

# **Junnar Municipal Council**

## **REPORT FOR DIALOGUE ON SOLUTIONS TO LOCAL PROBLEMS (RSLP) IN MUNICIPAL SOLID WASTE MANAGEMENT**

**SUBMITTED TO**

**THE URBAN INDIA REFORMS FACILITY**

**BY**

**THE RESOURCES AND LIVELIHOODS GROUP,  
PRAYAS, PUNE**



**2011**

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## ABBREVIATIONS USED

BMW	Bio-medical Waste
DPR	Detailed Project Report
GR	Grievance redress
HH	Household
JMC	Junnar Municipal Council
MC	Municipal Council/ Corporation
MSW	Municipal Solid Waste
SW	Solid Waste
SWM	Solid Waste Management
ULB	Urban Local Body

## ACKNOWLEDGEMENTS

Preparation of this report would not have been possible without the cooperation and help extended by the Urban Development Department, Government of Maharashtra, who issued a blanket letter that enabled access to various sets of information and data related to municipal service provisioning in the town.

The Urban India Reforms Facility at the Tata Institute of Social Sciences, Mumbai, supported the study that went into preparation of this report by providing access to various essential resources. Without that, the preparation would not have attained the depth it may have.

At the core of the efforts in studying the service provisioning in the town and preparation of this report, were the informants and other stakeholders of the municipal service sector in the town, who without a stint provided all the information sought for the study. A consolidated list of sources of information is included in the Annexure to this report. Heartfelt gratitude is hereby expressed for those names which may have inadvertently been excluded from the Annexure.

## 1 INTRODUCTION

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 1/3rd 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

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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>

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.

The outputs of this study in the selected SMTs encompass two types of documents, viz. the Town Level Background Note (TLBN), and The Report for Discussion on Solutions to Local Problems (RSLP). 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 RSLP. This report is prepared based on the information obtained from a number of sources. A number of site visits were carried out by the RSLP 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 report 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 analysis towards seeking solutions while supporting a multi-stakeholder discussion also includes the strengths and weaknesses of the local system (including the town as such, the ULB, the local community, the CSOs, the local academic institutions, and the other stakeholder entities), and also the opportunities and the threats posed by the impending or the under-process reform- or project- initiatives at the ULB level.

This report has been organized in analytically interlinked sections as follows:

- Problem articulation – The problems being faced by various stakeholders of the basic service provision sector, along with the details of those such as the extent, impacts etc.
- Problem diagnosis and existing situation of the system – the causal analysis of the problems is included in this section. It involves identification, detailing and systematic organization of the causes of the problems.
- Prescription – Based on the analysis of the problems and causes, and the interaction with various stakeholders of the town's municipal service sector, this section builds upon the indication to course of action possible to be taken, to solve the problems.
- Action plan – A multi-stakeholder dialogue (MSD) is proposed in this phase of the analysis, to consolidate a sort of action plan, enunciating the responsibilities of various

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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>

stakeholder entities in the town, along with the issues categorized according to their urgency or obviousness to be discussed.

The study on which this report is based, was carried out over the period of December 2009 to June 2010.

## **2 SWM SYSTEM IN JUNNAR: PROBLEMS AND DETAILS**

The problems in Junnar's MSWM sector were identified based largely on surveys in the town. These were classified according to the various stages in a general MSWM system, viz.:

1. Generation of solid waste and
  - a. Segregation of waste at source,
2. Collection,
3. Transport,
4. Treatment,
5. Recycling/ recovery, and
6. Disposal

The following sub-sections, prepared based on the various stages identified above, present details of the problems. The details of the problems include observations on any patterns in geographical spread of the problems, how the residents cope with the problems, and the effect of the problems in MSWM sector on the other sectors of municipal service provision in Junnar.

### **2.1 GENERATION AND SEGREGATION OF WASTE**

A survey in the town revealed that solid waste generation in the town is not controlled in any way. This uncontrolled generation of waste is accompanied by lack of segregation of waste at source in almost the entire town. Interestingly, the increasing generation of solid waste and the lack of segregation of waste at its source were not reported as problems at all. Commercial as well as residential solid waste of all types (compostable, recyclable, and non-recyclable) is observed to be mixed across the entire town. Since there are no direct impacts of non-segregation of waste on the stakeholders of the system in Junnar, no steps are taken by anyone to cope with these problems. However, the other stages of the MSWM system in Junnar suffer heavily because of these problems of the sector.

### **2.2 COLLECTION OF WASTE**

After the waste has been generated, collection of it is the first stage which has direct impacts on the residents of the town. Problems with collection of waste were openly and easily visible in Junnar. Waste from houses and from commercial establishments was observed to be lying unattended in the open spaces and open drains across the entire town. Drains clogged with solid waste, and foul smell from such clogged drains and waste lying in the open spaces were reported to be regular features at many places in the town. At many places the unattended waste was observed to be burning. The smoke from such burning waste was also found to be an additional component of the problems the residents face. The clogged drains were reportedly cleaned a few times, but the waste taken out from the drains reportedly fell back into the drains, clogging the drains again. Waste was also observed to be lying along the roadsides, reducing the usable area of the roads.

These problems were observed to be particularly significant in the densely populated areas of the town, such as Shukrawar Peth, Bhoi Ali, Khalilpura, Sipahi Mohalla, area next to the slaughterhouse, Panchaling Slum, and Pansumba Peth.

The waste from the town's slaughterhouse was also seen to be lying open in a pit outside the slaughterhouse. This pit gave out extremely foul odour.

A geographical pattern can be observed in extent of the problems related to waste collection. Areas represented by municipal councilors of a particular party were reportedly facing more trouble than the other areas. The trouble of foul odour and generally littered and filthy surroundings is faced by residents from all sects and classes of Junnar's population.

The filth lying around gives rise to numerous pests and vectors of diseases. The public health system in Junnar is learnt to be burdened heavily due to frequent illnesses of its residents. Most of these illnesses are reportedly caused due to the general dirtiness in the town. Many residents of the town reportedly spent a significant amount of time, money and effort to correct health problems arising out of filth.

The residents reported that they cope with the problems in collection of waste at an individual level. They themselves clean the segments of drains and roads next to their houses. At the same time, they dump waste in the open or in the drains in other parts of their locality to make up with them not availing the door to door waste collection mechanism or the lack of such mechanism. A few households reportedly stored their waste until the door to door mechanism approached them to collect the waste, for example, on holidays. Quite a few households also spent from their own funds to cover the drains close to their houses to prevent waste from getting into the drains, and to prevent the clogging of drains.

The drinking water pipes run closely along the open drains in the town. When the drains get clogged due to waste dumped, the filthy water seeps into the cracks of the drinking water pipes. Drinking this contaminated water has an additional and more severe set of effects on the residents living downstream of the crack in the pipelines. Reduction of road space due to unattended waste lying along roadsides has also jeopardized the road transport within the town.

### **2.3 TRANSPORTATION OF WASTE**

The door to door waste collection mechanism, i.e., that of the 'ghantagadi' is reported to be responsible for transportation of waste away from the town. No mechanism for transportation of waste, separate from the waste collection mechanism exists in the town. The residents did not report any problem with the transportation mechanism of waste in Junnar. That is, all the waste that is collected from the town is transported away from the town.

### **2.4 TREATMENT AND DISPOSAL OF WASTE**

The treatment and disposal components of Junnar's SWM system are dealt with in the same section because the treatment and disposal sites of Junnar's SWM system are the same, affecting the same, limited set of residents. These residents live in the 'Khore vasti' close to the dumping ground.



All the waste transported away from Junnar is deposited in this open dump at survey no. 54 in the precincts of 'Agar graam-panchayat'. The mound of untreated waste produces extremely foul smell. This place is also a breeding ground of mosquitoes and flies. The waste lies on the slope of the hill in this area. During rains, the contaminated runoff from the waste flows into the nearby fields. A number of hospitals and medical establishments were also reportedly dumping the biomedical waste from hospitals into the municipal waste stream. This waste also finds its way to the open dump.

The problem underlying all these problems or symptoms is that the treatment plant at the dump was not operational while this study was made (March 2010).

The residents of the area surrounding the dump said that they had got used to living with the smell. They have also adjusted with the contaminated water flowing into their fields. Sicknesses caused by bites of mosquitoes from the dump are a part of their life in 'Khore vasti'.

The problems associated with dumping, similar to the problems with collection of waste, are observed to burden the public health system at Junnar.

## **2.5 RECYCLING OF WASTE**

No data was available for the problems and details related to recycling of waste, except that no specific mechanism was reported to exist for recycling of waste. This is despite the legislation that requires the urban local bodies to arrange for the recycling of non-biodegradable waste.

As could be seen from this section, the problems in SWM sector at Junnar start right from the fact that the generation (including the quantity and also the composition in terms of non-biodegradable materials etc) of waste is not controlled at all, in addition to the lack of segregation of waste at source. Each of the other stages of waste management have their own set of problems faced by the citizens; the problems reported by system staff could be the causes that are perceived by the citizens to be causing the problems. On a broader level, the problems from perspective of various stakeholders represent various steps in analysis of the problems, i.e., problems and analysis of causes of the problems. This kind of arrangement points to a systemic setting, wherein some of the problems arise due to the very way the SWM system in Junnar is constructed or is functional. The following section links this aspect of the problems in the SWM system of Junnar to the existing situation of the SWM system in the town.

## **3 EXISTING SWM SYSTEM SITUATION**

Analyzing the extant SWM system situation in the town is an integral part of analyzing what the causes of the problems may be.

### **3.1 EXTENT AND EXISTENCE OF THE SWM SYSTEM IN THE TOWN**

A conspicuous inequity was observed in the service provision for MSWM across Junnar town. The following table summarizes the observations related to that inequity.

<b>No.</b>	<b>Component of</b>	<b>Service exists</b>	<b>No service exists at all</b>	<b>Total</b>
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	MSWM service provision	Number of areas	Percentage of areas of the town (frequency * 100 / total sample size)	Number of areas	Percentage of areas of the town (frequency * 100 / total sample size)	sample size (total no. of areas surveyed - the same as electoral wards)
1.	Segregation	0	0%	24	100	24
2.	Collection	23	96%	1 (Panchaling Slum)	4%	24
3.	Transportation	23	96%	1 (Panchaling Slum)	4%	24
4.	Treatment	0	0	1	100%	1 (Junnar Town)
5.	Recycling	0	0	1	100%	1 (Junnar Town)
6.	Scientific Disposal	0	0	1	100%	1 (Junnar Town)

**Table 1 Summarizing the inequity in the extant MSWM system**

The above table is based on the data obtained through citizen survey and system inspection. The residents of Panchaling Slum reported that though they are made to vote for a particular councilor candidate, there is no municipal service provision of any sort in their area.

### **3.2 MECHANISM TO REDRESS GRIEVANCES**

No data was available related to grievance redress mechanism for not only MSWM, but any of the municipal services in Junnar. Furthermore, no residents were aware of whether or not there should be a dedicated grievance redress mechanism. Additionally, even the data collection from the MC itself revealed that there is no dedicated grievance redress mechanism for SWM related grievances.

The residents reported that they try to report problems in MSWM system to the representatives of the MC (either the administration or the elected public representatives). However, this attempt is not always fruitful.

### **3.3 STAFFING AT THE SWM SYSTEM**

The entire MSWM system in Junnar was reported to be operated by the JMC, and hence no contractor related data collection was applicable. The following table summarizes the staffing involved in municipal solid waste management at Junnar. The data presented here were validated by comparing across the sources (citizens, system staff and key informants).

No.	Level of staff	Strength	Roles and functions of the staff
1.	Road sweepers	20	To sweep the entire length of 24 kms of Junnar's roads
2.	Workers on the ghantagadi for HH collection of waste	7	These workers split their time in half, working also for cleaning the gutters in Junnar. They also have to drive the fire fighting vehicle, as per the requirement
3.	Supervisor	1	The supervisor oversees the work being done by the road sweepers and the workers working on the HH collection vans (ghantagadi).
4.	Sanitary inspector	1	This staff member, apart from working as the sanitary inspector, works for provision of birth/death certificates, and also looks after sewage management in the town.
5.	Grievance redress officer	0	Not applicable
6.	Monitoring or penalizing officer	0	Not applicable
7.	Staff to monitor private participation in the sector	0	Not applicable

**Table 2 Staffing at the SW managing entity**

The situation of staffing in its SWM system can be observed to be stressful for a town of population above 29,000.

The CPHEEO (Central Public Health and Environmental Engineering Organization) has stipulated norms for road sweeping as follows:

<b>19.6.1 Norms of Work for Street Sweepers</b>		
• High density area & Markets (Population above 50000 per sq.km.)	=	250 to 350 Running Metre (RMT)
• Medium density area (Population from 10000 to 50000 per sq.km.)	=	400 to 600 RMT
• Low Density area (Population less than 10000 per sq.km.)	=	650 to 750 RMT

**Figure 1 Street sweeping norms as per CPHEEO - a snapshot**

However, the street sweeping system does not seem to have been developed based on these norms with varying work-load per sweeper as per the density of the town's areas.

### 3.4 TECHNICAL DETAILS

The data about the technical details of the system is summarized in the following table. The objective here is to compare what level of technical competence of the system is perceived by the residents, to that planned or assumed by the system officials.

No.	Aspect	Details	
		As per the residents	As per system staff
1.	No. of collection vans (ghantagadi)	No idea	5
2.	Capacity of collection van (Tons)	No idea	No data available
3.	No. of collection staff	No idea	7
4.	No of collection staff per vehicle	2 per vehicle (including the driver)	2 (rotating staff)
5.	No. of transfer stations	No idea	0
6.	No. of community bins	No idea	No data available
7.	No. of transport vans	No idea	0
8.	Capacity of each transport van	No idea	Not applicable
9.	Status of treatment plant	No idea	Half constructed, non operational

**Table 3 Technical details of Junnar's SWM system**

Clearly, most of the residents surveyed were not aware of the status of the SWM system in Junnar. Moreover, a number of critical parameters such as the capacity of transporting van, the number of community bins in the town were not even properly recorded or available to be inspected. For example, the treatment plant, well after the deadline set as per the MSW (Management and Handling) Rules, 2000, remained non-operational (at the time of this study) possibly due to a number of reasons.

The fact that many of the surveyed citizens are unaware of the town's SWM system could be translating to the unwillingness of the people to build pressure on the city administration to bring about a positive change.

Additionally, no data could be obtained about whether there were regular trainings held for the officials looking after the SWM system to keep their knowledge updated about the various issues in SWM, the technologies available and emerging, etc.

### 3.5 WORK SCHEDULE AND PRIORITY

No strict or written work scheduling or work priority exists in Junnar. The information about work scheduling presented in the following table was obtained from interviewing the system staff at the JMC.

No.	Work	Whether done on a regular basis or as needed	What decides the need to do certain work	Priority level (high/medium/ low)
1.	HH collection of waste through ghantagadi mechanism	Regular	Part of the regular schedule	High (work carried out in the first half of the day)
2.	Collection of waste from open spaces/ from clogged drains/ from overflowing community bins	As needed	The demand from any entity, arising out of scheduled programs/ needs for open spaces	High priority assigned to the work on as-needed basis, depending on whose demand it is.

**Table 4 Work scheduling at JMC's SWM department**

Since there is no separate mechanism for transportation of waste, no problems in the SWM sector of Junnar could be accounted to a mismatch between schedule of the collection and transportation systems.

However, it was reported by the residents and also the system staff that the waste taken out of the clogged drains lay on the roadside on the brinks of the open drains, waiting to be collected by the HH collection vans. This waste mostly gets back into the drains instead of being collected by the collection vans. In this sense though, the schedule of vans to collect waste taken out of the drains seems not to match with the schedule of drain cleaning.

There does not seem to be a regulated system to decide the priority of SWM related activities and scheduling in the town. It can therefore be interpreted that the scheduling and prioritization of the operation of the SWM system in Junnar may be open to personal and political pressures operating in the town, as reported by a number of sources of information.

### **3.6 WORKS COMPLETED AND EXPENSES INCURRED FOR THOSE**

This data was obtained from the budgets and expenses related sections from the Town Level Background Note, which was in turn obtained from the relevant documents obtained directly from the JMC.

The objective of this format is to assess the effectiveness of the works carried out and steps taken to prevent or solve problems in the SWM sector. At the same time, we also need to consider that with the expenditure reportedly incurred on the town's SWM system, the service delivery in some areas may have improved, while others may be suffering from a different set or different magnitude of problems. Data to delve into these details was not available within the time frame of the study carried out.

No.	Year	Works carried out	Expenses (Rs.)	Problems that were intended to be solved/ prevented thanks to the expenses	Were the problems really solved or prevented?	New problems created after the works were completed
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No.	Year	Works carried out	Expenses (Rs.)	Problems that were intended to be solved/ prevented thanks to the expenses	Were the problems really solved or prevented?	New problems created after the works were completed	
1	2006-07	Payment to workers (enables calculation of per head average salary payment)	608793	Collection related problems from all parts of the town	No	No change in the problem situation	
		Purchase and maintenance of vehicles	76137				
		Contractor payment for clearing waste	154235	General cleanliness related problems			
		Solid waste management (no details specified)	159545				
2	2007-08	Payment to workers	594067	Collection related problems from all parts of the town	No	No change in the problem situation	
		Purchase and maintenance of vehicles	224319				
		Contractor payment for clearing waste	194424	General cleanliness related problems			
		Solid waste management (no details specified)	4968				
		Purchase of vehicles (under 12 <sup>th</sup> finance commission)	1065038	Collection related problems from all parts of the town			
		Litter bins	205000				
		Compost depot	1559747	Treatment related problems, at least in part,			No solution for the treatment related
		Vermi-compost project	601285				

No.	Year	Works carried out	Expenses (Rs.)	Problems that were intended to be solved/ prevented thanks to the expenses	Were the problems really solved or prevented?	New problems created after the works were completed
				considering that the funds may have been received in tranches	problems was observed.	situation
3	2008-09	Purchase and repair of collection vehicles	201689	Collection related problems from all parts of the town	No	No change in the problem situation
		Salary of workers	640005			
		Payment to contractor for clearing waste	263800	General cleanliness related problems	No, since many parts of the town were still observed to be plagued by littering problem	No data available
		Expenses on awareness building campaigns	0			
		Sundry expenses – Solid Waste Management (no details specified)	113298	General cleanliness related problems	No, since many parts of the town were still observed to be plagued by littering problem	No data available
<b>Total expenses incurred during last 3 years</b>			6,666,350			
<b>Sweeping service in 2006-07 (as per DPR)</b>			2,945,617			
<b>Collection and transportation expenditure in 2006-07 (as per DPR)</b>			2,976,824			

No.	Year	Works carried out	Expenses (Rs.)	Problems that were intended to be solved/ prevented thanks to the expenses	Were the problems really solved or prevented?	New problems created after the works were completed
		<b>Total expenditure on SWM sector in 2005-06-07 (as per utilization certificate of JMC)</b>	4,011,332			
		<b>Total expenditure on SWM sector in 2007-08 (as per utilization certificate of JMC)</b>	956,114			
		<b>Total expenditure on SWM sector in 2008-09 (as per utilization certificate of JMC)</b>	1,544,640			

**Table 5 Summarizing and assessing the works completed in last 3 years**

As may be observed from the above table,

- a. There is no matching between the expenses reported to be made (in the year 2006-07) as per the detailed project report (DPR) on the SWM system in the town, and those reported by the JMC in its other documentation.
- b. No expenditure has been incurred on awareness building or penalization or enforcement of laws and regulations related to SWM.
- c. Despite the expenditure incurred on purchase and maintenance of the vehicles used for collection, collection related problems persist in many areas of Junnar.
- d. Despite the expenditure incurred for establishment of the treatment plant, no MSW treatment is carried out for Junnar's waste, as of March 2010 (as per personal communication with the JMC officials).
- e. Considering there is no overlap of reporting, over Rs. 1 Crore has been spent on the SWM system at Junnar. This needs to be assessed for a normative funds requirement, especially considering the amount of solid waste generated at Junnar (about 7.5 tons per day, as per the JMC's data). Comparison of normative funds requirement per unit waste generation would enable assessment of efficiency of the funds reported to be spent (as the officials informed that they were waiting for the next tranche of funds from the 13th Finance Commission recommendations).

#### **4 ANALYSIS AND DETAILING OF CAUSES OF PROBLEMS**

The analysis of causes of the problems was carried out by interviewing key informants including the municipal officials, and also informants from other sections of the society such as the cleaning workers, social activists. Focused group discussions with group from the workers were also held, to collect information.



#### 4.1 LAPSES/ GAPS IN THE DOCUMENTS OBTAINED FROM THE JMC

The 'internal compliance reports' of the ULB, prepared by the health department, contained the information presented in the following table:

Aspect	Observation from the documents
<ul style="list-style-type: none"> <li>Problems in the town identified by the health department</li> </ul>	<ul style="list-style-type: none"> <li>No specific problems, except for the lack of citizen initiative to segregate waste at source</li> </ul>
<ul style="list-style-type: none"> <li>Solutions proposed and implemented by the department</li> </ul>	<ul style="list-style-type: none"> <li>A penalty mechanism was proposed, but the implementation and enforcement of it had been indefinitely put off, according to the internal report of the health department.</li> </ul>
<ul style="list-style-type: none"> <li>Problems that still remain unsolved as observed in reality</li> </ul>	<ul style="list-style-type: none"> <li>Despite the general measures taken by the JMC to clean waste on a contract basis, all the problems in the SWM sector largely remain unsolved.</li> </ul>

**Table 6 Observations from the internal compliance report of the health department**

We see that the internal reporting mechanism hardly cuts to the heart of the problem. The reality remains at the fact that the lack of a functional treatment mechanism is apparently the reason for lack of segregation enforcement and penal mechanism. Also, according to the status of the system summarized earlier, there is no monitoring or grievance redress mechanism dedicated to the SWM sector in Junnar. This is also perceived to be the reason for the problems not being solved.

#### 4.2 PROBLEM CAUSES AND THEIR DETAILS

Information on the causes of the problems, and the details of the causes was collected from various sources. Collection of information on causes from various sources enabled validation of the information.

Since Junnar town is not observed to have a separate waste transportation mechanism, the analysis of transportation mechanism is clubbed with the collection component of the SWM system. Also, since the treatment and disposal of waste is not handled separately at Junnar, the analysis of treatment and disposal is also combined.

It may be noted here that the causes of problems reported here in the report are based on surveys carried out in the town to elicit opinions largely from the citizens of the town, and also from the municipal officials based on their readiness to divulge information related to the problems in the town's SWM system.

##### 4.2.1 Causes of problems in waste generation and segregation

A large proportion of the citizens surveyed were unaware of the significance and importance of reduction and segregation of waste at source. Lethargy/ lack of will/ incapability of the city administration were cited as the reasons for this problem. On the other hand, the city administration reported that the citizens do not co-operate the efforts from the city management to ensure source segregation of waste; this was further aggravated by lack of staff to support such activity of the ULB. Additionally, a few key informants pointed out that the city administration may not be trying hard enough to spread awareness about segregation of waste at source, nor about the law that mandates

all waste generators to segregate waste at source. Even the Maharashtra Non-biodegradable Garbage (Control) Act of 2006 mandates source segregation of waste.

However, actually in the town, the citizens seem to be unable to judge the impacts of uncontrolled generation of waste and non-segregation of waste on the overall SWM system. The sense of citizens for ownership of the problems arising due to uncontrolled generation and non-segregation of waste needs to be built through extensive campaign for generating awareness.

#### **4.2.2 Causes of problems in waste collection and transportation**

A number of citizens reported that the collection staff do not go up to the doorstep of the households to collect waste from them. It was also reported that in case the citizens were expected to carry their waste up to the point of collection, the collection staff were expected to wait longer for the citizens to get their waste from the houses. Since this matching was not happening, some of the waste fails to be collected by the collection staff. This problem is reportedly further aggravated by a number of areas impossible to be covered by the door-to-door waste collection mechanism that employs a vehicle of certain size. Even the scheduling of this van was reported to not be matching with that of cleaning the roads. This resulted in much waste collected by sweeping the roads to lie waiting for the collection van. The citizens also reported that even though problems persisted in their areas, very few citizens registered grievance with the JMC. Citizens from areas just outside the limits of the JMC administration reported that the JMC did not take cognizance of the problems in those areas at all (e.g., from Panchaling Slum Area).

A few citizens also reported that the waste from hospitals and other medical establishments in the town is mixed with the municipal waste stream in the town.

A number of sources of information said that certain political parties were attempting to get mileage out of hindering activities related to collection of waste from certain electoral wards of the town.

The JMC officials responded to these causes cited by the other sources of information saying that many citizens do not adhere to the schedule of the vans collecting waste from households. Citizens also reportedly have an intolerant attitude towards some of the inevitable mismatch of time for the van to collect waste from a few households. The officials also said that the citizens do not segregate their waste at the source despite publication of notices and information by the JMC requiring the citizens to segregate their waste. According to the JMC officials and staff operating the waste collection mechanism, the citizens: a) are rude and inconsiderate towards the employees collecting waste; b) many times dispose 'unacceptable sanitary waste' in the domestic waste stream; and c) through their increasing population pose a load that the town's SWM system cannot handle.

The officials from JMC also reported that the new staffing pattern has resulted in decrease in the staff at the JMC while the population of the town is continuously increasing. The SWM system of the town is therefore unable to cope with the increasing pressure.

It was also understood from a number of sources of information that politically influential entities altered the schedule of cleaning work across the city to adjust to their 'urgent needs'. On the social front, it was reported that only individuals from a certain social class or community are ready to work in the waste collection sector. This makes recruitment for the

task more difficult and the waste collection mechanism thus suffers. Even after recruitment, the workers in the SWM department wish to be transferred to other departments such as water supply. This is reportedly due to the fact that many workers in the SWM department are recruited based on the principle of 'compassion', meaning that many well educated unemployed individuals end up being recruited for the SWM department. This deters them from working in the SWM department. They therefore draw salary from the SWM department but attempt to be transferred to other departments and often succeed in doing so. Additionally, it was said that the expectations of these employees towards their payment are not met by the payments made by the JMC. This forces them to resort to various forms of borrowing money, which in turn requires them to take up additional work. This additional work either clashes with or disturbs the regular work of the SWM employees.

It was also observed that no system existed for encouraging the workers if they performed well. Some of the workers also reported that the safety equipment were not provided to them according to the requirements of the heavy work, resulting in limitations and reduced efficiency in carrying out their task of waste handling.

Some of the informants also reported that the development control regulations set by the development plan were not strictly adhered to, resulting in obstructions and hindrances in effective and efficient operation of the waste management system in Junnar. They also reported that the planning of the SWM system in the town did not elicit opinions and suggestions from the citizens for whom it is supposed to be planned. Another complex point raised by some of the informants was that many citizens of the town reportedly bought weak animals from the animal market at Junnar. These weak animals are then set free to go about the town and feed. These animals rummage the waste lying about in the town, aggravating the problems of waste in the town. The ultimate interest of these citizens is to have the animals feed for free and become stronger so that they can either be butchered or be sold for a profit. Additionally, it was also reported that reduction in the staff at JMC for SWM has opened up more requirements for appointment of private contractors, thereby also resulting in more possibilities of misappropriation of funds. The JMC overall is reportedly either reluctant or incapable to recognize the long term and strong benefits of effective SWM in the town. Another socially significant phenomenon pointed out by some of the key informants was that Junnar being a small town, those who raise voice against malpractices or inefficiencies in the system can easily be identified. Such identification of results in the possibility of them being oppressed or harassed. This stems reportedly from a politically significant point that the JMC is regarded as a tool to strengthen party politics for the Legislative Assembly. Most of the functions of the JMC are reportedly interfered in by the members of the legislative assembly who belong to the local constituencies. A deep rooted cause or a malady for these problems was reportedly the rigging of elections by the candidates, that reduces the accountability of the elected representatives to the voters.

A study of the documents obtained from the JMC also revealed that despite the very different kinds of settlements across the town (dense, sparse, low-rise and high-rise), the collection mechanism does not take special cognizance of this fact to have technical details matching the needs of the various areas of waste collection.

### **4.2.3 Causes of problems in waste treatment and disposal**

According to the JMC officials, the waste treatment plant constructed for Junnar does not receive amount of waste enough to operate efficiently and viably. Non-segregation of waste at source was cited as one of the reasons for this. The JMC officials also cited delays in approvals of documents and other plans from the state level as the reason for non-operational MSW treatment plant (as of December 2009). Also, the system to separately handle the bio-medical waste of Junnar town was reportedly in the planning stage.

Key informants informed that a public pressure to positively influence the functioning of the JMC is absent in the town, due to various reasons mentioned in the earlier sub-section. This results especially in the problems related to treatment of waste. Additionally, lack of strong industrial or economic development reportedly hinders development of strong financial support to the town, making the JMC excessively dependent on grants from the government. This condition is in turn reported to have arisen due to lack of a direct connection to Mumbai (through lack of 'Darya Ghaat' road) and also an isolation of 16km from the Pune-Nashik highway. Lack of industrial development is also said to be engendered by the location of an extremely sensitive radio-telescope close to Junnar that cannot withstand vibrations. Another reason for the financial difficulties for JMC cited by a number of informants was that the JMC has to pay sizeable installments towards repaying the loans from various agencies such as those taken under UD-6, and from LIC.

From the documents related to treatment of MSW in Junnar (chiefly the DPR of the scheme for treatment), it appears that a more thorough study of the on-ground situation of Junnar's MSW-related problems could have yielded a better and a more effective design of the MSW treatment system for the town.

### **4.2.4 Responsible agents and their interests in perpetrating the causes of the problems**

All in all, summarily, the agents responsible for many problems related to waste collection were observed to be: 1. Citizens, 2. Politicians, 3. Interfering powerful citizens, 4. Workers in the system, 5. The administration at the JMC, 6. Administration and elected representatives at the JMC — each of these stakeholders were reported to be at some fault or the other, by the rest of the stakeholders.

The various interests that prompted errant behaviour by these stakeholders were reported to be: 1. Ignorance, incapability and unwillingness of the citizens and of the administration, 2. Insensitive attitude of the citizens towards regular duties of the collection staff, 3. Increasing need of the workers for money, and 4. Corruption.

Additionally, it was reported that monitoring and enforcement of the MSW (Management and Handling) Rules, 2000 is reportedly lax, resulting in non-compliance of JMC with the rules.

### 4.3 ORGANIZATION AND ASSESSMENT OF CAUSES – THE CAUSAL TREE

Following diagram captures in brief the problems of Junnar's MSWM system and their causes. The objective here is to try to present a coherent picture of how intricately interrelated aspects of the town's SWM system may be responsible in giving rise to the various problems in the town. One observation here may be that to a large extent, weak or incapable administration of the city may be responsible for a number of shortcomings and problems in the SWM system; however, perceiving the system as depicted in the tree below may also enable identification of other spaces of intervention to improve the condition of SWM system in the town. E.g., making a self-initiated decision to segregate the waste at source may be useful in breaking the vicious cycle in the system.

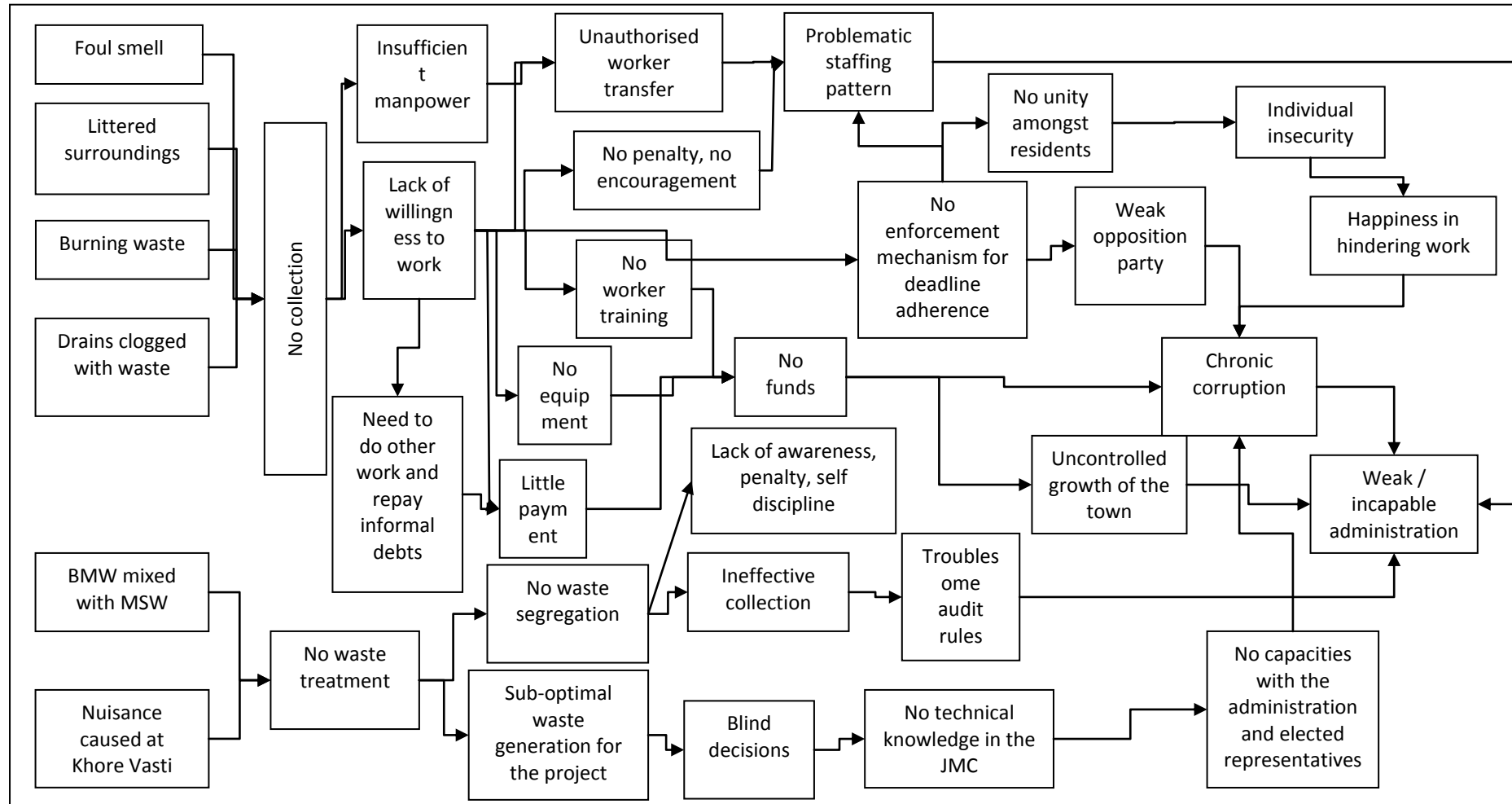


Figure 2 The causal tree for MSWM in Junnar

## 5 SOLVING THE PROBLEMS—POSSIBLE DIRECTION

This report aims to consolidate and effectively use the views of various stakeholders of the sector, and attempts to devise a direction for the efforts to solve the problems. The following sections bring this out step by step.

### 5.1 RESULTS DESIRED TO ERADICATE CAUSES OF PROBLEMS

The following table collates all the options perceived as possible by various respondents, for solving the problems of the SWM sector in Junnar.

No.	Root Cause(s) reported	Desired results to eradicate the cause			
		As per residents	As per workers	As per key informants	As per other system staff
1	Corruption and lack of willingness to work, political influence on the work	Strong steps against corruption	Ensuring sufficient payment to workers, encouraging workers to perform better	Public participation and increased system accountability	Imposing user charges to ensure financial viability of the system
2	Insufficient manpower	Hiring more staff		Revision of the staffing pattern according to the real needs of the town	Contract management in a better way (e.g., holding regular meetings of citizens to monitor the contractor's work) to ensure work is done
3	Lack of funds	No opinion		Improving Junnar's standing in the trade scene, by constructing the 'Darya Ghaat' that would improve the connection of Junnar with Mumbai	Speedy approvals and processing at the state and central level to speed up the funds release
4	Lack of administrative capabilities to	No opinion		Ensuring only capable staff and peoples'	Training and capacity building of the staff and

No.	Root Cause(s)	Desired results to eradicate the cause		
	handle work technically and managerially		representatives constitute the JMC	other members of the JMC
5	No citizen unity	No opinion	Keeping out the political and personal interests of antisocial elements who try to sabotage social unification	No opinion
6	Lack of appropriate treatment of MSW and BMW		1. Clear initiative needs to be taken by the medical establishments in the town to treat their waste properly 2. The next tranche of Finance Commission funds should be obtained quickly to facilitate the MSW treatment project establishment.	

Table 7 Solutions possible to eradicate the causes to problems

## 5.2 ASSESSMENT OF OPTIONS AVAILABLE TO ACHIEVE THE DESIRED RESULTS

There are a number of desired results, that could be achieved with a definite set of multiple options. The following table collates that set of options for achieving the desired results. This exercise is based on the collection of data and information from the town of Junnar, and encompasses various views obtained during this data collection exercise.

Desired results to solve the problems of Junnar's SWM sector	Options for achieving the results
Financial strengthening of the JMC	Improving property tax as a revenue source
	Implementing user charges mechanism for the SWM system
Improvement of the solid waste collection efficiency in Junnar town through increased manpower	Private participation in the collection mechanism
	Community based organizations participating in the collection mechanism
Ensuring proper treatment of the MSW and establishment of a separate BMW treatment, collection and transportation facility	Wait for the next tranche of the government grant to aid the plant establishment for both, MSW and BMW
	Establishing distributed waste handling mechanism (small composting pits, regulated and monitored BMW management facilities with the medical establishments) to reduce the burden on the town's waste management system
Having adequately capable staff and office bearers in the JMC to manage the town	Contracting out the management tasks
	Building capacity of the existing staff and office bearers

Ensuring public participation to reduce corruption	Awareness building by the JMC
	Contracting out the awareness building task to either corporate or CBO entities
Having strict regulations and monitoring mechanism implemented to ensure minimal deviation from the prescribed norms for waste treatment	Establishment of a separate waste management regulatory cell by the JMC
	Hiring new staff with clear responsibility of monitoring and regulation of the waste management mechanism in the town

**Table 8 Consolidation of options possible to achieve desired results**

### 5.3 ANALYSIS OF STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

This section, in brief, aims to identify the challenges for effective SWM in Junnar, through analysis of:

- Strengths and weaknesses of the town as a ULB to be able to implement and carry out the solutions proposed or underway, and
- Opportunities and threats presented by the project-based and reform-based solutions implemented/ forthcoming.

#### 5.3.1 Strengths and weaknesses in terms of adopting the solutions

Keeping in perspective the solutions from the previous section, the following table attempts to assess the strengths and weaknesses of the ULB.

Aspect	Strengths		Weaknesses	
	Of the town or the JMC	Of the local academic institution	Of the town or the JMC	Of the local academic institution
Geographical	<ol style="list-style-type: none"> <li>1. Picturesque location, highly liveable conditions that may invite large community base</li> <li>2. 2ha. 17are land readily available for waste treatment plant</li> </ol>	No data	Seclusion from the highway or the nearby strong development centres	
Social	<ol style="list-style-type: none"> <li>1. Relatively less dense population as compared to a number of other C class MCs</li> <li>2. Quick grasp of social problems amongst the community</li> </ol>	Large human resource base in the form of students available	<ol style="list-style-type: none"> <li>1. Peace-loving and non-agitated citizens, largely due to retired and second home population settling in Junnar</li> <li>2. Due to Junnar being a small town, the individuals involved in bringing about a change can be easily identified and thwarted the ways of.</li> </ol>	Considerable part of the student base may hail from outside Junnar, thereby isolated from Junnar's problems
Political	Direct connection of local political scenario with the state level political scene	No data	Many of the peoples' representatives have alternate base in nearby big cities, isolating them from Junnar's problems	Usage of the educational institution to further political and personal interests



Aspect	Strengths		Weaknesses	
Financial	No data	No data	Lack of large or sustainable commercial or economic activity that generates revenues for the JMC	No data
Administrative	Centralized working	No data	Lack of willingness to improve or perform better	No data
Technical	Little or no industrial or hazardous waste due to lack of heavy industrialization	No data	Proximity to the scientifically sensitive establishment at Arvi, Narayangaon	No data

**Table 9 Strengths and weaknesses of local entities**

It was observed by the study team that there is no presence of community based organizations (CBOs) in Junnar who actively and continuously engage in the betterment of the town. The strengths and weaknesses analysis hence only focuses on the significant entities, viz. the JMC and the college situated in the town.

### **5.3.2 Opportunities and threats from the reform initiatives**

The following table details the opportunities or threats posed by the reforms initiatives, for Junnar's SWM sector.

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
<p>1. Issue of Bonds by the ULB for raising funds</p>	<p>1. Raising funds from the market could act as an additional source of funds for the JMC.</p> <p>2. Due to the inherent financial nature of fixed returns being payable on bonds, the funds raised through bonds carry an increased level of accountability to the stakeholders.</p>	<p>1. Considering the overall relative lack of commercial and economic activity in Junnar, the bonds issued by the JMC are likely to elicit a weak response. This is further aggravated by the fact that a former council member of the JMC has been arrested for the bankruptcy of his financial institution. This, combined with the overall economic standing of the council raises serious concerns about the credibility of the council.</p> <p>2. The obligation to provide fixed returns on the bonds may result in a compulsive user charge mechanism to recover the O&amp;M costs of the projects implemented by the ULB.</p>	<p>Building capacity of the ULB officials and staff to handle the required work for this</p>	<p>Building through transparent and accountable working of the council, an image of a credible institution which could in the future go for issuance of bonds.</p>
<p>2. Reforms introducing other sources of funds (Property Tax, User Charges for O&amp;M cost recovery, and Rationalized Stamp Duty)</p>	<p>1. Considering the expanding residential property market in Junnar by the second-home and pensioners' investments, there could already be a tendency to not evade property taxes. However, the rationalization of property tax (PT) may reduce cases of property tax payment</p>	<p>linking of property tax with locality may raise issues related to equity of service provision in particular areas. For example, the level of basic service provision such as SWM, water supply or sewage should ideally be uniform across all areas of a city; however, the difference in PT payments made by</p>	<p>1. Ensuring willingness of the staff and other mechanism to rationalize the system</p> <p>2. Establishing a mechanism to prevent the 'social bullies' from evading property tax payments.</p>	<p>Direct inclusion of high end technology (such as GIS) in property tax mechanism may mean upping the tax for many payers, necessitating a</p>

<b>Reforms</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Prerequisites to ensure opportunities</b>	<b>Steps to mitigate the threats</b>
	<p>evasion.</p> <p>2. Establishment of accountability of the ULB to the residents through a clear relation between user charges and SWM system provision may boost revenues. A well regulated user charges mechanism is a key, though.</p>	<p>residents of different localities may result (informally at the political level in the ULB) in differences between the level of service provision across different areas.</p>		<p>mechanism to ensure equity in property tax charging.</p>
<p>3. Introduction of Double Entry (Accrual Based) Financial System</p>	<p>This reform may be utilized by the JMC to start building the image of a credible and transparent institution.</p>	<p>Strong opposition is possible from the corrupt entities who do not want this transparency to be ingrained in the working of the JMC.</p>	<p>1. Incorporation of this may require a higher level of knowledge of accounting as a field.</p>	<p>1. Establishment of a strong public disclosure and public participatory mechanism to curb the anti-transparency forces would be required.</p>
<p>4. Introduction of Internal Earmarking of funds for providing basic services to urban poor</p>	<p>Extension of the SWM service to the poor, inhabiting the town area, and also to those at the fringes of the towns could be achieved by incorporation of this reform.</p>	<p>Issues related to funds prioritization, arising from the weak financial condition of the JMC may arise, to decide the priorities of the services provided.</p>	<p>Capacity building, and creating willingness amongst the staff to perform better for public good are essential to convince the administration the need to implement this reform.</p>	<p>A clear transparent and participatory mechanism to prioritize the service provision to the poor, with ensured significant participation from all the stakeholders, needs to be established.</p>

<b>Reforms</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Prerequisites to ensure opportunities</b>	<b>Steps to mitigate the threats</b>
5. Encouraging Public-Private Partnerships (PPPs)	Junnar already has a history of private participation in waste management through contingent engagement of private parties in waste management, and through the ongoing initiative to establish the treatment plant for Junnar's waste. This could be used as a learning platform to manage the future private participation in Junnar's waste management sector.	1. Commercialization through privatization of municipal services such as SWM, may put burden of user charges on the users. 2. The private operator needs to be carefully assigned responsibilities to, to avoid situations where the operator does not provide services to areas that do not generate enough profits.	Capacity building of the JMC staff and office bearers to learn lessons from the past experience and use those in the future.	Well regulated user charge mechanism to ensure equity, along with a participatory mechanism to decide responsibility allocation to the private operator needs to be devised and implemented.
6. 74th Constitutional Amendment Act	Among other things, the ULB has been made totally responsible for SWM services by this act. This may result in a direct accountability of the locally selected government body to its residents, for service provision.	Social bullies and corrupt entities have been misusing the financial powers bestowed upon the ULBs, to their personal or political interests. This may continue in the future of new initiatives.	Awareness and capacity building of the community as well as the ULB staff	Ensuring transparency and participation in the functioning of the JMC is a vital aspect to ward off the threats posed.
7. Community Participation Law	1. Better decision making (e.g. what kind of systems will perform better for particular areas) has been made possible through direct community participation, vis-à-vis the current closed-doors system. 2. Through participation and inviting comments from the		1. Ensuring the information reaches all stakeholders of the system by active steps taken by the JMC is an essential step. 2. Capacity and awareness building of citizens and JMC staff members alike	

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
	<p>community stakeholders, the equity principle may find more space in the decision making process.</p> <p>3. Through community participation in decision making, the self accountability of the citizenry may be enhanced. (For example, if a decision is made to enforce source segregation of waste, if residents are a part of the decision made, they are more likely to comply) This may result in better system operation.</p>			
8. Public Disclosure Law	<p>1. Establishing Public Consumption Standards is a part of the steps to be taken for this reform. Such standards may be extended to the SWM system, translating possibly to the upper limit on how much waste could be generated.</p> <p>2. Increased accountability towards public through regular voluntary disclosure of information by the relevant governing bodies would help mitigate the helplessness</p>	In a small place like Junnar, this may not be effective given the feeling of insecurity amongst the active members of the society		Building a strong unified base to ensure no insecurity is involved in the public participation mechanism

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
	<p>expressed by the citizenry, towards the decision making framework, and the corruption giving rise to service failures, including those of SWM system.</p> <p>3. Key and far-reaching decisions such as the site of the SW treatment plant, collection mechanism to be implemented could be invited public opinion on, through information disclosure. This may result in avoiding delays arising out of improper planning and grievance redress in the relevant conditions.</p>			
<p>9. City Planning as a function of the ULB</p>	<p>1. Advance planning for a suitable system of SWM, and the development control regulations required for that as part of the city planning, may address the inequity- and inefficiency- related problems.</p>	<p>In Junnar, it was reported that there is a strong nexus of the city management with the prominent developer in the city. Such nexus formation may result in flouting of the rules and regulations, posing a threat to the proper functioning of</p>	<p>Capacity building of the ULB officials is an essential aspect of this</p>	<p>Nexus formation and corruption are maladies that need long term action through participation and transparency</p>

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
		<p>the SWM system. For example, it was reported that a number of buildings have been constructed with incorrect setbacks, causing hindrances to the collection vans plying in the area.</p>		<p>building.</p>
<p>10. Introduction of E-governance (GIS/MIS)</p>	<p>1. Enabling remote grievance registration without personal contact, vis-à-vis the current situation where residents hesitate/ are unable to visit the ULB themselves, may improve the resident feedback mechanism.</p> <p>2. Better monitoring of systems by higher-ups in the hierarchy may be possible.</p>	<p>Such a reform may translate in abolition of mechanism for grievance registration in person, thereby alienating the residents who do not have access to communication modes such as the internet.</p> <p>In Junnar, this is likely to be the case with many residents. Additionally, there is a significant amount of floating population in Junnar that may not be able to use the governance mechanisms established in the town.</p>	<p>Ensuring proper via-media are established to enable all the community components to be able to use such e-governance related aspects.</p>	<p>Widespread installation of the infrastructure required to implement the reform.</p> <p>Also, consideration of the fact that there is a significant amount of floating population needs to be incorporated in the implementation of the reform. A workable solution could be devised based on the multi stakeholder dialogue.</p>
<p>11. Ensuring delivery of basic services</p>	<p>1. Ensuring SWM will also be covered as a basic service, and this may mean ensuring</p>		<p>Capacity building of the ULB staff and officials</p>	

<b>Reforms</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Prerequisites to ensure opportunities</b>	<b>Steps to mitigate the threats</b>
	accountability through service provision to all residents, and also through a well functioning grievance redress mechanism, by the ULB.			
12. Structural Reforms	1. Creation of cadres for class 2 and class 3 staff may address problems arising out of locally vested interests of staff such as those of health inspector, head of the health department, sanitary inspector etc.	Inclusion of staff from places away from Junnar may result in such staff members not having a real feel of the problems in the town	Building willingness and capacity to handle change and also to be able to appreciate the need for such an initiative	Awareness building and sensitization of the staff who belong to places other than Junnar
13. Administrative reforms	1. Overall improvements in transparency and accountability may be achieved, possibly contributing to effective services provision.		Creating a willingness amongst the staff and office bearers in the Junnar MC to ensure the reforms actually achieve what they are designed to achieve.	
14. Repeal of Urban Land Ceiling Act	No direct relevance			
15. Reforming rent control laws	No direct relevance			
16. Building by laws to streamline construction approval process	No direct relevance			
17. N.A. simplification	No direct relevance			
18. 25% earmarking	1. Earmarking of land for housing		Creating awareness to ensure	



<b>Reforms</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Prerequisites to ensure opportunities</b>	<b>Steps to mitigate the threats</b>
of land for poor for housing (LIG/MIG)	of economically weaker sections may ensure identification of poor settlements, thereby possibly translating to avoidance of exclusion of such areas from SWM provision.		public participation and building of pressure on the city administration to ensure the implementation of the initiative	
19. Computerization of registration of land and property	1. A possibly simplified property registration mechanism through remote systems may ensure property identification, further resulting in avoidance of unregistered properties, improving tax collection and the overall financial health of the ULB.		Capacity and awareness building	
20. Property title certification system	No direct relevance			
21. Security of tenure	1. Illegal settlements, especially of the economically weaker sections, may be avoided as a result of this reform. Ensuring SWM service provision to those may thus be achieved.		Capacity and awareness building	
22. Bylaws for wastewater recycling	1. An improved drain management is an implicit prerequisite for this reform. Such improvement may aid the SWM service provision, through		Build administrative capabilities to be able to appreciate the technical linkages between the drain systems and SWM systems.	

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
	avoidance of dumping of waste in drains.			
23. bylaws for rainwater harvesting	No direct relevance			

**Table 10 Feasibility Analysis of Reforms for the JMC (In prevailing conditions)**

### 5.3.3 Opportunities and threats from the new staffing pattern

As part of the structural and administrative reforms, the staffing at JMC also has been altered. The following table summarizes its contents and also the impacts possible on Junnar's SWM sector. It may be noted that although most of the posts mentioned as per the staffing pattern are filled, the staffing at the JMC is reportedly always plagued by frequent absenteeism at especially at the level of the workers.

No.	Position / Post	No. of permanent Posts	No. of temporary Posts	Component of the SWM system that will be affected due to such staffing (segregation/ collection/ transportation/ treatment/ recycling/ disposal) policy
1.	Sanitary inspectors	1 (class 3)		A single sanitary inspector handles the SWM related work in Junnar, and it was also reported that the same staff member is also responsible for issue of domicile certificates, birth/ death certificates etc. additional responsibilities.
2.	Health officers	Not mentioned		
3.	Head of the health department	Not mentioned		
4.	Supervisors	1 (class 4)		Currently there were reported to be two supervisors. The work monitoring was still reported to need more staff.
5.	Workers (total)	25 (class 4)	3 (class 4)	It is not mentioned if this staff number is inclusive of the staff needed to sweep the roads or is limited to the staff required for the collection of waste.  It was reported that the collection of waste in Junnar is heavily affected due to overburdened staff.
6.	Street sweepers	Not mentioned		
7.	Drivers	Not mentioned for SWM sector		Collection and transportation of waste are sensitive to recruitment of drivers for the vans.

No.	Position / Post	No. of permanent Posts	No. of temporary Posts	Component of the SWM system that will be affected due to such staffing (segregation/ collection/ transportation/ treatment/ recycling/ disposal) policy
8.	Other staff related to SWM system	No mention		

Table 11 Effects of the staffing pattern in Junnar on the SWM sector

### 5.3.4 Opportunities and threats from on-going and proposed initiatives – the project DPR

The Ministry of Urban Development, issued guidelines as to what should be contained in a project DPR, for solid waste management. The following table summarizes a comparison of the DPR for Junnar's SWM project, with these guidelines, to identify the standing of the DPR.

The objective of this exercise is to enable issues to be raised about the following points:

1. Effective and efficient utilization of funds invested in preparation of the DPR;
2. Feasibility and applicability of measures suggested in the DPR to the on-ground situation in the town;
3. The measures taken for improvement in the town's SWM system need to be owned by the town's citizens, because otherwise the system may not function effectively, as observed in the case of mismatch between the measures for collection and treatment of waste.

Importance of the component	If the DPR contains the relevant aspects, what are the steps required to ensure their effectiveness?	If not <sup>‡</sup> , steps needed to compensate for such shortcoming of the DPR
<b>Components specified from CPHEEO manual and JNNURM Guidelines</b>		
Population projections of the city over the project life period		
The amount of waste generated and hence the project capacity required depends directly on this	The area-wise pattern of population growth also needs to be forecasted, to ensure proper waste collection.  In Junnar's case, the statement and estimates of the DPR contain those for YAWAL council. (Table 1 in the annexure of the DPR)	
Present condition of the city, population and area covered by the existing SWM system		
The applicability of modifications/improvements suggested in the DPR would be based on this.	The on-ground situation needs to reflect clearly in the report, such as the 1200 m length of road sweeping assigned to each road cleaning worker.	
Justification/ need for the proposed SWM project		
Principle of accountability towards the stakeholders of the project is reflected in this component	The options for enforcement of the mechanisms proposed also need to be worked out by the	

<sup>‡</sup> The document by the title of DPR with the study team does not contain this information

Importance of the component	If the DPR contains the relevant aspects, what are the steps required to ensure their effectiveness?	If not <sup>†</sup> , steps needed to compensate for such shortcoming of the DPR
	JMC	
Soil characteristics, topography, geology of the city; groundwater tables in different seasons,		
Waste management components such as transportation, treatment and land filling have direct and important connections with soil, groundwater etc resources.		Environmental impact assessment of the project should be carried out, to assess what environmental components will have impacts from the project. These need to be assessed and taken corrective steps to protect.
Environmental Impact Assessment		
The project planning phase should consider the impacts the project will have on its surroundings		Public consultation should be carried out, on the project planning document, to build a primary base for the impact assessment study. The technical impact assessment should be based on the comments and views expressed in the consultation, to establish the findings and the way forward.
Report of field study covering the quantity and quality of various types of wastes generated in the city, and the technical parameters of the existing SWM system		
Each type of waste requires dedicated management mechanism. The DPR must acknowledge this fact.	Verification of whether the real on ground situation has been considered in the DPR needs to be done.	
Analysis of options possible for waste management and selection of appropriate alternative; justification of the mechanism and machinery required for waste management; Detailed design and drawings of various waste management components		
This is also a part of the transparency and accountability in the decision making process.		Private participation has been proposed in the composting mechanism for treating Junnar's waste. Entry level public

Importance of the component	If the DPR contains the relevant aspects, what are the steps required to ensure their effectiveness?	If not <sup>†</sup> , steps needed to compensate for such shortcoming of the DPR
		participation should be carried out to justify the mechanism proposed in the DPR and ways to mitigate the possible concerns arising out of the implementation of the recommendations of the DPR.
Benchmark-based justification for land requirement for treatment/ segregation facilities		
Important as a part of mechanism to ensure accountability towards the land provision by state government for SWM projects.		Since the 2ha 17are piece of land is already available in the precincts of Agar GP, the land based analysis may not appear in the DPR for Junnar.
Detailed plans for operation of the project, treatment of leachate, public awareness measures, issues for capacity building, community participation etc		
Apart from a competitive establishment of the project, sustainable operations and management of the project is an equally important thing. Well thought out decisions are needed to ensure that.	The practicability of the options and measures proposed in the DPR should be verified through a multi-stakeholder dialogue.	
<b>Additional components to be assessed</b>		
Typographical mistakes		
The DPR should be accurately prepared, reflecting the efforts put into preparation		In annexure of Junnar's DPR, there is a table that is titled "Statement & Estimates of Yawal Municipal Council" – this should be checked and corrected if necessary
Validity of judgments and analysis – existing situation of solid waste in Junnar		
The report says (page 2) that "Sample has been given to Laboratory and waiting for		Additional information on this matter should be sought

<b>Importance of the component</b>	<b>If the DPR contains the relevant aspects, what are the steps required to ensure their effectiveness?</b>	<b>If not<sup>‡</sup>, steps needed to compensate for such shortcoming of the DPR</b>
report" and still the composition has been provided. The details of which laboratory was trusted the job of analysis etc have not been provided.		
Comparison of the norms required according to the type of waste generated, the population etc., to the existing situation needs to be provided in the document to justify the recommendations in the report (page 4)		An additional study should be carried out with the help of capable entities in the field to supplement the project recommendations.
Capturing of the actual situation in terms of informally transferred workers, on ground worker problems, on ground situation of community participation needs to be properly captured to ensure the effectiveness of the project.		Multi-stakeholder dialogue is a valid way to bring out these aspects and to attempt to work out possible solutions on the issues related to those.
All action points including the recommendation based on joint sanitary landfill with nearby Council		Clear responsibility allocation plan, including the meetings with the corresponding municipal council, should be prepared and discussed in a multi-stakeholder participatory discussion.

**Table 12 Comparison of Junnar's DPR to the stipulated requirements**



## 6 CHARTER OF DEMANDS, THROUGH A PROCESS OF MULTI-STAKEHOLDER DIALOGUE (MSD)

Based on the options for achieving the desired results, and the opportunities and threats posed by the on-going or proposed project or reforms initiatives, a multi-stakeholder dialogue should be carried out. This dialogue would enable various stakeholders of the town's SWM system to come together to a common platform, and understand the limitations and difficulties of each other. A common meeting openly inviting anyone interested to join may be arranged as a format of the dialogue.

Such a dialogue would enable:

- a. Selection of the options actually to be implemented, these would include:
  - i. The options to solve the problems, as per Table 8,
  - ii. The steps to be taken to ensure the recommendations in the project DPR are effective, as per Table 12, and
  - iii. The steps to be taken to enhance the opportunities and mitigate the threats arising out of reforms, as discussed in Table 10
- b. Action plan and clear responsibility allocation along with an agreed and accepted time frame for implementation, to various entities that would participate in the option implementation. This would be based on the analysis of the strengths and weaknesses of various stakeholder entities, as summarized in Table 9.

At the same time, there would be issues at a very broad level, that would form what may be referred to as the 'maladies' affecting the SWM sector in Junnar. Alleviation of such maladies would form the long term action plan, to be systematically devised based on the deliberations in the multi-stakeholder dialogue. This is because the maladies may be deep-rooted in the system and therefore may require efforts lasting longer than those to solve the other issues.

At the same time, the analysis carried out by the study team has thrown up two classes of aspects: the burning issues to be taken up by the MSD in the longer term, and the immediate actions required, largely irrespective of the outcome of the MSD.

### 6.1 ACTION POINTS ON A PRIORITY BASIS

The following table summarizes the action points that may need to be taken up in the short term, on a near-immediate basis. This may be subject to the discussion in the MSD. Such discussion may result in alteration, revision, modification or refinement of the points mentioned here.

It may be noted that these points arise from the analysis of the current situation and the reforms, along with the general standing of the JMC, carried out by the study team.

No.	Action point	Brief details	Reforms that support the initiative
1.	Devising a clear community participation	It was observed that most of the grievances of the residents do not	Community Participation Law,

No.	Action point	Brief details	Reforms that support the initiative
	and transparency mechanism in the form of either regular interactions, or a continuously available counter at the JMC	reach the JMC, chiefly due to the lack of a grievance redressal mechanism. Such a real-time interface between the residents and the JMC needs to be established on a priority basis.	Public Disclosure Law
2.	Preparation of an indicative regulation to ensure financial and technical sustainability of the SWM system	<p>For an instance, the waste generators could be charged based on the amount and quality of waste they generate.</p> <p>To enhance the tendency to segregate waste at source, incentives could be given to the waste generators who segregate their waste.</p> <p>The charges mechanism could either be slab-based such as in case of water connections, or on the basis of amount of waste generated.</p>	<p>Publication of consumption standards, as a part of the reforms translates directly to specifying how much waste could be generated by each waste generator.</p> <p>Additionally, this initiative could be clubbed with the design of user charge scheme, according to the corresponding reform.</p>
3.	Capacity building of the JMC officials and office bearers to be able to appreciate the technical and on-ground issues involve	A mechanism to impart capabilities to the administration and also the elected public representatives, to be able to critically assess project and reforms initiatives. This is essential to ensure the correct types of alternatives for problem solving are taken up by the JMC.	Administrative and Structural reforms are the reforms that include capacity building of the city managers as a component.
4.	Participatory and regulatory initiative to reduce the burden on Junnar's solid waste management system, through generation control	<p>A drive should be taken up to reduce the burden on Junnar's SWM system at least until a streamlined process is in place for waste treatment at Junnar.</p> <p>Community sensitization through a massive awareness campaign should be launched by the JMC, with the available staff.</p> <p>This should include using the existing media reporter base, holding informal meetings across the town, and issuing informal guidelines on distributed</p>	None of the reforms considers waste reduction as a way out from SWM system issues.

No.	Action point	Brief details	Reforms that support the initiative
		<p>composting of HH waste.</p> <p>For the bulk waste generators, the distributed waste treatment initiative should be especially pressed forward for.</p> <p>The equity issues in this (e.g. for generators who do not have direct access to adequate land for treating waste) need to be resolved by a participatory process.</p> <p>Clear responsibility allocation to the community and other willing entities should be carried out, with definite time line design.</p>	
5.	<p>Prioritization of the collection mechanism, irrespective of bullying and political influence, through widespread participation and accountability through interfacing between the JMC and the residents</p>	<p>According to the information provided to the team, the system staff mentioned that the town could be kept clean with the available manpower and equipment, if the political influence on the waste collection mechanism could be avoided.</p> <p>Such situation could be achieved through a widespread campaign taken up by the JMC to establish a transparent and accountable mechanism for waste collection, along with an effective grievance redressal mechanism.</p>	<p>The CPL and PDL reforms as discussed above.</p> <p>The prioritization and scheduling could be discussed in a participatory drive, to incorporate issues as far as possible, and to devise a workable solution.</p>
6.	<p>Separation of the BMW stream from the MSW stream in Junnar by strict enforcement and monitoring of BMW related regulation from the government.</p>	<p>The Maharashtra Pollution Control Board has been made the enforcing and monitoring entity for ensuring the observation of relevant waste management regulations. Although it is reported that widespread corruption and lethargy affects the way MPCB works, public pressure building and influence on the workings are believed to make a difference.</p>	<p>Community Participation and Public Disclosure Laws</p>

**Table 13 Action points for short term, on priority basis**

## 6.2 BURNING ISSUES FOR THE MSD TO BE TAKEN UP IN THE LONG TERM

The following table summarizes the burning issues that have been observed, and need elaborate discussion during the MSD.

No.	Issue	Source
1.	A total of over Rs. 1 crore has been spent on solid waste management over last three years. Considering the capacity of the system required for handling Junnar's solid waste (around 7.5 TPD), was this expenditure justified? This may need to be examined in the light of the CPHEEO's norm of about 5 crore rupees for modernization of SWM system for a town of population 1 lakh (Table 21.2 of the CPHEEO's manual on SWM)	The documents, recording the expenses incurred on the SWM system in Junnar.
2.	If the waste generated is about 7.5 TPD in Junnar, why was a higher capacity plant without the provision for step-wise operation of the plant, proposed and accepted?	It was reported by the staff from the health department that the treatment plant does not get adequate amount of waste input for processing, from Junnar. It is therefore infeasible to operate the plant.
3.	If there is such a shortage of staff in the SWM system, especially collection, why is there informal and illicit transfer of workers from the SWM department to other departments of the JMC?	The actual number of workers working for collection was observed to be less than those on the payroll. Informal worker transfers between departments was reported to be an issue.
4.	What does the term 'solid waste management' in the expense heads of the JMC mean? Why are there no details?	The expense statements from the annual reports with the budgets of the JMC have this head with sizeable expenditure mentioned against those.
5.	Why does the term 'Yawal Municipal Council' appear in the project DPR for Junnar? Why does the DPR not include vital components such as the environmental and social impact assessment of the proposed project? Why are there no alternatives assessed for feasibility and then selected for recommendation to the JMC?	The DPR analysis has been carried out based on the documents provided by the JMC to the study team.

No.	Issue	Source
6.	Why is there no measure proposed to control the amount of waste dumped by the residents, into Junnar's SWM system? Why are there no quantified and strict recycling directives to be adhered to by Junnar's residents?	No document or system inputs analyzed by the study team has ever dealt with waste generation control as a mechanism to ease the load from the SWM system in Junnar. Especially in light of the lack of efficient disposal mechanism and the inhabitation around the facility leading to grave issues, this measure should have been included on a priority basis in the documentation.

**Table 14 Burning issues for the multi-stakeholder dialogue, thrown up by the analysis**

## **7 CLOSURE**

The findings of this study show that different stakeholders have different perceptions about solid waste management system in Junnar. 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. Considering that, this report attempted at staging the perceptions and views of the stakeholders involved, to the extent possible at one place. It was also learnt over the data collection exercise that such an approach was taken by few, if not none, earlier initiatives to resolve the issues in the municipal service provisioning sector. Thus, the report aims to construct a grouted foundation, in order to provide contents for deliberations for seeking prudent first-step solutions towards better service provisioning in the solid waste management sector in the town.

## Annexure - List of Sources of Information

### Social Workers

1. Mr Pruthviraj Mate
2. Mr Vajir Khan
3. Mr Ravi Kajale
4. Mr Chandrashekhar Joshi
5. Mr Pankaj Gawade
6. Ad. Natha Shingade
7. Mr Kailas Mansukh

### Bureaucrats

8. Mr Deepak Zinjad

### Municipal Staff

9. Mr Ramesh Khatri
10. Mr Sambhaji Tamboli
11. Mr Ganpat Rokade
12. Mr Anand

### Educational Resources

13. Nagar Library
14. Prof. Purane

15. Mr Balasaheb Mane

### Reporter

16. Mr Datta Mhaskar

### Social-Political workers

17. Mr Nitin Sasane
18. Mr Chandrakant Doke
19. Mr Chandrakant Kadam
20. Mr Amol Gaikawad
21. Mr Milind Madake
22. Mr Sanjay Wavhal
23. Mr Bhai Purvant
24. Mr Natwarlal Mutha
25. Mr Nandkumar Tamboli
26. Mr Sunil Meher

### Ruling Party

27. Mr Bashir Tirandaj
28. Mr Rajendra Buttepatil
29. Mr Sanjay Sakhala
30. Mr Dinesh Dube

### Opposition Leader

31. Mr Madhukar Kajale