

# **Satara Municipal Council**

## **BRIEF NOTE FOR DIALOGUE ON SOLUTIONS TO LOCAL PROBLEMS IN MUNICIPAL SOLID WASTE MANAGEMENT**

**SUBMITTED TO**

**THE URBAN INDIA REFORMS FACILITY**

**BY**

**THE RESOURCES AND LIVELIHOODS GROUP, PRAYAS,  
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# 1 BACKGROUND

India, like the other developing countries in the world, is experiencing a hyper-urban boom. Surveys carried out by various organizations related to this predict that nearly 1/3<sup>rd</sup> of India's burgeoning population would migrate to and settle down in the urban areas in the near future. This explosion exerts huge pressures on the delivery of the basic services in the urban areas, such as housing, water transport, and other basic infrastructure services. This trend already has outstripped the planned growth in capacity of many service delivery systems, which are already in a battered state.

To address this pressure of urbanization on the urban service provisioning, the Government of India started a big-budgeted scheme in the form of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in the year 2005. While a large part of the funds in JNNURM were allotted to the large cities, a separate scheme called Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) was designed for addressing the issues in the SMTs. Importantly, the JNNURM is not merely a scheme that provides funds, but it also introduced fundamental reforms in the financial and administrative governance of the state and of the local governments.

These urban reforms entail fundamental changes in the local and state level governance structures, which would cause far-reaching and irreversible impacts on the delivery of services. Restructuring also involves changes in the nature of accountability relationships between the citizens and the local governments. On one hand, reforms such as introduction of user-charges, and Private Sector Participation, indicate increasing the distance between ULBs and citizens; on the other hand, the reforms such as *Community Participation Law* and *Public Disclosure Law* offer some spaces for making local governance more transparent and accountable, provided that these spaces are offered adequately and used effectively.

Implementation of reforms requires funds at the level of ULBs, because reforms are closely linked with improving the services; such improvement being imperative at the ULB level. The overall improvement in delivery of urban services is rather a precondition for implementing the reforms. However, the allocation of funds amongst metros and small and medium towns (SMTs) show that while metros could obtain a large chunk of funds, the SMTs seemed to have not received a proportionate share. At the same time, the reforms were applicable to the SMTs as much as to the larger cities. Besides, the larger cities demonstrably possess a knowledge base and capacity of the administration that is much required for implementing the reforms. The SMTs, despite lacking this kind of knowledge base and capacity, operate under the same pressure for implementing the reforms. Similarly, extracting accountability is a great challenge which requires a knowledge-base among the civil society which is active and organized. SMTs, as in comparison with the metros also need attention in this respect. This stark difference between SMTs and Metros provided the basis for bringing the SMTs into focus under the project: "Building the foundations of Urban India Reforms Facility<sup>1</sup>".

This emphasized the need for giving a comprehensive response in terms of assessing the opportunities presented by the reforms regime, and also the threats that may entail the reforms. This involved three things: understanding the ground situation, envisaging the impact of the reforms on various sections of society (including the vulnerable sections), and facilitating discussions on local problems and the reforms. Preparation of this report, and of other such documents for the towns covered under this project, is a small beginning towards building such a relevant knowledge base for deliberations on the reforms.

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<sup>1</sup> For further information on the UIRF, please refer to the base note compendium here: <http://tiss-uirf.org/downloads/bc.pdf>

The outputs of this study in the selected SMTs encompass two types of documents, viz. the Town Level Background Note (TLBN), and The Brief Note For Discussion on Solutions to Local Problems. The TLBN, as the name suggests, attempts to build a background to the study of the town and the ULB. It is attempted by considering the development of the town as it is seen today, its social, economic and demographic fabric, and the other issues and the aspects of the development of the town. The TLBNs are available separately.

The other output of the study is this report; the note on discussion for solution to local problems. This report is prepared based on the information obtained from a number of sources. A number of site visits were carried out by the note preparation team. These visits included interaction with all categories of the stakeholders of the system, in order to build a multi-dimensional picture of the sector under consideration. The other sources of information were: interaction with the ground level community, interviews with key informants, interviews with the municipal officials, and collection of data from the components of the system of provisioning of basic municipal services<sup>2</sup>.

This note does not intend to provide a one-stop or definitive solution to the problems in the town; however, the stakeholders of the basic municipal service provisioning expect efforts towards solving their problems. Keeping this in perspective, this report is titled and attempts to support a multi-stakeholder discussion towards solving the problems. The analytical framework of this report deals with the status of municipal service delivery, comprising problems, the symptoms of issues causing them, the desired results to address them, and the indicative approach to practicable solutions to them, through a multi-stakeholder dialogue (MSD).

This note for Satara, thus elaborates these aspects of the municipal service delivery in the town. It has been structured in analytically interlinked sections as follows:

- Phase 1: Problem articulation – this section focuses on the sector of municipal service delivery being studied. Identification of the problems being faced by various stakeholders of the sector, along with the details of those such as the extent and impacts etc. are also included here.
- Phase 2: Problem diagnosis and causal analysis – the causal analysis of the problems is presented in this section. It involves identification, detailing and systematic organization of the causes of the problems. As mentioned before, the causes of the problems would be identified based on citizen interaction, key informant interviews, and interviews with the system officials.
- Phase 3: Prescription – An indicative summary of the solutions that could possibly work in the context of the city are included in this phase. While it is only indicative, the purpose of this section is to broadly attempt to envisage the actions to be taken by various stakeholders, in order to alleviate the sector-specific problems plaguing the citizens. A set of points that is envisaged to form the discussion agenda for a multi-stakeholder dialogue (MSD) is included in this section of the report.

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<sup>2</sup> For further information on the methodology used for preparation of this report, please refer to the Tools-and-Resources Kit (TRK) here: <http://tiss-uirf.org/index.php/trk.html>

## 2 THE SWM SECTOR: SELECTION FOR STUDY AND PROBLEMS INVOLVED

Selection of a municipal service sector would be primarily done based on its inclusion in the JNNURM regime of reform and project initiatives. Another chief input to the sector selection would be the strengths and weaknesses, along with the interest areas, of the local entities carrying out the study.

For the purpose of this note, the fact that municipal solid waste management (MSWM) is emerging to be one of the most crucial issues with ever-growing population in the urban areas was considered. Moreover, the UIDSSMT scheme has made explicit provision for the MSWM sector. This means that the reforms envisaged under the JNNURM regime would be applicable to the sector and also that a part of the funds earmarked for the regime would be deployed in this sector. MSWM sector has been thus selected as a focus of this note, even though the funds from JNNURM regime do not directly flow to the sector. The need for these funds is fulfilled through a certain allocation from the central tax funds collected, to the ULBs for MSWM initiatives. This provision is made under the twelfth (and now the thirteenth) finance commission recommendations.

For a comprehensive analysis to find solutions to problems in a municipal service sector (MSS), it is important to understand the inter-linkages between the symptoms of problems in the sector, and the actual causes underlying them. Various aspects of the situation faced by the citizens can be largely classified as the symptoms of the problems, while the root causes that result in such situations are often understood upon analysis of related information.

In this chapter, the problems in the focus MSS and various details of those have been presented. The description of problems has been carried out based on two criteria – the stages in MSWM process, and the various areas of the town based on various characteristics (such as densely populated areas, newly developing areas, old city areas etc.). Such an interwoven structure of the problem description was found to be effective in portraying the information obtained.

### 2.1 Problems in the SWM sector at Satara

The following table presents a snapshot of the problems in Satara, across various SWM system components. These problems are co-presented with various characteristics of the areas of the city, such as population density, elevation etc.

Stages in MSWM	Characteristics of the wards for problem co-presentation			
	Elevation of Areas	Time of Development	Density of Population	Economic and Social status
Generation	<ul style="list-style-type: none"> <li>• Almost no segregation at source (household or shop level)</li> <li>• Very few households segregate their waste</li> </ul>			
Collection	<ul style="list-style-type: none"> <li>• Waste lying in open drains and culverts ('naalaa's), and at open spaces around community bins is a problem across many wards of different population densities, high lying &amp; low lying, old &amp; new, poor &amp; affluent areas alike.</li> <li>• Bio-medical waste is handled by a private operator, and is disposed of at a site close to the open dump</li> <li>• No separate collection mechanism exists for bulk waste producers</li> </ul>			
	Both High and Low level areas have regular day to day collection of		Even in densely populated wards with narrow spaces within houses, door-to-door collection of waste is	<ul style="list-style-type: none"> <li>• The slum-like and illegally inhabited areas of the city do not have any effective waste collection mechanism. This results in the household waste</li> </ul>

Stages in MSWM	Characteristics of the wards for problem co-presentation			
	Elevation of Areas	Time of Development	Density of Population	Economic and Social status
	solid waste.		undertaken through baskets and small trolleys	from such areas being dumped at open places and in drains and culverts. <ul style="list-style-type: none"> <li>Sweeping of public places is not carried out properly, resulting in littered roads, especially in the economically backward areas. Some of such areas even do not have any mechanism for collecting the household solid waste.</li> </ul>
Transportation	Transportation to the dumping site is undertaken through <i>ghanta gadi</i> .			
Treatment	The untreated waste of the city burns at the open dumpyard, on the Kaas road, emanating immense amounts of polluting gases and foul smell.			
Recycling	No organized or collective efforts are carried out for waste recycling.			
Disposal	<ul style="list-style-type: none"> <li>There is no sanitary landfill, the waste is dumped in the open at the dumpsite and is burned at dumping site.</li> </ul>			

**Table 1 Snapshot of Various Problems in Satara's SWM Sector**

Collection related problems were observed to form a large part of the problems visible within the municipal limits in Satara.





The following sections elaborate the various aspects of the problems, such as their extent, effects on the citizens and interlinkages with other municipal services.

## **2.2 Details of the problems being faced by the citizens**

The following sections elaborate, based on various factors, the details of the problems observed in the SWM sector of Satara.

### **2.2.1 Geographical extent and patterns**

A random pattern of household waste collection related problems, cutting across all wards of the city was observed. Open dumping and dumping of waste in drains was the first major problem observed. It was reported that unidentified people dumped waste in large open drains in a number of areas, while many of the areas had families who dumped waste in the open drain and a culvert close to themselves as a regular practice. This was observed despite the much-touted ghanta gadi mechanism to collect waste on a door to door basis.





In addition, the problem of lack of public cleanliness was observed to be prominent in the market areas, and also in areas close to the municipal limits.

The problems arising due to lack of waste treatment are confined only to the area where the waste is dumped, i.e. the Songaon dump yard. Tremendous amount of smoke given out by the smoldering waste pollutes the ambient air.

It was also reported that the smoke causes visibility problems on the adjacent road.

### **2.2.2 Socio-political and economic extent of the problems**

The ghanta gadi mechanism has been devised and deployed to cover all the wards of the city to collect the household waste. However, many of the lower-class inhabitations are still not covered by that. Openly dumped waste, and waste in the nearby canal and drains is a common sight in these areas. Some households that own animals etc also were reportedly dumping waste in the areas around, despite being in the coverage area of the ghanta gadi.

A few areas, like Qureshi Galli were reported to be outside the ghanta gadi coverage area.

### **2.2.3 Effects of the problems on the citizens**

Open dumping was reported to result in breeding of mosquitoes, the most ubiquitous of all effects. Many households reported that they incur an expense of about Rs. 500 – 600 every month to combat the mosquito problem. Cases of malarial infection also occur often.

The Songaon dump yard is located adjacent to the road leading to Kaas. The smoke emanated by the smoldering waste results in reduced visibility on this road, especially at night. A number of road accidents are reported to have been occurred because of that.

### **2.2.4 How SWM problems affect other municipal services in Satara**

Dumping of waste in the drains and culverts translates to stagnant drains, further aggravating the problem of mosquito breeding. This, combined with the improper design of the drains that collect wastewater in certain parts of the drains poses a compounded threat to the health of the residents in the surrounding areas.

### **2.2.5 Coping strategies adopted by the citizens**

Frequent complaints to the MC about drains choked with garbage and about the garbage dumped in the open is the most widespread strategy adopted by the citizens of Satara. Some households arrange for



disinfection in areas close to themselves from personal kitties. This results in an expenditure incurred by the citizens.

A number of households also reported that household waste is burnt to produce smoke, in order to drive mosquitoes away. Temporary problems such as coughing are caused due to such steps taken by the citizens.

### **2.3 Actual sources of the symptoms of the problems**

The root problems underlying most of the problem symptoms elaborated in the earlier sections are as follows:

#### **2.3.1 Unattended waste in the open**

Although the *ghanta gadi* system has proven largely effective and has contributed in reducing the waste in a great proportion, the problem of open dumping and garbage dumping in the drains exists. Also, a number of areas which are densely populated, have slum like settlements and are close to the fringes of the municipal limits are not covered by the *ghanta gadi* arrangement for collecting household waste. This results in the residents dumping the household waste in drains and in open spaces.

#### **2.3.2 Absence of scientific or effective municipal waste disposal facilities**

The waste collected from all over the city has no fate except for open dumping and burning at the Songaon dump yard. This results in a slew of problems for the surrounding environment.

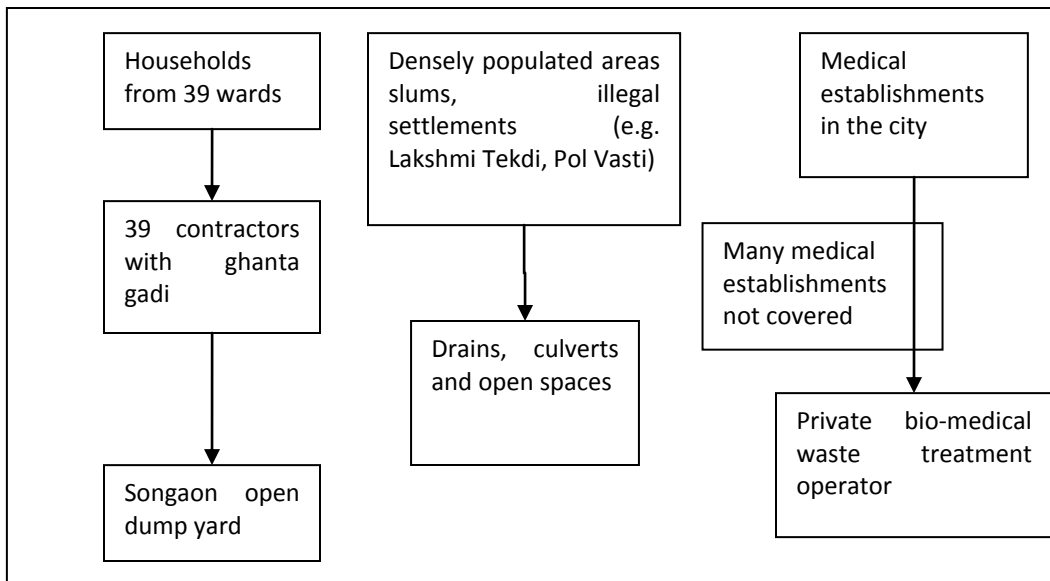
## **3 CAUSAL ANALYSIS**

This section concentrates on the analysis of the causes underlying the problems in Satara's SWM sector.

### **3.1 Current status of the SWM system in the city**

Regular collection of household waste from the doorstep of most of the city dwellers is carried out, 6 days a week.

The following figure presents in a nutshell, the system existing for handling solid waste in Satara.



**Exhibit 1 Snapshot of the System Existing for MSW Handling in Satara**

A register is maintained at the Songaon dump yard to record the number of trips made by each contracted ghanta gadi to the yard every day. Although the contracts are on a lump sum basis, recording the number of trips may be related to the payment revision, for the drivers of the ghanta gadi were reportedly making more trips than required, for each ward.

A number of un-organized workers work at the Songaon open yard, to empty the incoming waste-cars. They then pick recyclable materials such as metals, glass and certain types of paper from the waste dumped.

The bio-medical waste treatment plant, operated by a private operator by the name of M/s Nature In Need is situated right next to the open dump yard in Songaon. At the time of reporting, it was informed by the plant staff that the facility has only about 300 member establishments, while the total number of medical establishments in Satara city is 872. The charges for hospitals are Rs 4.5 per bed per day, while for other medical establishments they are Rs. 500, Rs. 200 or Rs. 150 per month, depending on the size of the establishment. The present bio-medical waste collection from the entire city is about 300 kg per day, while the capacity of the treatment plant is 800 kg per day for 8 hours of operation.

### **3.2 Causes of the problems – various aspects**

The causes underlying the problems or the symptoms faced by the citizens have a multi-fold nature.

#### **3.2.1 Social causes**

Lack of self discipline is reported as a chief cause of waste related nuisance, by both the survey respondents, and also the system staff.

#### **3.2.2 Economic and financial causes**

Most of the waste collection related problems are observed in the low income areas. The income levels of the residents are observed to be directly related to population density of the areas, and in turn the coverage of the same by the ghanta gadi.

Illegal settlements also arise chiefly from the same phenomenon. This, combined with the ward-centric nature of contracts awarded to the ghanta gadi operator, results in such areas being left out of the coverage of the ghanta gadi system.

### **3.2.3 Political aspects**

Soft corners offered by the rule enforcers to certain elements of the society yield examples where a family that owns cattle in a settlement does not utilize the services of the ghanta gadi, and instead prefers to dump all the waste generated due to their activity in the nearby drains and open spaces.

### **3.2.4 Administrative and institutional system-related aspects**

The first and foremost cause of all the waste-related problems in Satara was observed to be non-adherence to the MSW Rules, 2000. Lack of enough and motivated staff to enforce these regulations clearly manifests itself in filthy waste-choked drains, littered open spaces, and untreated and burning waste at the open dump yard.

Lack of administrative will to enforce steps necessary for complete cleanliness of the city was also observed. This was further said by the system staff to be because of insufficient staff and inadequate qualifications.

It was also observed that the department actually responsible for sanitation and solid waste management in the city, through a senior sanitary inspector, passed on the job to the Works Department through the City Engineer, merely by writing a letter to the CO of the municipal council.

A proposal for treatment of the municipal solid waste generated in Satara was presented by a private operator to the sanitation department. The proposal involved burning all the city waste to produce electricity. Financial assistance was sought from a power-specific financing corporation, which requires the detailed project report (DPR), for processing the loan proposal. There was therefore a delay in the DPR reaching the SMC for scrutiny. Also, the private operator needed a bank guarantee equal to the entire capital cost of the project from the SMC, which was said to be about Rs 4 crore.

Pledging the project for loan processing was required, which involved relatively complex tri-partite agreements to be entered by the financing corporation, the MC and the private operator. On the other hand, the capability and willingness of the staff members responsible for the issue is well portrayed by the step to transfer its responsibility to the City Engineer.

Also, since the project involved non-conventional energy source, Maharashtra Energy Development Authority also got involved in the project process. This could be aggravating the situation of delayed decision making.

## **3.3 Details of the causes – victims and vested interests**

While most of the residents in Satara are victims of inefficient waste collection mechanism, the lack of treatment of waste is direly affecting the surrounding environment. Soon, the effects of the same would be visible in terms of contaminated ground water, infertile soil in the surrounding areas and air in the areas surrounding the dump yard being totally unfit for breathing.

A general lack of willingness to act on issues, and also a wide gap in the capacity required to efficiently handle the waste management issue in Satara, are major observations about the municipal management system.

The private contractor appointed for door-to-door collection of household waste is more interested in increasing his monthly kilometer reading for the waste collection car than ensuring a clean city. What happens to the incremental benefits amassed in such a manner is known to almost everyone.

At the same time, it was also reported by the MC staff that the residents of the city did not pay heed to numerous advertisements issued by the MC, requesting them to use only the designated system for household waste disposal.

#### **4 SOLUTIONS TO THE PROBLEMS – POSSIBLE DIRECTION**

A multi-stakeholder dialogue (MSD) is envisaged to be the starting point for the discussion and to devise an action plan to resolve the problems in the SWM sector of Satara. The set of following points are suggested as the discussion agenda for such an MSD.

- ❖ A lack of awareness amongst most of the residents, and a feeling of helplessness amongst those who are aware, is a normal picture when it comes to the problems concerning Satara's municipal waste management system.
- ❖ Mass mobilization to create the necessary pressure on the MC is the underlying principle to ensure the waste management problem is handled in a better manner.
- ❖ A live example in terms of the bio-medical waste treatment plant lies right next to the problematic open dump. Although it is a business venture, the Association of Hospital Owners pursued the matter with great perseverance and patience with the MC.
- ❖ In addition, such mobilization needs to be strengthened by initiatives such as studying the impact and the cost-benefit analysis of simple measures like source segregation of waste.
- ❖ It was understood that there is a very active association of retired government engineers who assemble on a regular basis, and have an in-depth knowledge of how the administrative and governance system works.
- ❖ Given the lack of capability and therefore the willingness to take initiative in solving the city's waste problem, it would be rather essential to have support from such an external agency.
- ❖ Having a multi-stakeholder participatory discussion presided over either by the collector of Satara, or the CO of Satara MC, involving the local CSOs, the retired engineers' body, and all of the politically influential entities, to take a holistic look at the city's waste problem would certainly pave the way to crack a puzzle that appears impossible at the moment.

#### **5 CLOSURE**

The findings of this study show that different stakeholders may have different perceptions about solid waste management system in Satara. Irrespective of the different ideological positions they subscribe to, their perceptions and beliefs pertaining to the status and issues in the SWM, as well as about its causal analysis, reveal a complex picture. Importantly, many of these issues are neither in the purview of the ULB nor that any individual stakeholder is capable to handle the issues, further highlighting the need for framing policies for participatory decision making. The note is an attempt to point in the direction to provide contents for deliberations for seeking prudent first-step solutions towards better service provisioning in the solid waste management sector in the town.