



# M I S A A L

MOVING INDIA TOWARDS SANITATION FOR ALL

Under the  
URBAN WATER AND SANITATION FOR HEALTH (URBAN WASH ALLIANCE)

## **User Manual for Slum Sanitation and Household Mapping Tool**

August, 2019

Urban Management Centre

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# User Manual for survey of Slum Sanitation and Household Mapping

August, 2019

Prepared for

URBAN WASH ALLIANCE



Submitted By

URBAN MANAGEMENT CENTRE



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## Abbreviations

AMC	Ahmedabad Municipal Corporation
BCC	Behaviour Change Communication
CT	Community Toilet
GVP	Garbage Vulnerable Point
ICT	Information and Communications Technology
IEC	Information Education Communication
IHHL	Individual Household Latrine
MISAAL	Moving India towards Sanitation for All
O&M	Operations and Maintenance
ODF	Open Defecation Free
PBR	Porbandar
PT	Public Toilet
SBM	Swachh Bharat Mission
UID	Unique Identification
ULB	Urban Local Body
UNESCO	The United Nations Educational, Scientific and Cultural Organization
WASH	Water Sanitation and Hygiene
Wat-San	Water and Sanitation

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## Background

The Swachh Bharat Mission (SBM) recently celebrated its fourth year of completion on the 2<sup>nd</sup> Oct 2018. The mission was launched in 2014 to make India an open defecation free (ODF) country. Much has been achieved in the past four years which reflects improvement in sanitation. It became a citizen's movement. More than 90% of the urban India has been declared open defecation free (ODF), (MoHUA, 2019). Having achieved desirable access, through IHL & Public/Community Toilet the urban local bodies (ULB) now need support and guidance to sustain ODF status.

“**M**oving India towards **S**anitation for **A**ll” or the MISAAL program proposes strategy to have sustained efforts for ODF status in heritage cities. The program aims to establish a precedence for scalable and replicable Swachh Heritage cities in India. All four cities represent key heritage cities in their respective states with Ahmedabad as India's first World Heritage City declared by UNESCO. Sanitation is imperative in heritage cities. MISAAL intervention is 4-pronged – 1. Sustain ODF; 2. Achieve ODF+; 3. BCC and IEC Dissemination to sustain ODF; and 4. National Scale-up. MISAAL will showcase replicable and scalable models and tools and will be implemented through city-state & state-nation implementation model. It is being implemented in the 4 intervention cities namely, Ahmedabad, Porbandar in Gujarat, Sambalpur in Odisha & Jodhpur in Rajasthan.

As a part of the sanitation mapping process and formulating strategies to help the cities sustain ODF, one major activity is to conduct a sanitation mapping and surveying of slum present in the city. For which, UMC has prepared a detailed analysis tool which helps city to fasten the process of assessment. The following document shall act as a guide for the users such that city officials or development sector consultant for slum sanitation situation assessment in any of the city.

## 1. About this Manual

The purpose of this manual is to provide a clear step-by-step guidance for filling up information on sanitation survey in slums at household level. The tool helps in generating the slum profile and listing of households lacking with basic infrastructure services. This tool is developed based on the knowledge, field experience, and general practices to aid ULB staff for improvement of slum areas in the city.

With the help of this tool, the ULB can easily prepare an action plan to improve the slum as it will provide house to house information on deficit in basic services as well as broader issues at slum level. In addition, the tool will estimate the budget which will help ULB to estimate the cost and plan for the funding sources for improvement of the slum.

## 2. Objective of the Tool

It has been observed in many cities across the country that residents of settlements that lack a 100 percent coverage basic services such as water, sanitation and solid waste management. In slum and slum like areas the last mile coverage of basic services are lacking and hence the targets are not achieved fully inducing high chance of slippage in sustaining the efforts of improving standard of living of settlements.

In many of the slum areas, due to lack of coverage many households rely on community toilets for their needs. When people do not have access to such facilities that are clean and usable, there is a tendency to fall back to traditional habits of going out in the open which in turn defeats the purpose of the efforts undertaken to reach and maintain ODF. And those who have individual household latrine and lacking with safe containment and disposal system are forced to rely on community toilets, induces higher dependency than the designed.

Similarly, the behaviour of community matters in case of achieving last mile coverage and providing the basic services. It was found that the behavioural and socio-cultural issues also a hindrance for providing household latrine and hence it requires efforts in behavioural change in the community.

The slum sanitation and household mapping tool aim to assess the gaps in last mile coverage of basic services, existing situation of slum and recommendations to improve the same, indicators for behavior change in a slum and financial estimation for improvements.

Main objectives of the tool are:

- Identification of last mile coverage gaps in IHHL, sewerage/ onsite containment system, water supply, door-to-door waste collection
- Actions and estimated investment required to improve WASH in slum
- Inventorisation of each household on map for further ODF sustenance tracking (continued toilet usage, periodic desludging)
- Provide indicators and related number of households to prioritize the behaviour change activities
- City level situational analysis
- Help in aligning of the objectives/roles of slum level committee

## 3. Users of the Tool

The tool can be used by any organization working in development sector. The following users are envisaged for adoption of the tools.



1. Urban Local Bodies
2. Development sector organizations
3. Academia

## 4. What does the Tool help you do?

For achieving ODF status and sustain it, the city needs to focus in the vulnerable areas and understand the situation of the same. The tool will help city to understand and identify the issues related to sanitation and improve the same in the vulnerable areas like slum and slum like settlements.

This tool prepared by Urban Management Centre aims to help city managers and decision makers of concerned departments such as engineering, solid waste management and slum improvement to a) generate the basic slum profile, b) assess the coverage of individual water tap connection and issues related to the same, c) assess the coverage of individual household latrine and reasons for not having the IHHL, d) assess the dependency on public and community toilet and its adequacy, e) assess the gaps in safe waste water disposal, f) assess the reasons for open defecation, if any, g) assess the gaps in solid waste management at slum level, h) broader recommendations to improve the situation, and i) financial recommendations (capital expense and one year operational expense) to improve the situation of slum.

## 5. What does the Tool not do?

The tool requires a comprehensive house to house survey before end for using it. Currently, the tools identify the issues and deficit and related financial estimates of basic Wat-San infrastructure at household level as well as community toilet. However, it does not cater the land requirement of any proposed Wat-San infrastructure facility and complete the operational model of various services such as public and community toilets, door to door collection and water ATM, etc.

## 6. Step-by-Step procedure to use the Slum Sanitation and Household Mapping Tool

This tool contains 4 sheets: A) Main Page, B) Survey Data Input Sheet, C) PT-CT Data Input Sheet, D) Input Map-Photo Sheet, E) Slum Profile, F) List of HHs without IHHL, G) List of HHs without individual water tap connection, H) List of HHs without safe waste water disposal system, and I) City level dashboard. Please fill the details first in the Survey Data Input Sheet, and then fill the details in PT-CT Data Input Sheet and Input Map-Photo sheet respectively. The rest of the sheets will generate the results automatically.

### I. Main Page

This sheet contains brief of the tool and tabs for going to other sheets. Before going to any other sheet, please read the notes written in this sheet.

Figure I Overview of main page sheet

**Slum Sanitation and Household Mapping Tool**

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**Objectives of this tool are to:**

1. Help ULB to understand the slum profile
2. A quick analysis and broad recommendation to improve the slum condition
3. Estimate the finance required to improve the slum

**Limitation of this tool:**

1. It has a pre defined survey tool based on which the profiles can be generated.
2. It doesn't cater the requirement of land availability and cost required to refurbish the public toilet facility
3. Maps have to be generated separately with the help of mapping softwares e.g. Arc GIS

**Data Input Sheet**

**PT\_CT Data Input Sheet**

**Slum Profile**

**List of HHs require TapWater Connection**

**List of HHs require IHHL**

**List of HHs require Sewer Connection**

**City Level Dashboard**

Sr.No.	NOTES
1	Please fill the sheets in the following order-
	i) Data Input Sheet
	ii) PT_CT data input sheet
2	Please choose the slum form the highlighted cells in orange color
3	The cleaned data of the survey should be pasted in the data input sheet. Please make sure that the column heads do not change while pasting the data.
4	Spelling errors may lead to wrong data interpretation
5	Please do not change the height and width of the cell of photo input sheet

## 2. Data Input Sheet

As this tool will help you in assessing the existing situation of the slum, you will need to conduct a comprehensive household survey through a google form in prior<sup>1</sup>. After the completion of survey, you need to paste the survey data in the data input sheet. As the survey will be conducted through google form, a spreadsheet will be generated automatically, and directly from it you can copy paste the data in data input sheet. Make sure that the column heads of spread sheet and data input sheet do not change for error minimization. A verification check and spell check must be made while pasting the data for accuracy.

## 3. PT-CT data input sheet

This sheet will require a basic data of public and community toilet to assess the adequacy of the toilet seats required. Please fill the relevant data of number of public or community toilet available within 5-minute walking distance (or 500 m radius) of the slum, available and functional seats for male, female, children and physically disabled persons. Please do not leave the cells blank as other cells which are linked with this section, will not be generated automatically and result value error. Rather leaving the cells blank, insert zero (0) in the cells before moving ahead.

## 4. Input map and photo sheet

This sheet will have photos and images of thematic maps of a slum. Please insert the images in the particular column head and do not change the size of the column as well as row, otherwise the images will shrink or stretch in the slum profile. Make sure that the spelling of slum name should be same as the name in the data input sheet, if not it will not match, and images will not change respectively. More than one photo in a particular column head should be grouped and then pasted as an image. Following photos and maps should be considered to have a good and complete profile of the slum<sup>2</sup>.

- Images of individual household toilet – maximum three showing different condition
- Images of public or community toilet – maximum three to four showing different condition of all the available toilets
- Location map of slum

<sup>1</sup> The survey manual is attached in the Annexure B: How to conduct the survey

<sup>2</sup> Examples are attached in the Annexure C: Examples of photos and maps for slum profile

- Base map of Slum
- Access to water supply
- Access to sanitation
- Dependency on public and community toilet
- Access to safe waste water disposal system


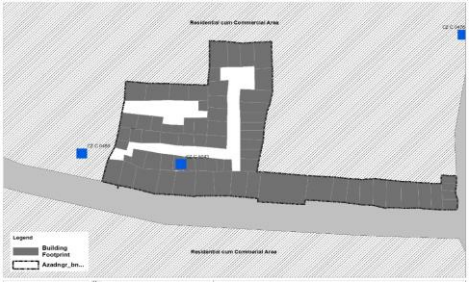

If you do not wish to insert the images in the particular sheet, it will not affect the profile result. The respective space of maps and images will show either blank or pre pasted images.

## 5. Slum Profile

This section will brief you about the existing situation of slum, broader action points and financial estimation for improvements.

The slum profile section is divided into five: a) Basic information, b) Financial recommendation, c) Access to water supply, d) Access to sanitation, e) Access to safe waste water disposal system, f) Access to solid waste management system and g) Indicators for prioritization of behaviour change and communication activities.

Figure 2 Slum Profile

Slum Improvement Action Plan				
Ward	Shahpur	Slum	Bai Parvati na jhuda	
				
<b>Total Households</b>	43	<b>Surveyed Population</b>	229	
<b>Surveyed Households</b>	43	<b>Average HH size</b>	5	
<b>Financial Recommendations</b>		₹	<b>758,560</b>	
<b>Capital Investment Required</b>				
Sr No	Proposal	Numbers	Estimated CAPEX	Source of Funding
1	Provisioning of new individual water tap connection	1	₹ 750	Household
2	Provisioning of new individual household latrine	1	₹ 12,000	SBM grant
3	Conversion of insanitary toilet to sanitary toilet	2	₹ 8,000	SBM grant
4	Provisioning of sewer connection for waste water disposal	4	₹ 8,250	Household
5	Refurbishment of Public or Community Toilet	LS	₹ -	SBM grant
6	Construction of new public toilet seats	1	₹ 98,000	SBM grant
7	Six bin hand cart for D2D waste collection	1	₹ 7,200	SBM grant
		<b>Total</b>	<b>₹ 134,200</b>	
<b>Operational Investment Required</b>				
Sr No	Proposal	Numbers	Estimated OPEX in INR	Source of Funding
3	Maintenance of Public or Community Toilet	1	₹ 480,000	ULB
4	Maintenance of Solid waste management	1	₹ 144,360	ULB
		<b>Total</b>	<b>₹ 624,360</b>	
<b>I. Access to Municipal Water Supply</b>				
		<b>HHs Having individual water tap connection</b>	42	
			98%	
		<b>Continuity of water supply (Hrs in a day)</b>	One to two hours	
		<b>Good quality of water supplied (Citizen Perception)</b>	91%	
		<b>Reason for bad quality water</b>	Not Applicable	
<b>Recommendations</b>				
I HHs should be connected with municipal water tap connection.				



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