

# CHAPTERS

## CHAPTER 1: INTRODUCTION

Management in all business and organizational activities is the act of getting people together to accomplish desired goals and objectives using available resources efficiently and effectively. It comprises of planning, organizing, staffing, leading or directing, and controlling an organization (of people or entities) or effort for the purpose of accomplishing a goal.

The Millennium Development Goals (MDGs) comprise targets to be achieved for the betterment of the human society. The MDGs include eight goals to be achieved by 2015 that respond to the world's main development challenges. Health constitutes the prime focus to ensure environmental sustainability, which is directly related to development, operation & maintenance (O&M) and management of sewerage and sanitation services.

### 1.1 NATIONAL URBAN SANITATION POLICY (NUSP), 2008

The NUSP adopted by the Ministry of Urban Development in 2008, envisions “All Indian cities and towns become totally sanitized, healthy and liveable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women.”

#### 1.1.1 Key Sanitation Policy Issues:

In order to achieve the above Vision, following key policy issues must be addressed:

- **Poor Awareness:** Sanitation has been accorded low priority and there is poor awareness about its inherent linkages with public health.
- **Social and Occupational aspects of Sanitation:** Despite the appropriate legal framework, progress towards the elimination of manual scavenging has shown limited success, little or no attention has been paid towards the occupational hazard faced by sanitation workers daily.
- **Fragmented Institutional Roles and Responsibilities:** There are considerable gaps and overlaps in institutional roles and responsibilities at the national, state, and city levels.
- **Lack of an Integrated City-wide Approach:** Sanitation investments are currently planned in a piece-meal manner and do not take into account the full cycle of safe confinement, treatment and safe disposal.
- **Limited Technology Choices:** Technologies have been focused on limited options that have not been cost-effective, and sustainability of investments has been in question.
- **Reaching the Un-served and Poor:** Urban poor communities as well other residents of informal settlements have been constrained by lack of tenure, space or economic constraints, in obtaining affordable access to safe sanitation. In this context, the issues of whether services to the poor should be individualised and whether community services should be provided in non-notified slums should be addressed. However provision of individual toilets should be prioritised. In relation to “Pay and Use” toilets, the issue of subsidies inadvertently reaching the non-poor should be addressed by identifying different categories of urban poor.

- Lack of Demand Responsiveness: Sanitation has been provided by public agencies in a supply driven manner, with little regard for demands and preferences of households as customers of sanitation services.

### **1.1.2 National Urban Sanitation Policy Goals**

The overall goal of this policy is to transform Urban India into community-driven, totally sanitized, healthy and liveable cities and towns.

#### **A Awareness Generation and Behaviour Change**

Awareness Generation and Behaviour Change

- a. Generating awareness about sanitation and its linkages with public and environmental health amongst communities and institutions;
- b. Promoting mechanisms to bring about and sustain behavioural changes aimed at adoption of healthy sanitation practices;

#### **B Open Defecation Free Cities**

Achieving Open Defecation Free Cities

All urban dwellers will have access to and use safe and hygienic sanitation facilities and arrangements so that no one defecates in the open. In order to achieve this goal, the following activities shall be undertaken:

- a. Promoting access to households with safe sanitation facilities (including proper disposal arrangements);
- b. Promoting community-planned and managed toilets wherever necessary, for groups of households who have constraints of space, tenure or economic constraints in gaining access to individual facilities;
- c. Adequate availability and 100 % upkeep and management of Public Sanitation facilities in all Urban Areas, to rid them of open defecation and environmental hazards;

#### **C. Integrated City-Wide Sanitation**

Reorienting Institutions and Mainstreaming Sanitation

- a. Mainstream thinking, planning and implementing measures related to sanitation in all sectors and departmental domains as a cross-cutting issue, especially in all urban management endeavours;
- b. Strengthening national, state, city and local institutions (public, private and community) to accord priority to sanitation provision, including planning, implementation and O&M management;
- c. Extending access to proper sanitation facilities for poor communities and other unserved settlements;

### 1.1.3 Concepts of Totally Sanitized Cities

A totally Sanitized City will be one that has achieved the outputs or milestones specified in the NUSP, the salient features of which are as follows:

- a. Cities must be open defecation free.
- b. Must eliminate the practice of manual scavenging and provide adequate personnel protection equipment that addresses the safety of sanitation workers.
- c. Municipal sewage and storm water drainage must be safely managed.
- d. Recycle and reuse of treated sewage for non-potable applications should be implemented wherever possible.
- e. Solid waste collected and disposed off fully and safely.
- f. Services to the poor and systems for sustaining the results.
- g. Improved public health outcomes and environmental standards.

## 1.2 PROMOTION OF SANITATION

With a view to promote sanitation in urban areas of the country very rapidly, (as per the NUSP, 2008) and also to recognise the excellent performance in this sector by the concerned cities, the GOI has instituted an annual award scheme for rating of cities on certain selected sanitation parameters.

The first national rating of Class-I cities carried out in 2009-10 in the 423 Class-I cities has brought to focus the need for cities to put in place processes that could help reach them in achieving the outputs pertaining to safe collection, containment and disposal of sewage and human excreta without adverse impacts on the environment in and around the cities.

The NUSP also enshrined in its policy prescriptions on the city's need to raise awareness of city stakeholders, since improved sanitation can ensure public health and environmental outcomes through considerable changes in behaviour and practice adopted by the citizens.

### 1.2.1 Management Strategy for Sanitation Model

To achieve total sanitation, the sanitation management strategy is shown in Figure 1.1 (overleaf).

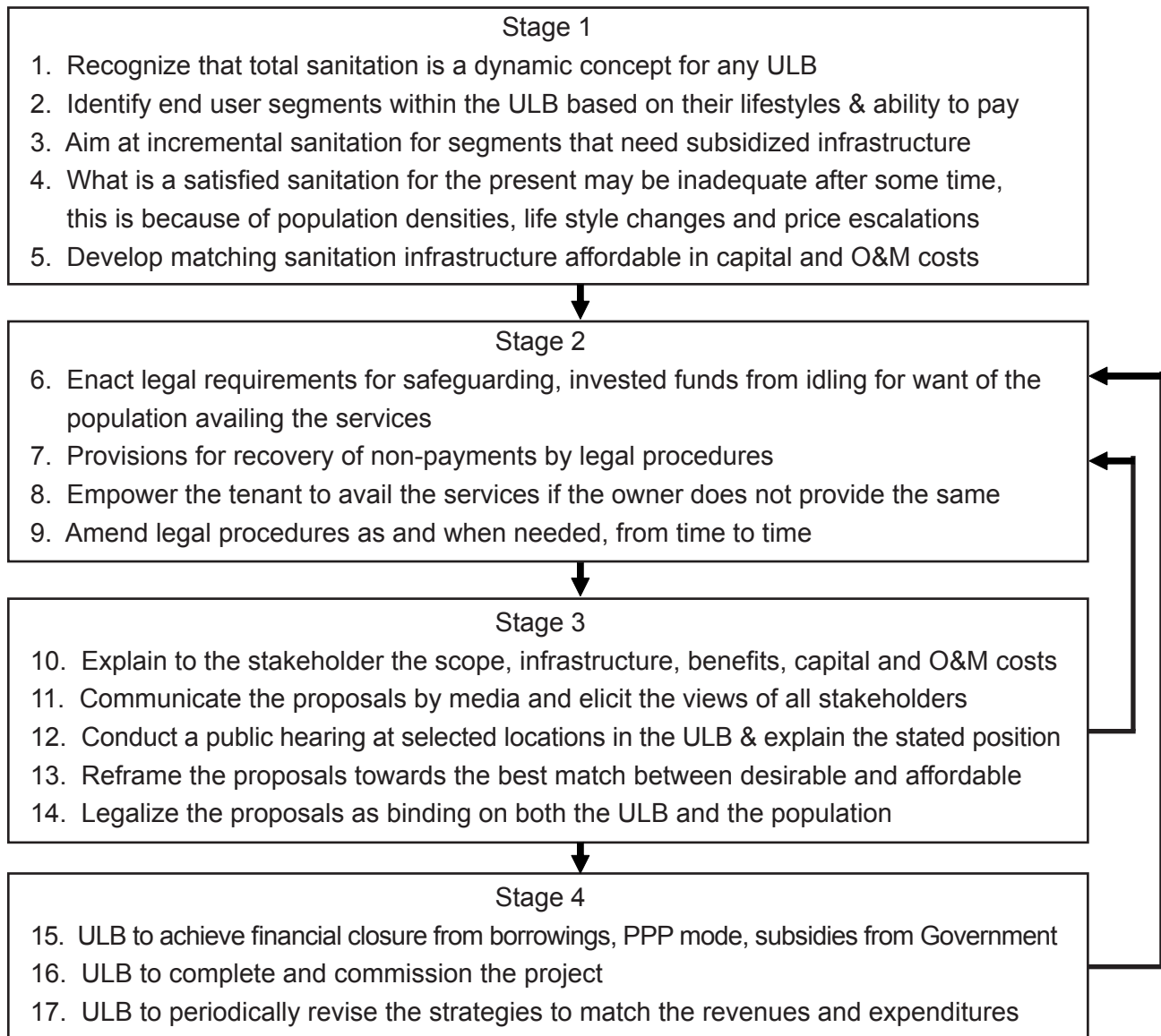


Figure 1.1 Management Strategy for Sanitation Model

### 1.3 SERVICE LEVEL BENCHMARKING ON SEWAGE MANAGEMENT (SEWERAGE AND SANITATION)

As already mentioned, the MDGs enjoin upon the signatory nations to extend access to improved sanitation to at least half the urban population by 2015, and 100% access by 2025. This implies extending coverage to households without improved sanitation, and providing proper sanitation facilities in public places to make cities and towns free of open defecation. The Ministry proposed to shift focus on infrastructure in Urban Water Supply and Sanitation Sector (UWSS) to improve service delivery and formulated the Standardized Service Level Benchmarks (SLBs) for UWSS as per International Best Practice and brought out a “Handbook on Service Level Benchmarking” on water supply and sanitation sector in the year 2008. The SLB on Sewage Management (Sewerage and Sanitation), which are required to be achieved within a specified time frame are given in Table 1.1 (overleaf)

Table 1.1 Sewage Management (Sewerage and Sanitation)

No.	Proposed Indicator	Benchmark
1.	Coverage of toilets	100%
2.	Coverage of sewage network services	100%
3.	Collection efficiency of sewage network	100%
4.	Adequacy of sewage treatment capacity	100%
5.	Quality of sewage treatment	100%
6.	Extent of reuse and recycling of sewage	20%
7.	Efficiency in redressal of customer complaints	80%
8.	Extent of cost recovery in sewage management	100%
9.	Efficiency in collection of sewage charges	90%

Source: MoUD, 2011

#### 1.4 MANAGEMENT NEEDS

It is clearly stated in section 1.1, third paragraph of Part- A Manual that “the main cause of water pollution is the unintended disposal of untreated, partly treated and non-point sources of sewage and more important is its effect on human health and environment.” The reasons have also been identified in the same chapter. These reasons are spread over engineering aspects, O&M aspects and management aspects. Out of these reasons, two are extracted as given below.

- A. Almost all local bodies are not financially resourceful to self-generate the required capital funds, and look up to the State and Central Governments for outright grant assistance.
- B. Institutional arrangement and capacity building are inadequate to conceive planning, implementation, procurement of materials, and to operate and maintain the sewerage system and sewage treatment plants with the desired level of efficiency.

It is thus a combination of inadequate finances and inadequate institutional arrangements which fall under the aspects of management. These two reasons are related to two other major reasons namely:

- C. How sustainable are the sewerage projects financially for the public? The proposals should (i) technically solve the basic cause of sewage stagnating at various locations without collection and without treatment, and (ii) the capital and O&M costs should be met from the taxes and monthly bills to be paid by the public.
- D. The public should also realize that a service cannot be provided free by the Government and if it is to be provided, it should again come from taxes only. The Government cannot find all the finances by itself.

A situation involving a three-way relationship comes into play among the public, the local body and the Government. The NUSP of 2008 has laid down the framework for addressing the challenges of city sanitation. The NUSP emphasizes the need for spreading awareness for sanitation through an integrated citywide approach, assigning institutional responsibilities and due regard for demand and supply considerations with special focus on the urban poor.

Thus, it is necessary to recognize the managerial issues which govern this three way relationship. These are

- a. legal framework and policies,
- b. institutional framework, and capacity building,
- c. financing and financial management,
- d. budget estimates for operation and management
- e. public private partnership,
- f. community awareness and participation,
- g. asset management,
- h. management information systems,
- i. potential disasters in sewerage and their management, and
- j. ability of the local body to meet the challenges of natural calamities which can cause unforeseen disasters and still be able to operate and maintain the sewerage system.

## **1.5 STAKEHOLDERS**

The stakeholders for implementing the management are many and all have their own rules and regulations besides having their own limitations.

### **A) Government of India**

The GOI will support clear assignment of roles, responsibilities, resources, capacities, institutional incentives in relation to setting standards, planning, financing, implementation, knowledge development, capacity building, training, monitoring & evaluation and regulatory arrangements.

### **B) State Governments**

The State Governments must ensure clear ULB responsibility as envisaged in the 74th Constitutional Amendment CA. Where this is partial or incomplete, states will need to make concerted efforts to devolve powers, roles and responsibilities along with financial and personnel resources necessary for ULBs to discharge their functions.

The States will also have to give ULBs wide-ranging powers over agencies that currently carry out sanitation related activities in the city but are not directly accountable to them, such as parastatal agencies and Public Health Engineering Departments (PHEDs).

**C) Urban Local Bodies (ULB)**

Under decentralized governance (74th Amendment), the ULB has some powers to frame bylaws in conformity with the State and Central Government policies and the Environment Protection Act.

The ULB on its part has to frame policies for cost recovery, levying sanitation tax, promoting Public Private Partnership (PPP) and private sector participation, providing sewerage and sanitation services in slums, allotting appropriate funds, developing human resources, setting up mechanism for grievance redressal, enforcing awareness for public participation, construction and maintenance of drains.

**D) Jal Boards, PHEDs**

Fulfill the role of subcontractors to the State Government for implementing the infrastructure services from finances allocated by the State and Central Governments.

**E) Non-Government Organisations (NGOs)**

Independently set up voluntary groups, which are accorded recognition by State and Central Governments to receive grant money and conduct programmes mainly in capacity building among the people to take up micro level management functions on behalf of State Governments.

**F) Regulatory Bodies**

Statutorily set up authorities mainly for independently monitoring the works of other agencies, NGOs and ULBs, etc., for complying with announced set of rules and regulations by State Governments like the Pollution Control Boards (PCB).

**G) Citizen/Communities**

The population has so far been referred to as beneficiaries of services rendered by the earlier mentioned agencies. It has now been recognized that the population should instead be stakeholders and have a say before the implementation of infrastructure services in respect of the financial liabilities, which the population has to bear for availing of services to each household and the charges for its O&M by the ULBs.

**1.6 RELATIONSHIP BETWEEN PART – A (ENGINEERING), PART – B (OPERATION AND MAINTENANCE), AND PART – C (MANAGEMENT) OF MANUAL**

The present Manual is one of a set of three parts and which are interdependent as under:

- i) Part – A on 'Engineering'
- ii) Part – B on 'Operation and Maintenance'
- iii) Part – C on 'Management'



Part – A on ‘Engineering’ addresses the core technologies and updated approaches towards the incremental sanitation from on-site to decentralized or conventional collection, conveyance, treatment and reuse of the misplaced resource of sewage and is simplified to the level of the practicing engineer for day to day guidance in the field in understanding the situation and coming out with a choice of approaches to remedy the situation. In addition, it also includes recent advances in sewage treatment and sludge & septage management to achieve betterment of receiving environment. It is a simple guideline for the field engineer.

Part – B on ‘Operation and Maintenance’ addresses the issues of standardizing the human and financial resources. These are needed to sustain the sewerage and sanitation systems which are created at huge costs without slipping into an edifice of dis-use for want of codified requirements for O&M so that it would be possible to address the related issues. These financial and related issues are to be addressed at the estimate stage itself, thus enabling to seek a comprehensive approval of fund allocations and human resources. This would also usher in the era of public private partnership to make the projects self-sustaining. This also covers aspects such as guidelines for cleaning of the sewers and septic tanks besides addressing the occupational health hazards and safety measures of the sanitation workers. It is a simple guidance for the resource seeker and resource allocating authorities.

Part – C on ‘Management’ addresses the modern methods of project delivery and project validation and gives a continual model for the administration to foresee the deficits in allocations and usher in newer mechanisms. It is a tool for justifying the chosen project delivery mechanism and optimizing the investments on need based allocations instead of allocations in budget that remain unutilized and get surrendered at the end of the fiscal year with no use of the funds to anyone in that whole year. It is a straight forward refinement of a mundane approach over the decades.

It is important to mention here in the beginning of this Part - C of the Manual that trade names and technology nomenclatures, etc., where cited, are only for familiarity of explanations and not a stand alone endorsement of these.