation initiatives in one ward.
Immediate improvements	Introduction of improved procedures for cleaning drains.
Prepare pilot proposals	Development of proposals for improved drainage in one ward and house-to-house solid waste collection services in another.

- A Section setting out the overall framework for the plan, including statements of the plan’s overall vision, the principles underlying the plan, the roles and responsibilities of the various stakeholders, the proposed financial arrangements for implementing the plan and an assessment of capacity building needs.

Key points to note regarding the plan include the attention paid to:

- Matching proposals to available finances;
- The need to develop capacity for both planning and subsequent implementation;
- The importance of maintenance (as exemplified by the drainage maintenance plan); and
- The need to phase interventions, even when the overall plan for a component must have a citywide focus.

Drainage provides an example of the last point. Within the constraints created by the need for an integrated approach to drainage improvement that respected physical realities and deficiencies in main drains, it identified options for immediate improvements that could bring about significant improvements in specific areas.

4.3 Implementing the plan

The only useful plan is one that leads to action. The chances of successful implementation will be increased if the plan components are integrated into the plans and budgets of the relevant stakeholder organizations. Plan implementation should be viewed both as the beginning of the next stage in the cycle of planning with lessons from process of plan review and updating. Municipalities are likely to need specialized assistance in developing effective monitoring and evaluation systems.

4.4 Moving beyond individual municipalities

Until this point, we have been concerned with the implementation of a strategic sanitation initiative in a single town. Possible process for moving from a successful initiative in one municipality to the general introduction of strategic planning processes at the municipal level. It is based on the assumption that strategic planning efforts in individual municipalities can be used to develop experience of strategic planning and spread information on the approach.

Table 2: Requirements for widespread adoption of strategic planning

1 Importance of urban sanitation not recognized	Raise profile of sanitation amongst decision-makers
2 Lack of strategic planning culture	Develop commitment of strategic planning
3 Policy context does not support strategic planning	Ensure that policies, rules and procedures support strategic planning
4 Lack of capacity to develop and implement strategic plans	Improve capacity to implement plans

5. Developing a supportive context

5.1 Overcoming barriers to strategic planning

It is possible to identify four barriers to improved sanitation. The first two barriers relate to existing attitudes and assumptions. The third relates explicitly to the policy environment and in particular to the need to encourage those responsible for municipal sanitation planners to think and act more strategically. Even when decision-makers and planners are well informed and motivated to provide better sanitation services and are working in a supportive policy context, they will make little impact unless they know what to do and have the capacity to do it. With this in mind, the fourth barrier, relates to the lack of capacity to develop and implement strategic sanitation plans.

5.2 Raising the profile of sanitation

Without recognition of the importance of good sanitation, there can be no concerted effort to provide improved services. So, initiatives will continue to be isolated and insufficient in scope to make a real difference to urban sanitation conditions. This suggests a need to spread awareness of the importance of sanitation among all the stakeholders and particularly among decision-makers. A person's options will depend to a large extent on his or her situation and power; but all can have a role. Possible roles for different stakeholder groups are suggested below.

Senior officials and politicians at various levels of government can use their influence with their peers to increase awareness of the need to focus on improving sanitation. Those working within central and state/provincial government can use their influence in committee and think tanks towards this end, where possible facilitating action to gather the information required to support the case of improved sanitation. Strong leaders at the municipal level can initiate strategic processes in their towns and cities.

5.3 Developing a strategic planning culture

Even where the need to plan is accepted in principle, attention is rarely paid to the processes through which plans can be implemented. In such circumstances, action to promote and support an information-based planning culture is required. The options for addressing this situation are influenced by the fact that many of those who might otherwise act as advocates for the adoption of strategic planning are firmly entrenched in the prevailing non-strategic culture. Champions of change within government are more likely to bring about change if they receive support from external agents – which may include international and bilateral development agencies, and international and national NGOs. Workshops and think tanks offer one possibility for raising awareness of the need for strategic planning. They are most likely to have an impact if they:

- Impact relatively simple messages – in the first instance that planning is important, should be information-based

and should be adaptable in the light of improved knowledge and changing circumstances; and

- Provide concrete suggestions on the ways in which participants might act more strategically in their local situations.

Workshops and think tanks are unlikely to have a long-term effect unless they form part of wider programmes including concrete examples of strategic planning. External agencies are particularly strongly placed to promote and support such activities. There is much to be said for bilateral agencies encouraging the adoption of strategic approaches on a pilot scale. This relatively small-scale action can pave the way for the development banks to support more ambitious programmes, which will have more chance of success once capacity and willingness to plan has been developed. External agencies should avoid undermining the development of a strategic planning culture by promoting 'quick-fix' solutions to development problems.

5.4 Developing an effective policy context

In particular, they should state the importance of involving a wide range of stakeholders in the planning process, responding to informed demand, considering services rather than facilities and taking a wide view of sanitation. The emphasis on services rather than facilities should lead to policies that focus as much on the operation must be backed by rules and procedures that provide a supportive environment for their implementation. Financial arrangements should provide support for such systems, where possible decentralizing control over finances. Guidance may be required on the appropriate design standard and procedures, with the overall aim of developing a range of standards and specifications appropriate to the range of standards and specifications appropriate to the range of conditions likely to be encountered, for instance relating to the permissible minimum depth of a sewer to the likely traffic loading. In order to bridge differences in opinion between different stakeholders, there may be a need to test a range of possible standards and demonstrate the viability of those that are found to be satisfactory.

5.5 Developing capacity for strategic planning

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. These should cover:

- The strategic approach itself, with particular reference to the need to see planning as an information-based process and to follow basic strategic principles;
- The skills required to facilitate strategic processes and the involvement of the various stakeholders in those processes.

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.

While the introduction of new training materials and courses focusing specifically on aspects of strategic planning will be necessary, it will not be sufficient to ensure the development of capacity to produce and implement strategic plans. There are two issues here. The first is the poor quality and lack of relevance of much of the training that currently takes place. The second is the lack of demand for training, which stems in part from the poor quality of the training that is on offer but may also reflect the fact that many senior managers do not view staff development as important. This in turn may be affected by the fact that the rules governing promotion often pay more attention the length of service than ability and commitment.

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