



Training on Preparation of City Sanitation Plan - Part I

A training course for elected representatives, decision makers and operative staff

Workbook for Participants

March 2015



Training on preparation of City Sanitation Plan

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Table of contents

- 1. Introduction to the Training Course 6
- 2. Session 1: Relevance and added values of a CSP 9
 - 1.1 Context for the Case Work and Exercises 9
 - 1.2 Instructions for the Corner Game 9
 - 1.3 Instructions for the Case Work 11
- 3. Session 2: Sanitation Systems 12
 - 2.1 Context for the Case Work and Exercises 12
 - 2.2 Instructions for the Case Work and Exercises 13
- 4. Session 3: Requirements for implementation of a CSP 19
 - 3.1 Context for the Case Work 19
 - 3.2 Instructions for the Case Work 19
- 5. Session 4: Stakeholder Analysis & Formation of Task Force 21
 - 4.1 Instructions for the Continuum Walk 21
 - 4.2 Context for the Exercises 22
 - 4.3 Instructions for the Exercises 22
- 6. Session 5: Secondary Data Collection 25
 - 5.1 Context for the Exercise 25
 - 5.2 Instructions for the Exercise 25
- 7. Annexure: CSP - Additional Reading Material 35

List of matrices for case work

- Matrix 1: Categories of benefits from a safe and sustainable urban sanitation 10
- Matrix 2: Challenges on the way to a CSP and how to cope with it 11
- Matrix 3: Elements of Septage Management for the 4 types 18
- Matrix 4: To do list for overcoming challenges in the implementation process 20
- Matrix 5: Stakeholder Analysis for your city. 24
- Matrix 6: Data set: Water Supply 28
- Matrix 7: Data set: Access to toilets 29
- Matrix 8: Data set: Waste water / septage management 30
- Matrix 9: Data set: Solid Waste Management 32
- Matrix 10: Data set: Municipal Finances 34



List of figures

Figure 1: Type A: Class III Coastal City- Maradu14

Figure 2: Type B: Class II Coastal City- Ponnani15

Figure 3: Type C: Class III City - Pathanamthitta16

Figure 4: Type D: Class I City - Thrissur17



Glossary

Black water	Wastewater discharge from toilets
City Sanitation Task Force (CSTF)	City level committee formed to formulate City Sanitation Plan. It involves different stakeholders from diverse sectors related to sanitation
CSP	City Sanitation Plan: Strategic framework to deliver on the long-term vision set for the sanitation sector in each Indian city.
Disposal	Discharge, deposition or dumping of any liquid or solid waste onto land or water so that it may enter the environment
Excreta	Faeces and urine
Fecal sludge	The undigested sludge that is collected from pit latrines and leach pits.
Grey water	Wastewater produced by washing and bathing activities.
NUSP	National Urban Sanitation Policy launched by Ministry of Urban Development in 2008.
Open defecation	Open defecation is defined as defecation in fields, forests, bushes, bodies of water or other open spaces.
Pit latrine	Latrine with a pit for collection and decomposition of excreta, from which liquid infiltrates into the surrounding soil
Public Private Partnership (PPP)	Contractual arrangement between public-and private-sector partners. These arrangements typically involve a government agency contracting with a private partner to renovate, construct, operate, maintain, and/or manage a facility or system, in whole or in part, that provides a public service.
Sanitation	Safe management of human excreta and other wastes as well as rainwater drainage and water supply. It includes both hardware (e.g. latrines and sewers) and software (e.g. hand washing and regulation).
Septage	Mixture of wastewater and sludge removed from a septic tank during cleaning operations.
Septic Tank	A form of on-plot sanitation for the anaerobic treatment of sewage/black water.
Sewage	All forms of wastewater derived from residential properties, as well as black water and grey water from commercial and institutions buildings
Sewage sludge	A semisolid residue generated during the treatment of domestic sewage including both solids removed by sedi-



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
INTRODUCTION TO THE WORKBOOK

	mentation and biological sludge produced by biological treatment.
Sewer	A conduit, usually a pipe, which is used to collect and convey wastewater away from its point of production to its point of disposal.
Sewerage	A network of interconnected sewers in an area, district or town.
Sanitation Flow Diagram	It is generic graphical representation of the discharge of solid and liquid waste from city.
Soak Pit	Hole dug in the ground serving as a soak away.
Wastewater treatment	A combination of physical, chemical and biological processes to remove suspended solids, dissolved pollutants, and pathogens and render the water harmless to the environment and human health.



1. Introduction to the Training Course

A. The issue

Sanitation remains one of the biggest development challenges in India. While the National Family Health Survey (NFHS) III indicates 83% coverage of urban households with access to improved toilet facilities, it has not taken into consideration the households / populations occupying “unauthorized settlements” (slum areas etc.). In reality, nearly a fourth of the urban population in India lacks access to safe sanitation facilities and only 30% to 40% are served by sewerage and wastewater treatment systems. The WHO/UNICEF *Joint Monitoring Programme* of 2010 even assesses that almost 50 % of urban population has no access to sustainable sanitation. As a consequence, open defecation remains prevalent. Inadequate access to sanitation especially in urban slum settlements is one of the key impediments to the quality of life, public health outcomes and urban productivity. Further, the unsatisfactory performance of the sanitation sector imposes serious threats to the environment. 75 % of all surface water bodies are contaminated through untreated waste water intakes.

To address sanitation related gaps, several Indian institutions, especially the Ministry of Urban Development (MoUD), have introduced a number of programmes and interventions in the urban sector viz. Jawaharlal Nehru National Urban Renewal Mission (JnNURM), National Urban Sanitation Policy, Service Level Benchmarking, Rajeev AwasYojana, Ganga Action Plan, and National Sustainable Habitat Agenda. These interventions not only provide fiscal and capacity support but also aim at addressing gaps with regard to policy and legal framework for urban sanitation.

To establish an overarching policy framework for all interventions on sanitation, in October 2008 the Ministry of Urban Development (MoUD) approved the ‘National Urban Sanitation Policy (NUSP)’. The overall goal of this policy is to transform urban India into community driven, totally sanitized, healthy and livable cities and towns. The policy emphasizes particularly on the improvement of hygienic conditions for the urban poor (inclusive approach) and for women through cost-effective technologies. Cities and towns are requested to develop City Sanitation Plans (CSPs) as an overarching strategic approach to improve their sanitation conditions. The preparation of CSPs has to follow the concept elements formulated under the NUSP.

However, CSP development is challenging. It needs involvement of various agencies and experts of the ULB in areas such as urban planning, sanitation, technical infrastructure and financing. Improvements in the sanitation sector concern every urban citizen and, therefore, require a participatory approach. For implementing a CSP, capital investments, adjustments of by-laws, strengthened administrative structures and adequate expertise might be necessary.



Some cities have started to develop their CSPs and made first experiences on how to organize an efficient planning and implementation process. Many others have to follow.

B. Approach of the Training Course

This training aims at supporting cities and town on their work to develop and implement CSPs. It has to be seen in the context of other support measures provided by the project 'Support to the National Urban Sanitation Policy (SNUSP)' run jointly by the Ministry of Urban Development (MoUD) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

The training to prepare City Sanitation Plan will be covered in three parts. The present training course is termed as Training on City Sanitation Plan - Part I. It is **structured into 7 Sessions**, which address key issues within the CSP process:

- Session 1: Relevance and added values of the CSP
- Session 2: Sanitation systems
- Session 3: Requirements for implementation of a CSP
- Session 4: Stakeholder and CSTF
- Session 5: Secondary Data collection
- Session 6: Preparation of Status Report
- Session 7: Handholding Process for CSP Preparation

Handholding Trainings

The 'Handholding Training' provides support directly linked to the CSP development process in a particular city. Therefore, are much closer linked to the concrete conditions and challenges in the city of application. The Handholding training is designed as an intermitting process connected with the CSP process elements in the following way:

- **Handholding Training 1⁽¹⁾**: Preparation of Status Report

Connected CSP elements: CSTF Constitution, Kick-off process, Baseline data collection, Status Report preparation

- **Handholding Training 2:** Draft CSP development

Connected CSP elements: Data interpretation, demand / gap analysis, identification of key issues

- **Handholding Training 3:** Final CSP development

Connected CSP elements: Sectorial strategies, Action Plan, Approval of CSP.

The **methodology** of the trainings focuses on **practice-oriented and interactive learning**. It has the background of the Harvard Case Method, which conveys teaching messages mainly

¹ Handholding Training 1 is covered in this workbook



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I INTRODUCTION TO THE WORKBOOK

through interactive practical work done by the trainees. The training is usually facilitated by two or more trainers, and is offered to a range of 15 to 25 trainees.

Most of the modules follow the same sequences, including the **elements** (and complemented by games, movies, action learning exercises):

- An **introductory lecture** given by the trainer provides the necessary theoretical background and introduces participants to their task in the case work/activity.
- The **case work/activity** gives participants the opportunity to work in groups through the different aspects linked to urban sanitation.
- The **plenary/wrap-up discussion** is the space to reflect on what has been learned, to share experiences and for mutual learning. Trainers guide through questions and consequently offer alternatives and corrections where necessary. In a **final reflection**, the participants reassume their own real-life position to link the gained findings into their own experience.

Main **target group** of the training are decision-makers and experts at city level confronted with challenges of CSP development and implementation. These include:

- **Target group 1:** Key decision-makers like Municipal Commissioners, Senior Officers from ULB and State Departments
- **Target group 2:** Elected Representatives
- **Target group 3:** Municipal Engineers at middle and operational level

The entire course is designed for a timeframe of 2.5 days. Day 1 will be more relevant for target group 1 and remaining days will be more relevant for target group 3. Due to its modular structure, the trainings can be 'tailored' for shorter training events, especially for persons from target group 1 and 2, who might be available only for shorter courses of one or half a day. An overall scheme for the training indicates in detail, which training elements are appropriate for which target group.

The course can be combined with real cases examples (potentially presented by practitioners from the respective area of training application), site visits or other events.

To support the learning/teaching activities, a different set of **training materials** has been developed:

- A library of PowerPoint slides (to be presented by trainer) supports the introductory input for each module. Trainees receive print-outs of the slides as a documentation of substantial information provided during the course.
- The material to be used by participants for practical work is this Workbook, which contains the instructions and necessary information for the case-works and exercises.
- Participants are also provided with Hand-outs, which provide additional information (publications and links) as well as summary of key messages.



2. Session 1: Relevance and added values of a CSP

Key learning objective: Getting a general overall orientation on CSP.

Key subjects of module:

- What is urban sanitation?
- What are the challenges of sanitation in Indian cities?
- Which frameworks and urban sanitation initiatives do exist at national and state level?
- What are the added values of a CSP for the various groups of urban population?

1.1 Context for the Case Work and Exercises

You have learnt in the presentation that the establishment of a safe and sustainable sanitation system requires a systematic planning and implementation process within the framework of a CSP and might confront the cities with a number of challenges. However, cities will benefit in multiple ways from adequate sanitation solutions. You are invited to further explore these benefits– and in a second step also challenges- in the following exercise.

1.2 Instructions for the Corner Game

The Corner Game allows a structured discussion on the key question:

- **What do you consider being the most important benefits of urban sanitation?**

Each corner of the room represents one of four possible categories of answers to this question:

- (i) improve general health conditions in the city;
- (ii) provide basis for better economic development;
- (iii) alleviate situation of vulnerable groups (Gender aspects);
- (iv) improve environmental impact.

You are expected to select one corner of the room which represents best your position. In a structured discussion, you are invited to defend your position and explain backgrounds and reasons.

You can summarise your findings in **Matrix 1**:



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 1: RELEVANCE AND ADDED VALUES OF A CSP

Improve health conditions	Better economic development	Alleviate situation of vulnerable groups	Better environment

MATRIX 1: CATEGORIES OF BENEFITS FROM A SAFE AND SUSTAINABLE URBAN SANITATION.



1.3 Instructions for the Case Work

Case Situation

The Mayor of your city has established a City Sanitation Task Force (CSTF) to support the CSP development. You are assigned as an advisory expert group attached to the CSTF. In a first step, the Mayor asked you to provide him with an overview on which challenges he might face on the way to a CSP and what you propose to cope with these challenges. You are invited to organize your work along the **Matrix 2**.

Support factors for a successful CSP	How challenging is the factor for the city? (H / M / L)	Potential solutions to cope with challenges
Identify adequate technical solutions		
Ensure CSP integration into general urban planning		
Ensure sustainable financing		
Ensure proper operation and maintenance		
Coordinate with State Sanitation Planning		
Ensure citizens' participation		
Others		
Others		

MATRIX 2: CHALLENGES ON THE WAY TO A CSP AND HOW TO COPE WITH IT.



3. Session 2: Sanitation Systems

Key learning objective: Understand different elements and technical options of urban sanitation.

Key subjects of module:

- What are key elements of urban sanitation and how does the 'sanitation system' function?
- How does the overall design of a sanitation system in general and of septage management in particular depend on specific framework conditions of the city?
- What is septage management - as a system and why is it a key issue of urban sanitation?
- What are conceptual, technical, and institutional approaches to septage management?
- What are the advantages and disadvantages of decentralized treatment systems?
- What are the added values of sanitation services in slum areas - for inhabitants of slums and for the whole city?

2.1 Context for the Case Work and Exercises

You have learnt that there is not a standardized sanitation solution applicable to each city in a 'blueprint fashion'. This is also true for septage management. The adequate septage management system has to be 'hand-tailored' to each city taking into account its specific features. Important for the design of the best-suited sanitation system are, among others, the following factors:

- Size and population of the city,
- space and land-use, especially existing open space,
- socio-economic specifics such as slum-areas,
- density of housing,
- underground condition and ground water table,
- topography,
- climate,
- already existing sanitation infrastructure (e.g. existing sewer systems),
- existing approaches for drinking water supply.



2.2 Instructions for the Case Work and Exercises

Again, you changed your role. You take now an India wide perspective and explore the best suitable septage management system under different conditions as mentioned above and as frequently found in Indian towns and cities. You reflect 4 generic types of cities:

Further information is provided by exemplary maps and characteristics for each type.

You are invited to elaborate for each city different elements for a septage management system as listed in **Matrix 3**. Don't forget to visualize your findings in the Matrix.



FIGURE 1: TYPE A: CLASS III COASTAL CITY- Maradu



Characteristics of Maradu City

Population & Area: Census 2011 indicates population of 44,704 in city. With an area of 12.35 sq km. In future it may get amalgamated into cochin city as it meets the requirement of land for the city to expand.

Location & Topography: Maradu is small city in Ernakulam district. Most of the area is covered with swamps and is reclaimed for constructing highways and hotels. NH-47 bypass, NH 49, NH 47A are passing through Maradu.

Soil & Geology:It lies in coastal plain with Lateritic soil as the most predominant soil type along with small patches of hydromorphic saline soil. The water level is found to be 2 to 5 m below ground level.

Climate: The city experiences heavy rainfall during southwest monsoon season followed by northeast monsoon. The annual rainfall is around 3233 mm. The mean monthly maximum temperature ranges from 28.1 to 31.4 °C and the minimum ranges from 23.2 to 26 °C.

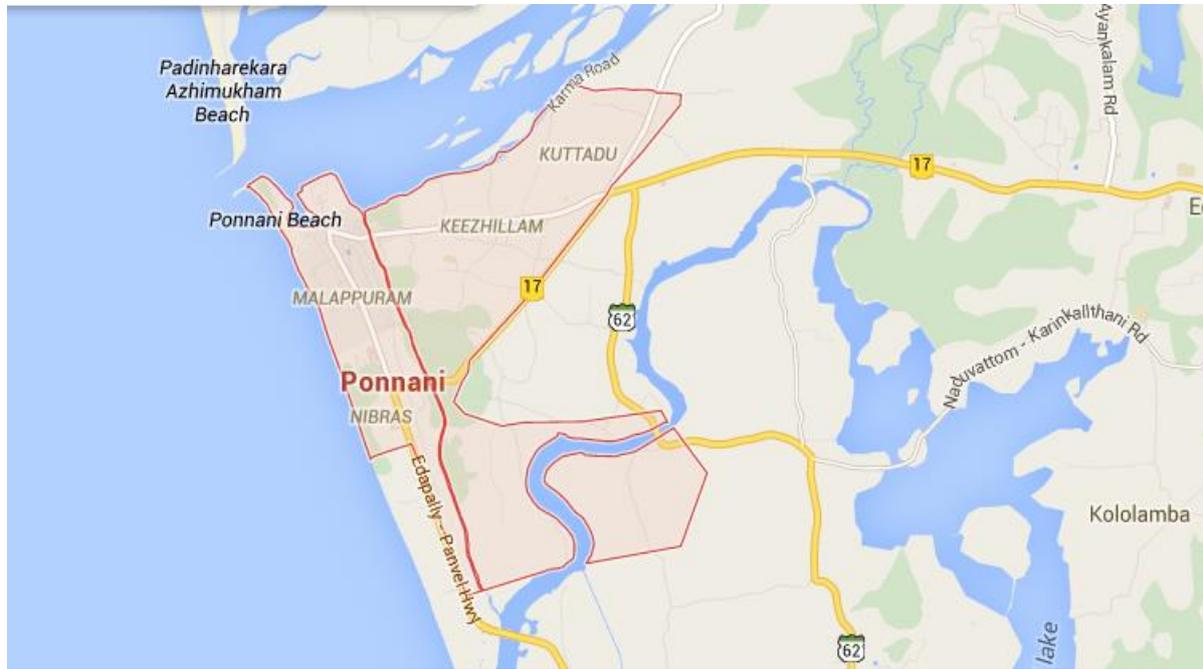
Existing sanitation conditions: There are 10,889 households in the city. 25% of the households are connected to sewerage system. 64% are having septic tanks in the premises. 6% households have pit laterines and 4% use other kinds of toilets.

Water Supply: Groundwater is main source of water supply. The main ground water abstraction structures used for domestic and irrigation purposes are dug wells and borewells / tube wells.



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 2: KEY ISSUES OF URBAN SANITATION

FIGURE 2: TYPE B: CLASS II COASTAL CITY- PONNANI



Characteristics of Ponnani City

Population & Area: Ponnani is Municipality in Malappuram district of Kerala. As per 2011 Census, the population is 90,491. Ponnani is one of the major fishing centres in the district.

Location & Topography : Ponnani, at an altitude of five metres from sea level, is the only port in Malappuram district; it is also the smallest taluk of the district. It is a sea shore town along the south banks of Barathappuzha. It is located at 10.77°N 75.9°E[2] at the earth global. It is situated at the mouth of Bharathappuzha (Nila River) and is bounded by the Arabian Sea on the west.

Soil & Geology: It consist of coastal alluvium plain which is essentially composed of sand, silt and clay. Average grund water level is found to be 2 m.

Climate: The city's climate is classified as tropical. Most months of the year are marked by significant rainfall. The short dry season has little impact. The average temperature is 27.4 °C. About 2877 mm of precipitation falls annually.

Existing information on Sanitation: There are nearly 15,608 households in city. 69% of households have septic tanks, whereas 11% households are covered with sewerage network. 11% households use pit latrines and 3% still practice open defecation.

Water supply: The ground water is major source of water supply. Large number of dug wells and filter point wells tap this aquifer to meet the domestic and agricultural needs. Depth of dug wells varies 3 to 8 mtrs.



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 2: KEY ISSUES OF URBAN SANITATION

FIGURE 3: TYPE C: CLASS III CITY - PATHANAMTHITTA



Characteristics of Pathanamthitta City

Population & Area: Census 2011 indicates population of 37,538 in city. It is spread over an area of 32 sqkm.

Location & Topography: The city situated in the central Travancore region in the state of Kerala, south India, spread over an area of 23.50 km². It has an average elevation of 18 metres (62 ft) above sea level. The city is located on the fertile banks of the River Achenkovil.

Soil & Geology: The city lies on undulating terrain of low and broad valleys with some valleys becoming narrow close to the foothills. The major part of the area in this region is characterized by thick laterite cover. The post monsoon ground water level is app 2- 5m bgl.

Climate: The climate is generally moderate, the temperature rising from 20 C to 39 C. The south west monsoon from June to September and the north west monsoon from October to November provide fairly good rain with app. annual rainfall of 3209 mm.

Existing sanitation conditions: There are 9,609 households in the city. 10% of the households are connected to sewerage system. 40% are having septic tanks in their premises. 42% are having pit latrines and 4% follow open defecation.

Water Supply: Groundwater is main source of water supply. A good percentage of the households in the area have their own drinking water wells. The groundwater development in the area as elsewhere in Kerala is mostly through dug wells. Decline in water level, water scarcity during summer months is noticed.



FIGURE 4: TYPE D: CLASS I CITY - THRISSUR



Characteristics of Thrissur City

Population & Area: As per 2011 Census, Thrissur has population of 3,15,196 with a total area of 101.42 sq km.

Location & Topography: The city of Thrissur is situated in Thrissur District of Central Kerala in India. The city is located at 10.52°N 76.21°E and has an average altitude of 2.83 metres. The city is 75 km north-east of Kochi, 133 km south-west of Coimbatore and 144 km south-east of Kozhikode. The city is located in a hillock called Thekkinkadu Maidan which is the second highest point in city after the Vilangan Hills. The Kole Wetlands act as a natural drainage for the city where the water is carried out to river

Soil & Geology: The city lies in the flat-topped landform covered by a thick blanket of laterite. The ground water level is found to be app. 5 -10 m below ground level.

Climate: The city features a Tropical monsoon climate. The City is drained in the monsoonal season by heavy showers. The average annual rainfall is 3000 cm with 124 rainy days in a year. The maximum average temperature of the City in the summer season is 33-degree Celsius while the minimum temperature recorded is 22.5 degrees Celsius.

Existing sanitation conditions: There are 76,404 households in the city. 17% of the households are connected to sewerage system. 67% are having septic tanks in their premises. 14% households use pit latrines and 2% use other latrines.

Water Supply: Most of the water supply in the area depend on ground water by means of dug wells, tube wells and bore wells.



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 2: KEY ISSUES OF URBAN SANITATION

Elements of septage management	Option A: Class III Coastal city MARADU	Option B: Class II Coastal city PONNANI	Option C: Class III city PATHANAMTHITTA	Option D: Class I city THRISSUR
Access to Toilets				
Onsite Storage (Primary Treatment)				
Desludging & Transport				
Treatment of Septage				
Treatment of Ef- fluent from Septic Tanks				
Reuse / Disposal				

MATRIX 3: ELEMENTS OF SEPTAGE MANAGEMENT FOR THE 4 TYPES



4. Session 3: Requirements for implementation of a CSP

Key learning objective: Understand CSP implementation mechanisms in detail.

Key subjects of module:

- What are requirements and framework conditions to successfully implement a CSP in respect to the
 - institutional setting;
 - organisational framework;
 - management approaches;
 - data management, MIS and SLB;
 - financing conditions; as well as
 - legislative framework?

3.1 Context for the Case Work

The transfer of the CSP into action was already covered during the previous module, focusing mainly on drivers, key players, stakeholders and overall steering such as priority setting for implementation. This module addresses more the 'classical elements' of public management such as institutional, organizational, financial and legislative conditions, which have a similar strong impact on how a CSP is finally put into action.

3.2 Instructions for the Case Work

Similarly as in Module 2 and 4 you will work in this exercise not within your role as expert group in a fictitious city but reflect your real home city with its specific conditions of relevance for CSP implementation. You are invited to analyze in particular, how far a successful CSP implementation might be hampered by existing gaps. You also should elaborate on possible solutions how to overcome the gaps. This might lead to a sort of 'to-do-list' of actions at home to make CSP implementation really work.

You work in sub-groups and document your findings in **Matrix 4**.



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 3: REQUIREMENTS FOR IMPLEMENTATION OF A CSP

Category of framework condition for successful CSP implementation	Gaps and challenges in your city	Options for action to overcome gaps / challenges ('To-do-list')
Legislative framework		
Ensuring required action by private households		
Adequate involvement of private operators		
Financial management		
Monitoring and complaints redressal		
Involvement of CBOs		

MATRIX 4: TO DO LIST FOR OVERCOMING CHALLENGES IN THE IMPLEMENTATION PROCESS



5. Session 4: Stakeholder Analysis & Formation of Task Force

Key learning objective: Understand the stakeholder landscape for your city and develop adequate design elements for the CSTF.

Key subjects of module:

- What are key stakeholders for the sanitation sector in your city?
- Why and how are they concerned?
- Which role should they play in the CSTF?
- What is the role of the CSTF during the CSP Process?
- How should the CSTF operate?

4.1 Instructions for the Continuum Walk

During this exercise, you explore the intentions of different stakeholders during development and implementation of the CSP with a special focus on septage management. You will do that within a role-play. The following stakeholder groups will be represented by selected participants:

- Municipal Councilor;
- State Pollution Control Board;
- Urban Development Authority;
- Slum Clearance Board;
- CBO;
- Private households;
- Chamber of Commerce;
- Environmental NGO.

There are 5 potential roles that can be strived for by these groups. They are marked by cards in the classroom:

- Get transparent information
- Get consulted
- Collaborate
- Co-decide
- Control implementation of decisions.

Discuss the following questions with your group partner, and then find the appropriate position in the room:

- Which role do you strive for?
- Why do you want to be involved as chosen?



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 4: STAKEHOLDER ANALYSIS & FORMATION OF TASK FORCE

- Where would you see allies and conflicting parties among other stakeholders?

4.2 Context for the Exercises

The National Urban Sanitation Policy (NUSP) outlines the important steps for achieving 100 % sanitation in a city. Many of the principles as formulated in the NUSP crucially depend on stakeholder involvement and mobilization such as

- awareness generation,
- city-wide approach,
- reaching the un-served and poor,
- client focus and generation of demand.

Therefore, steps in the CSP preparation process as discussed in Session 1 include a stakeholder analysis and the constitution of the City Sanitation Task Forces (CSTF). The stakeholder analysis is a useful approach to make sure that crucial stakeholders are involved in the CSTF in the right way.

You reflected already the interests and potential roles of crucial stakeholders in Module 4 of the Sensitisation Training – in the form of a mini-role-play within the ‘Continuum Walk’. For selecting appropriate members of the CSTF and ensure their effective cooperation, in-depth analysis and reflection is necessary about roles and expectations of stakeholders, ways to involve them, potentials for liaison etc..

4.3 Instructions for the Exercises

In Annexure II on the CSP, the NUSP mentions the following potentials stakeholder groups to be included into the CSTF:

- **Agencies directly responsible** for sanitation (sewerage, on-site sanitation, water supply, solid waste, drainage) including different divisions / departments of ULB, PHED, etc.
- **Agencies indirectly involved** or impacted by sanitation conditions (e.g. slum areas, civil society etc.).
- **NGOs** working on water and sanitation, urban development, slums, health, etc.
- **Large institutions** in the city (e.g. Cantonment Boards etc.).
- **Unions** of sanitary workers, “*safai karamcharis*”, etc.
- **Eminent persons** and practitioners in civic affairs, health, urban poverty, etc.
- **Private firms / contractors** working in sanitation sector (e.g. garbage collectors, septic tank de-sludging firms etc.).
- **Educational and cultural institutions.**
- **Other significant / interested stakeholder.**

The stakeholders as mentioned might be concerned in different aspects:



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 4: STAKEHOLDER ANALYSIS & FORMATION OF TASK FORCE

- They might keep important official responsibilities (service provision, regulation / planning, support, control) like substantially involved departments of ULB.
- They might keep important information such as offices of statistics and planning.
- They could keep potentials to contribute to solid solutions in urban sanitation such as NGOs or educational institutions.
- They might represent 'victims' of existing bad sanitation conditions such as slum dwellers, CSOs etc.

In the exercise, you are invited to reflect in a first step, which actors should be involved in the CSTF for your city. You can do that by selecting from the provided cards and putting them into the 'Actor Column' of Matrix 2 or by defining new / own cards. Be as concrete as possible in respect to existing stakeholders in your city.

In a second step, you are invited to reflect on the following questions:

- Why / how is the respective group / actor concerned?
- What role of actor / stakeholder would be appropriate:
 - Get informed;
 - Get consulted;
 - Collaborate;
 - Co-decide;
 - Control implementation?

Please, document your findings in Matrix 5.



6. Session 5: Secondary Data Collection

Key learning objective: Understand how to collect and assess baseline data as important element for the Status Report.

Key subjects of module:

- What are key baseline data for your city?
- Where to get data from?
- Why are baseline data important?
- How to use support tools such as the NUSP Baseline Assessment Checklist?

5.1 Context for the Exercise

A solid analysis of the current status of the entire sanitation system is a crucial basis for all further steps of CSP development. It helps determining adequate system elements for sanitation in the respective city both from technical and user perspective. The baseline analysis will be documented in the Status Report which is elaborated strongly participatory and therefore guarantees the acceptance and support from all stakeholders before initiating any planning.

The Status Report will be based on a number of baseline data assessments. Baseline data are important

- to understand the current system;
- to understand quantities of e.g. water supply, wastewater/solid waste generation etc.;
- to find out gaps;
- to base design on solid data;
- for overall planning and forecasting;
- for focusing e.g. on infrastructure development or management improvement.

The NUSP supports the baseline data assessment through a checklist².

5.2 Instructions for the Exercise

² Accessible through http://www.sswm.info/sites/default/files/reference_attachments/MoUD%202011%20CSP%20Baseline%20Assessment.pdf



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I SESSION 5: SECONDARY DATA COLLECTION

The Baseline Data Analysis is a comprehensive task on the way to a CSP involving many stakeholders in your city and requiring considerable time and resources. During the following exercise you will gain an overview on the tasks required, possible challenges and how to overcome them.

You will split into 5 sub-groups, each focusing on one of the following sections of data collection (compose the groups according to your personal experiences / knowledge):

- Water supply
- Access to toilets
- Waste water / Septage management
- Solid waste management
- Municipal finances (as an important cross-cutting governance issue).

You are invited to undertake the following analysis in each sub-groups:

- Go through the matrix below for your preference area. Check the columns of 'Data areas' and 'Which data are exactly required' and compare them with the NUSP Checklist Baseline Data with a view to the needs and conditions in your city. Decide which data really matter for your CSP. You might add further data under 'Others' if required. You might also delete data from the matrix.
- If you are clear about the most relevant data, reflect where you might get them from. Which institution, publication or statistics might provide the data?
- Finally, you should discuss possible challenges which might occur in respect to correctness, level of detail, spatial explicitness, costs etc..

Please, document your findings in the respective Matrix. Be prepared to present your findings to the plenary. An important aspect at the beginning would be to share with your colleagues in the plenary, why which data matter for the CSP in the concrete case of your city. Try to identify 'key data'.



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 5: SECONDARY DATA COLLECTION



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 5: SECONDARY DATA COLLECTION

MATRIX 6: DATA SET: WATER SUPPLY

Data area	Which data are exactly required for planning and implementation in your city? Confirm, delete, add³	Where do you might get the data from?	Potential challenges: Data not up-to-date, not detailed enough, not spatially differentiated, not accessible at moderate costs, others.
Access to water: Sources	Sources of City water supply: <ul style="list-style-type: none"> • Ground water • Surface water • Tankers • Quantities from each type (MLD or %age) • Per capita supply (lit/day) • Others 		
Distribution, treatment	<ul style="list-style-type: none"> • Pipe network (length, coverage) • Household covered by piped water (no, %age) • Metered/unmetered (%age) • Public taps (no., %age) • Treatment plant capacity (MLD) • Elevated Storage Reservoir (capacity, usage) • Others 		
O & M	<ul style="list-style-type: none"> • Collection efficiency %age • Complaint redressal system available (yes/no) • Others 		
Maps/spatial information	<ul style="list-style-type: none"> • Mapping of water source for which part of city • Distribution network 		
Financial information on water supply	<ul style="list-style-type: none"> • Water connection charges collected (Rs.) – one time • Water user charges collected (Rs) – monthly • Others 		
Proposed projects/projects under construction	<ul style="list-style-type: none"> • Type of project • Supply capacity after completion (households, %age) • Others 		
Others			

³For specifying the column you might need to consult the NUSP Base Data Checklist.



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 5: SECONDARY DATA COLLECTION

MATRIX 7: DATA SET: ACCESS TO TOILETS

Data area	Which data are exactly required for planning and implementation in your city? Confirm, delete, add ⁴	Where do you might get the data from?	Potential challenges: Data not up-to-date, not detailed enough, not spatially differentiated, not accessible at moderate costs, others.
Types of toilets	<ul style="list-style-type: none"> • Number and type of toilets (individual, shared, community, public) • Others 		
O&M of toilets (public and community)	<ul style="list-style-type: none"> • Responsible agency for O&M • Type of operator (public, private) • Present conditions (good, average, poor) • Compliant redressal system existent (yes/no) • Others 		
Access to toilets (coverage)	<ul style="list-style-type: none"> • Access to different types of toilets (%age) • Others 		
Open defecation	<ul style="list-style-type: none"> • Hot spots • Number of households • Reasons • Others 		
Financial information	<ul style="list-style-type: none"> • User charges collected (Rs., %age) • Others 		
Maps and spatial information	<ul style="list-style-type: none"> • Type of project • Supply capacity after completion (households, %age) • Others 		
Projects proposed / under construction	<ul style="list-style-type: none"> • Proposed number of seats • Coverage after implementation (%age) 		
Others			

⁴For specifying the column you might need to consult the NUSP Base Data Checklist.



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 5: SECONDARY DATA COLLECTION

MATRIX 8: DATA SET: WASTE WATER / SEPTAGE MANAGEMENT

Data area	Which data are exactly required for planning and implementation in your city? Confirm, delete, add⁵	Where do you might get the data from?	Potential challenges: Data not up-to-date, not detailed enough, not spatially differentiated, not accessible at moderate costs, others.
Coverage	Sources of City water supply: <ul style="list-style-type: none"> • Ground water • Surface water • Tankers • Quantities from each type (MLD or %age) • Per capita supply (lit/day) • Others 		
Generation	<ul style="list-style-type: none"> • Wastewater generation (MLD) • Generation per type (households, commercial, institutions) • Others 		
Collection and transportation	Wastewater discharged (MLD, %age) <ul style="list-style-type: none"> • into open drains • into septic tanks • into soak pits • into decentralized wastewater treatment • into sewerage systems • Others 		
Treatment	<ul style="list-style-type: none"> • Treatment technologies and capacities (MLD) • Current utilization (MLD) • Quality of treatment (good, average, poor) • Reliability (good, average, poor) • Others 		
O&M	<ul style="list-style-type: none"> • Responsible agencies • Methods of desludging • complaint redressal system existent (yes / no) 		
Maps/spatial information	<ul style="list-style-type: none"> • Mapping of wastewater system for which part of city 		

⁵For specifying the column you might need to consult the NUSP Base Data Checklist.



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 5: SECONDARY DATA COLLECTION

	<ul style="list-style-type: none"> • Conveyor network 		
Financial information on waste water	<ul style="list-style-type: none"> • User charges collected (Rs.) • Coverage of O&M costs of Sewage system (source, %age) • Others 		
Proposed projects/projects under construction	<ul style="list-style-type: none"> • Type of project • Capacity after completion (households, %age) • Others 		
Others			



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 5: SECONDARY DATA COLLECTION

MATRIX 9: DATA SET: SOLID WASTE MANAGEMENT

Data area	Which data are exactly required for planning and implementation in your city? Confirm, delete, add ⁶	Where do you might get the data from?	Potential challenges: Data not up-to-date, not detailed enough, not spatially differentiated, not accessible at moderate costs, others.
Generation	<ul style="list-style-type: none"> • Total generation (MT/day) • Source of generation (MT/day per source) • Wastecharacterization • Others 		
Collection	<ul style="list-style-type: none"> • Primary collection (MT/day, %age) • Secondary collection (MT/day, %age) • Street sweeping (road length, frequency) • Others 		
Transportation	<ul style="list-style-type: none"> • Amountstransported (MT/day) • Transport facilities • Travel distance (kms) • Others 		
Treatment	<ul style="list-style-type: none"> • Treatment technology and capacity (MT) • Current utilisation (MT) • Others 		
Disposal	<ul style="list-style-type: none"> • Open landfillcapacity (MT) • Landfill type andquality • Expectedremaining time ofoperation • Distancefromcity (kms) • Others 		
Reuse / recycling	<ul style="list-style-type: none"> • Materials collected (MT/day) • System ofcollection • Materials actually reused (MT/day) • Others 		
O & M	<ul style="list-style-type: none"> • Complaint redressal system available (yes/no) • Others 		
Maps/spatial information	<ul style="list-style-type: none"> • Mapping of type of service for which part of city 		

⁶For specifying the column you might need to consult the NUSP Base Data Checklist.



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 5: SECONDARY DATA COLLECTION

	<ul style="list-style-type: none"> • Location of landfills, storage and treatment facilities • Others 		
Financial information on solid waste management	<ul style="list-style-type: none"> • User charges collected • Coverage of O&M cost (%age) • Others 		
Proposed projects/projects under construction	<ul style="list-style-type: none"> • Type of project • Capacity after completion (MT/day, %age) • Others 		
Others			



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I
SESSION 5: SECONDARY DATA COLLECTION

MATRIX 10: DATA SET: MUNICIPAL FINANCES

Data area	Which data are exactly required for planning and implementation in your city? Confirm, delete, add ⁷	Where do you might get the data from?	Potential challenges: Data not up-to-date, not detailed enough, not spatially differentiated, not accessible at moderate costs, others.
Budget / actuals for last five years	<ul style="list-style-type: none"> • Municipal budget available / not available • Others 		
Revenue	<ul style="list-style-type: none"> • Revenue break ups (water charges, property charges, user charges) • Cost recovery for water supply, sewerage and solid waste (%age) • Others 		
Grants and loans	<ul style="list-style-type: none"> • Details of grants or loans for sanitation services • Physical and financial reports of sanitation and SWM projects (available yes / no) • Others 		
Expenditures, financial implication	<ul style="list-style-type: none"> • Capital and O&M expenditures for all sanitation services (available yes / no) 		
Financial sustainability measures	<ul style="list-style-type: none"> • Existing financial reforms, transparency and monitoring mechanisms (available yes / no) • PPP projects existing (yes / no, budget (Rs.)) • Others 		
Others			

⁷For specifying the column you might need to consult the NUSP Base Data Checklist.



TRAINING ON PREPARATION OF CITY SANITATION PLAN - PART I

7. Annexure: CSP - Additional Reading Material