Akola Municipal Corporation

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

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ABBREVIATIONS USED

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

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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[1]".

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

[1] 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 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[2].

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

[2] 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.

This report focuses on the municipal solid waste aspect of Akola, while a similar analysis could be carried out for the biomedical waste stream. At the same time, wherever the issues related to both waste streams appear to be interlinked, those have been accommodated in the analysis and documentation.

2 SWM SYSTEM: PROBLEMS AND DETAILS

This section enunciates the SWM related problems and other details related to the problems, being faced by the residents and citizens of Akola.

Surveys formed a large source of information based on which the problems in the SWM sector were identified. These were looked at from the perspective of the various stages in the MSW management, viz: 1) Generation and Segregation at source, 2) Collection, 3) Transport, 4) Treatment, 5) Recycling/ recovery, and 6) Disposal.

The following sub-sections present details of the problems and the related study aspects.

2.1 GENERATION AND SEGREGATION OF WASTE

The surveys in Akola revealed that the AMC does not control generation of waste. According to the system staff, segregation of waste at source is not carried out by most of the citizens. Survey of the SWM system in Akola also revealed that no dedicated mechanism exists to ensure segregation of waste by citizens at the source.

The highlight issue here is that non-segregation of waste at source is not perceived as a problem by many of the citizens or even other stakeholder entities in Akola. This is believed to be chiefly because of the fact that the hindrances to the handling system caused by mixing of waste are not known to the public. On the other hand, the city administration also is believed by a number of sources of information to not have succeeded in making the residents believe that segregation of waste at source could actually help the situation.

These problems do not have any geographical limits and persist throughout the entire city of Akola. The problems exist across all types of establishments (commercial, restaurants and residential), for all citizens and citizens.

Although according to the widely available literature on SWM, it is understood that the other stages of the SWM system (treatment and recycling) suffer because of no segregation of waste at source, no sector of municipal service other than SWM is reported to be directly affected by non-segregation of waste at source.

2.2 COLLECTION OF WASTE

Waste lying unattended at open spaces and in drains, open dump yards of nearby residential and small commercial establishments, the community bins were not cleared, most of them were overflowing; drains clogged due to unattended waste; burning waste by the roadsides, and a ubiquitous foul smell were observed to be the main problems in the waste collection mechanism in Akola.

These problems were observed to persist in Ward no 13 behind APMC, Shivsena Slum Area, Irani Slum Area, Mochipura, Bhoipura, Ward No 9 LIG Area, Sai Nagar, Dnyneshwar Nagar,

Indira Colony, Ganesh Nagar, Milan Nagar, Farid Nagar, Ketan Nagar, of the areas surveyed by the RSLP preparation team. In general, Slum areas, low income group residence area, public open spaces were reported to be the areas affected by the problems persisting in the waste collection system in Akola. Waste dumped in open spaces, open drains clogged with waste, littered streets are reported and observed to be very common attributes of these areas. These problems reportedly affect all residents of the aforementioned areas, since those infest the common areas like empty plots, low income group residence area, roadsides and drains. Areas densely inhabited by residents of a particular community were also observed to have the problems in especially increased severity. Eg. Mochipura and Ladis Fail. In general, problems related to waste collection were observed chiefly in the densely populated areas where there are closely built houses.

The effects of these problems included foul smell as mentioned before, and also reduction in the usable area of the road in many places.

The residents of these areas also reported that they have to adopt multiple strategies to cope with the problems they face. Foul smell is something nobody could do anything about, and outright 'adjustment' was reported to be the only step taken. To cope with the problems, the citizens reportedly resorted to: 1) cleaning the drains themselves; 2) cleaning the parts of the road next to own houses; 3) dumping waste in open drains and in open spaces. In addition, many households reportedly opted out of the door to door waste collection mechanism that charged Rs. 10 per month. Their waste was reportedly just dumped in open drains or burnt in the open, causing nuisance of multiple kinds.

Pests and rodents dwelling on the unattended waste were reported to be a problem too. The increased expenditure on health care because of the illnesses caused therefore was also reported to be a part of the routine of the residents.

Inter-sectoral linkages of the collection related problems were observed to be serious too. The water supply pipelines ran along the drains in many areas, which were clogged due to waste lying in those. This is reported to prove potentially dangerous especially in case of cracked pipes, wherein the contaminated and clogged water enters drinking water pipelines.

2.3 Transportation of Waste

No separate waste transportation component of the SWM system is reported to operate in Akola. The same mechanism that operates for collection of waste is reported to transport waste away from the city.

The citizens did not report any problems related to transportation of waste so far as it was operational. However, the waste treatment plant for Akola was reportedly affected by the lax attitude and lack of transportation efficiency of the transportation mechanism. The treatment plant operator reported that often they themselves had to go to the city to collect solid waste so that the plant could function at efficient levels.

2.4 Treatment and Disposal of Waste

The treatment and disposal components of the SWM system are dealt with in the same section because the treatment and disposal sites of Akola's SWM system are the same, in Naigaon, affecting the same set of residents and other stakeholders, such as the operator of the waste treatment plant, and the waste pickers operating in the areas around the place

where waste is treated or dumped. The problems articulated here about the stakeholders were reported by the respective stakeholders themselves.

The waste pickers operating on the mound of partly openly-dumped waste, face fumes arising from the untreated waste, and the smoke from the burning waste and the foul smell. The treatment plant suffers from low efficiency of the treatment process and plant due to lack of effective waste transportation mechanism. Also, reportedly the agriculture practice around Akola is not enough for the compost produced by the treatment plant to be efficiently marketed. Additionally, the treatment plant is said to be operating at low efficiency because segregation of non-compostable waste from compostable waste consumes a lot of energy and thus adds to the costs of operation.
The waste pickers reported that they somehow cope with what they refer to as 'hazards of earning their livelihood'. The operator of the treatment plant reported that they themselves often transport the waste from the city at their own cost to the treatment plant to keep it running efficiently. The compost produced at the plant has to be stored at the plant itself, waiting to be sold. This storage occupies additional space.

2.5 Recycling of Waste

An informal network of waste recycling entities was reported to operate in Akola. The household recyclables (clothes, old newspapers) were reported to be sold to petty scrap collectors who then looked for larger purchasers of scrap.

A plastic recycling unit near Dhobi Khadan was visited and interviewed by the study team. A group of about 25 scrap collectors was reported to be working informally (without employment terms as such) with the unit, delivering plastic to be crushed at the unit. 5 workers were reportedly employed to segregate the plastic according to various grades of the plastic. Machinery was observed at the unit that ground the plastic to make fine gratings those were reportedly to be sent further to plastic recycling units elsewhere in Maharashtra.

The unit owner did not report any problems with recycling as such, nor did any of the residents of the city reported any problems with recycling of waste.

However, the study team observed that the space used by the plastic recycling unit was owned privately by the unit owner, and the owner did not report of any explicit benefits or assistance extended to the unit by the AMC.

The next section deals with the existing situation of the city's SWM system, a step towards the causal analysis of the problems.

3 Existing SWM System Situation

The existing situation of the SWM system in the city may provide insights to why certain problems exist, in other words, the causes for the problems.

3.1 Extent and existence

The objective here is to bring out the inequity in service existence, based on the distribution of service delivery across various areas of the city. This may be juxtaposed with the other extents of the problems, as seen in Section 2 of this report, to further highlight the exclusion of residents belonging to certain class/ caste/ area from the service provision mechanism.

In the surveys and visits carried out by the study team, it was observed that areas around the Dhobi Khadan, including Christian Colony, among other low income areas such as Shivsena Slum, Ganganagar were excluded from the waste collection mechanism. The residents used either the open spaces in their vicinity (like the abandoned quarry in Dhobi Khadan) or the nearby community bins to dump their waste. The community bins in these areas were reportedly not cleared for long periods at once, unless the residents complained about them repeatedly.

At the same time, localities inhabited by the middle or upper class population are reportedly served by a door to door waste collection mechanism that charges a fixed amount of fee every month.

In another type of waste collection mechanism, areas such as Ladis Fail and Pimpal Fail were covered regularly (once in two days, once in a week etc) for clearance of community bins.

3.2 Grievance Redress Mechanism

No official or formal dedicated grievance redress mechanism for solid waste management was reported to exist in the city. The residents either took their complaints directly to the health department, or lodged those in a general open house conducted by the AMC.

Upon interviewing, a few residents attending the open house for complaints related to even drinking water reported that the AMC did not take action prompt enough to address the residents' complaints.

3.3 Staffing at the SWM Entities

The following table summarizes the staffing existing at the various entities involved in municipal solid waste management at Akola. The entire system was reported to be operated by the AMC.

Also, data validated by comparing across the sources (citizens, system staff and key informants) have been presented here.

No.	Level of staff	Strength	Roles and functions of the staff
1.	Road sweepers	362	To sweep the entire length of Akola's roads
2.	Workers on the truck for collection of waste from community bins	70	To empty the community bins into the waste collection and transport trucks
3.	Health Officer	1	Manage and execute health related tasks
4.	Ast. Health officer	4	The assistance to Health officer who oversees the work being done by the sanitary officer and sanitation related problems.
5.	Sanitary inspector	30	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 city.
6.	Grievance redress officer	0	Not applicable

No.	Level of staff	Strength	Roles and functions of the staff
7.	Monitoring or penalizing officer	0	Not applicable
8.	Staff to monitor private participation in the sector	0	Not applicable

Table 1 Staffing at the SW managing entities

The above summary again reveals that there is no dedicated grievance redress mechanism for the SWM system in Akola. Even with the other existing staff, the situation is reported to be stressful. This can be inferred from the norms prescribed by the CPHEEO for solid waste management.

For example, the CPHEEO (Central Public Health and Environmental Engineering Organization) has stipulated norms for road sweeping as follows:

19.6.1 Norms of Work for Street Sweepers

- 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 various areas of the city.

3.4 TECHNICAL DETAILS

The data obtained about the technical details of the system, is summarized in the following table.

The objective of the is to compare what level of technical competence of the system is witnessed by the residents at the ground level, to that planned or assumed by the system itself.

No.	Aspect	Details	
		As per the residents	As per system staff
1.	No. of collection vans (ghantagadi)	No idea	70
2.	Capacity of collection van (Tons)	No idea	No data available
3.	No. of collection staff	No idea	

No.	Aspect	Details	
		As per the residents	As per system staff
4.	No. of transfer stations	No idea	0
5.	No. of community bins	No idea	No data available
6.	No. of transport vans	No idea	11 trucks, 3 tractor
7.	Capacity of each transport van	No idea	Not applicable
8.	Status of treatment plant	No idea	Half constructed, non operational

Table 2 Technical details of existing SWM system

It is clear that most of the residents who were surveyed were not at all aware of the status of the SWM system of Akola. Additionally, the collection mechanism and the transportation mechanism are observed to be the same in case of Akola. That is, the same vehicle(s) that collect the household waste also transport the waste away to the place where treatment/ disposal of the waste is carried out.

Additionally, it was reported that the transportation mechanism could not deliver waste enough for the treatment plant to function efficiently. This not only translated to costly operation of the plant, but also means that the operator would have to employ their own vehicles to get waste from the city to the treatment plant.

3.5 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 prepared based on the relevant documents obtained directly from the AMC.

The objective of this format is to bring out the effectiveness of the works carried out and steps taken to prevent or solve problems in the SWM sector.

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?
1	2004-05	Payment to workers	41871156	Collection related problems from all parts of the city	No
		Honorarium	1164384		
		Petrol and lubricants etc.	11711364	General cleanliness related problems	No, since many parts of the city were still observed to be plagued by littering problem
		Contingencies	2158531		
2	2005-	Payment to	42590054	Collection related	No

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?
	06	workers		problems from all parts of the city	
		Honorarium	961580		
		Contractor payment for clearing waste	2877152	General cleanliness related problems	No, since many parts of the city were still observed to be plagued by littering problem
		Petrol and lubricants etc	10151816		
		Vehicle repairing	47370	Collection related problems from all parts of the city	No
3	2006-07	Purchase and repair of collection vehicles	40000	Collection related problems from all parts of the city	No
		Salary of workers	76073700		
		Honorarium	2938232		
		Payment to contractor for clearing waste	2462676	General cleanliness related problems	No, since many parts of the city were still observed to be plagued by littering problem
		Petrol and lubricant etc	9002588		
		Purchase of dustbin and container	114201	General cleanliness related problems	No, since many parts of the city were still observed to be plagued by littering problem
4	**2007-08**	Salary of workers	53903551		
		Honorarium	2240802		
		Payment to contractor for clearing waste	5878747		
		Maintenance of collection vehicles	132000		

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?
		Petrol and lubricant etc.	7189729		
		Repairing of vehicles	1607366		
		Other expenditure	43592		
5	**2008-09**	Salary of workers	58082283		
		Honorarium	2823884		
		Payment to contractor for clearing waste	5189266		
		Maintenance of collection vehicles	22800		
		Petrol and lubricant etc.	5501052		
		Repairing of vehicles	957733		
		Other expenditure	25000		
Total expenses incurred during last 5 years			40,16,66,160		

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

As may be observed from the above table,

a. No expenditure has been incurred on awareness building, penalization or rule enforcement

b. Despite the expenditure incurred on purchase, maintenance and on petrol-lubricants of the vehicles used for collection, collection related problems persist in many areas of Akola

c. An overall expense of more than Rs. 40 crores over the last 4 to 5 years in Akola has not reportedly resulted in any remarkable improvement in the solid waste management system situation in the city.

4 Analysis and Detailing of Causes of the Problems

The causal diagnosis of problems was carried out by conducting interviews with both – the municipal officials and also informants from other sections of the SWM system such as the

cleaning workers, social activists. This was in addition to focus-group discussions with groups from the workers. This exercise was carried out to not only validate a set of causes reported by the informants who faced those themselves, but also to understand different levels of the causes that resulted in the problems reported by them.

4.1 LAPSES/ GAPS IN THE DOCUMENTS

The internal compliance reports of the AMC, prepared by the health department, revealed the points covered in the following table:

Aspect	Observation from the documents
• Problems in the city identified by the health department	• No specific problems, except for the lack of citizen initiative to segregate waste at source. This was shared with the study team informally.
• Solutions proposed and implemented by the department	• Contractual arrangement was observed to be made by the AMC with an entity for collecting and transporting away from the city all the waste generated in the city. The contract however lacks any numerical agreement or performance parameter to ensure that the waste treatment plant is delivered adequate amount of solid waste from the city.
• Problems that still remain unsolved	• Despite the general measures taken by the AMC to clean waste, all the problems in the SWM sector largely remain unsolved.
• Possible reasons for the problems that were not solved by those measures	• Lack of clear performance criteria have resulted in the fact that the performance of the waste collecting and transporting entity cannot be monitored or regularized.

Table 4 Observations from the internal compliance report of the health department

4.2 PROBLEM CAUSES AND THEIR DETAILS

The following table summarizes the causes reported to be responsible for the problems observed in the SWM system at Akola. The sources of data or information related to each component considered in the table have been juxtaposed, in order to have those validated across sources.

It may be noted that since Akola city is not observed to have a separate waste transportation mechanism, the analysis of problems with the transportation mechanism is clubbed with the collection component of the SWM system. Also, since the problems with treatment and disposal of waste are almost identical and overlapping, the analysis of treatment and disposal is also combined for convenience of preparation of the report.

4.2.1 Generation and Segregation of Waste

At the citizens' level, lack of understanding of the importance to segregate waste at its source was perceived to be the cause for lack of segregation of waste at source. By and large, the health department of the AMC could have taken steps towards raising awareness of the citizens; this seems to be absent in Akola. The system erected for treatment of waste is severely affected due to this. But at the same time, the AMC administration reported that

they did take efforts to spread awareness so that the citizens would segregate their waste at the source; but the citizens reportedly lack the will to cooperate with the AMC.

Lack of willingness, and lethargy, are reportedly the problems with both the citizenry and also the city administration which reportedly add to the ill effects of each other, resulting in problems in the SWM mechanism in Akola.

4.2.2 Collection and Transportation of Waste

The citizens of Akola reported the following as the causes prevailing in the collection and transportation mechanism in Akola:

1. Lack of house to house collection system in all areas of the city
2. the community bins were so far off from the road that many a time the waste is dumped between the road and the bin, leaving the surroundings dirty
3. The collection staff do not take the waste from the HH doorsteps of the residents, contrary to what is expected from them
4. The collection staff do not wait for long enough to collect waste from HH (administrative)
5. Improper collection mechanism that does not reach all areas of the city (technical/ administrative/ political)
6. No grievance raised by the residents

The citizens largely perceived that the unwilling administration, not-so-sensitive public representatives, and the lack of cooperation of the citizens themselves are responsible for the causes reported to be engendering the problems. According to them, misappropriation of funds, rigging of elections, and gathering political mileage were reportedly the interests that prompted the behaviour responsible for the causes.

However, as per various members of the system staff, the following were reported to be the causes of the problems in waste collection and transportation mechanism in Akola:

1. The residents do not adhere to the collection scheduling strictly (social/ administrative)
2. Residents' intolerance towards the inevitable scheduling mismatch in some areas
3. Non-segregation of waste at source (social/ administrative)
4. Rude and inconsiderate attitude of the residents towards the collection staff and mechanism (social)
5. There is not enough staff to carry out the collection duties effectively
6. The new staffing pattern has reduced the staffing needed for effectively cleaning the city (administrative)
7. Political pressure for altering work priority hinders in regular cleaning (political/ administrative)
8. Only certain community members are willing to do the work in waste management sector, this further hinders the process of having adequate staff in the collection mechanism (social)
9. Less payment to the workers than needed leads them to borrow money, in turn requiring them to take up work additional to the regular work, affecting the regular duties (financial)
10. Preference of the workers to get paid in cash results in an ease of corruption and informal lending, thereby adding to the woes of the workers

11. No encouragement if the workers perform well
12. No timely provision of safety equipment necessary to sustain heavy work, due to corruption

The system staff also by and large reported the following entities as responsible for the causes causing the problems:

1. Citizens
2. Politicians
3. Interfering powerful citizens
4. Workers in the system
5. The administration at the AMC
6. Administration and elected representatives at the AMC

Generally, the interests said to be driving these entities were reported to be: 1) Ignorance and unwillingness, 2) Insensitive attitude towards regular duties of the collection staff, 3) Increasing need for money, and 4) Corruption.

Apart from this causal mechanism operating, some key informants also reported that there is a general lack of sensitivity and maturity towards the problems in SWM in Akola.

4.2.3 Treatment and disposal

A small extent of residential area was observed around the dump in Naigaon. The information related to the causes of problems relating the treatment and disposal of waste was obtained from key informants and a few stakeholders such as the waste pickers on the dump.

The causes reported by the key informants were (type of causes mentioned in parantheses):

1. No collective and positive efforts by the residents to put pressure on the system (social)

2. No definite and adequate sources of finance for the city owing to the lack of industrial activity in the surroundings of the city (technical)

3. Lack of funds due to limited economic activity arising from the city's distance from the highway (financial – economic)

6. There is no critical discussion on the project reports and the time line proposed, due to lack of capability with the AMC constituting officials. The scheduling is further not adhered to by the AMC (administrative/ political).

7. No penal action on the AMC for not having completed the scheduled works on time, as per the MSW Rules 2000 (administrative/ political)

According to the system staff, efforts were on to augment the treatment and disposal mechanism at Akola.

Overall, the entities responsible for these causes were the same as reported in the previous section. The interests were also reported to be by and large the same, in having the problems in treatment and disposal persist.

However, lack of administrative willingness and capability surfaced a number times as the cause engendering many problems.

5 SOLVING THE PROBLEMS – POSSIBLE DIRECTION

As mentioned earlier, this report is not intended to provide one stop or definite solutions to the problems in the SWM sector. Instead, it aims to consolidate and effectively use the views of various stakeholders of the sector, and thereby attempts to devise a direction for the efforts to solve the problems. The following sections bring this out step by step.

5.1 Assessment of Options to Achieve Desired Results

Options to solve the problems as perceived by various involved entities, as well as the analysis of Akola's SWM scenario revealed that there are a number of desired results, that could be achieved with a definite set of multiple options. The following table collates the same.

Desired results to solve the problems of Akola's SWM sector	Options for achieving the results
Better financial management at the AMC department dealing with SWM	Training and awareness building of the AMC staff for better financial management
	Full public disclosure of the finances related to all sectors (including SWM) to ensure accountability and transparency
Ensuring high efficiency treatment on Akola's solid waste	1. Having definite performance management criteria and enforcement mechanism in Akola to penalize the transportation entity and ensure proper performance 2. Ensuring source segregation to facilitate better treatment of the waste
Ensuring public participation to reduce corruption	Unification of the residents' society to participate in the SWM system planning and operation, to cooperate with the city administration

Table 5 Consolidation of options possible to achieve desired results

5.2 Analysis of Strengths, Weaknesses, Opportunities and Threats

This section aims to identify:

a. Strengths and weaknesses of the city as a ULB to be able to implement and carry out the solutions proposed or underway, and
b. Opportunities and threats presented by the solutions implemented/ underway.

5.2.1 Strengths and weaknesses for 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 of the city/ AMC	Weaknesses of the city/ AMC
Geographical	1. SW treatment plant already located at a distance from the city	Reported seclusion from any farming or agricultural area that poses hindrance in marketing of the compost produced
Social	-	Large apathy and feeling of helplessness. Tendency to manage one's own issues at a very local or temporary level rather than escalating them for betterment of the sector as a whole
Political	-	Party politics and other vested interests have formed strong

Aspect	Strengths of the city/ AMC	Weaknesses of the city/ AMC
		linkages with the local problems
Financial	-	The worst managed municipal corporation in Maharashtra, according to a state report in 2010. The AMC is in huge debts.
Administrative	-	Total lack of willingness to improve or perform better

Table 6 Strengths and weaknesses of local entities

5.2.2 Opportunities and threats from the reform initiatives

Table 7 details the opportunities or threats posed by the reforms initiatives, for Akola's SWM sector.

The chief issue here is that a number of reform initiatives (such as e-governance) require not only a large capital expenditure, but also are *likely* to involve higher maintenance costs than the current levels. Given Akola's financial condition, this might prove to be a severe bottleneck that needs to be discussed and addressed.

Additionally, the structural and administrative reforms that involve substantial staff reduction may result in capacity building and training of the staff being critical. Such a change in the staffing is also reported to result in an enhanced requirement of private party engagement in the city's municipal service provision sector that needs careful management not only at the level of entry of the private entities but also at an operational level.

5.2.3 Opportunities and threats from on-going and proposed initiatives – the contract for solid waste collection and transportation from Akola to the treatment plant

The contract entered by the AMC with the entity to collect and transport the waste from Akola to the treatment plant enunciates operational conditions to which the contractor will have to adhere.

However, the contract does not explicitly mention the amount of waste to be delivered by the contractor to the treatment plant. This is reportedly a problem, because of the fact that the treatment plant has been designed based on certain assumed waste generation and delivery, which depends on the collection and transportation efficiency.

A threat posed by such an arrangement as reported by the SWM plant operator was the fact that the operator had to employ their own mechanism to collect and transport waste from Akola to the treatment plant, adding to the costs of operating the plant. This may be looked at as a hindrance in treating Akola's waste.

5.2.4 Opportunities and threats from on-going and proposed initiatives – the SWM project DPR

The DPR (detailed project report) for solid waste management system at Akola deals with a number of aspects, such as the collection mechanism recommended, treatment technology and the information and awareness creation aspects for the residents of the city. These could be considered as strong opportunities for the AMC to make a positive difference in the SWM system of the city.

However, no mention of environmental and social impact assessment of the project may be looked at as a point of non-compliance with the stipulated requirements from the DPR, as promulgated by the CPHEEO and the JNNURM directorate. This could prove critical for not

only the environmental aspects involved with the project, but also the social aspects, such as the livelihoods of the persons dependent on the recycling stream of the waste, both within the city and outside the city (on the dumpyard).

Additionally, the SWM system recommended in the DPR may require an O&M expense that can possibly not handled by the Akola Municipal Corporation, given its current financial situation. This needs critical review and planning to address.

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.

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
1. Issue of Bonds by the ULB for raising funds	1. Raising funds from the market could act as an additional source of funds for the AMC. 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.	1. Considering the overall relative lack of commercial and economic activity in Akola, the bonds issued by the AMC are likely to elicit a weak response. 2. The obligation to provide fixed returns on the bonds may result in a compulsive user charge mechanism to recover the O&M costs of the projects implemented by the ULB.	Building capacity of the ULB officials and staff to handle the required work for this	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.
2. Reforms introducing other sources of funds (Property Tax, User Charges for O&M cost recovery, and Rationalized Stamp Duty)	1. Establishment of accountability of the ULB to the residents through a clear relation between user charges and SWM system provision may boost revenues.	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 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.	1. Ensuring willingness of the staff and other mechanism to rationalize the system 2. Establishing a mechanism to prevent the 'social bullies' from evading property tax payments.	Direct inclusion of high end technology (such as GIS) in property tax mechanism may mean upping the tax for many payers, necessitating a mechanism to ensure equity in property tax charging.
3. Introduction of Double Entry (Accrual Based) Financial	This reform may be utilized by the AMC to start building the image of a credible and	Strong opposition is possible from the corrupt entities who do not want this transparency to be	1. Incorporation of this may require a higher level of knowledge of accounting as a	1. Establishment of a strong public disclosure and

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
System	transparent institution. Additionally, it may enable taking a fresh and comprehensive look at the MC's debt situation.	ingrained in the working of the AMC.	field.	public participatory mechanism to curb the anti-transparency forces would be required.
4. Introduction of Internal Earmarking of funds for providing basic services to urban poor	Extension of the SWM service to the poor, inhabiting the city area, and also to those at the fringes of the city could be achieved by incorporation of this reform.	Issues related to funds prioritization, arising from the weak financial condition of the AMC may arise, to decide the priorities of the services provided.	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.	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.
5. Encouraging Public-Private Partnerships (PPPs)	Akola 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 Akola's waste. This could be used as a learning platform to manage the future private participation in Akola'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 AMC 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.

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
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 AMC 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 community stakeholders, the equity principle may find more space in the decision making process. 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		1. Ensuring the information reaches all stakeholders of the system by active steps taken by the AMC is an essential step. 2. Capacity and awareness building of citizens and AMC staff members alike	

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
	likely to comply) This may result in better system operation.			
8. Public Disclosure Law	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. 2. Increased accountability towards public through regular voluntary disclosure of information by the relevant governing bodies would help mitigate the helplessness expressed by the citizenry, towards the decision making framework, and the corruption giving rise to service failures, including those of SWM system. 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	In a small place like Akola, 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
	avoiding delays arising out of improper planning and grievance redress in the relevant conditions.			
9. City Planning as a function of the ULB	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.	In Akola, 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 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.	Capacity building of the ULB officials is an essential aspect of this	Nexus formation and corruption are maladies that need long term action through participation and transparency building.
10. Introduction of E-governance (GIS/MIS)	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. 2. Better monitoring of systems by higher-ups in the hierarchy	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. In Akola, this is likely to be the case with many residents. Additionally, there is a significant amount of	Ensuring proper via-media are established to enable all the community components to be able to use such e-governance related aspects.	Widespread installation of the infrastructure required to implement the reform. Also, consideration of the fact that there is a significant amount of floating population needs to

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
	may be possible.	floating population in Akola that may not be able to use the governance mechanisms established in the city.		be incorporated in the implementation of the reform. A workable solution could be devised based on the multi stakeholder dialogue.
11. Ensuring delivery of basic services	1. Ensuring SWM will also be covered as a basic service, and this may mean ensuring accountability through service provision to all residents, and also through a well functioning grievance redress mechanism, by the ULB.		Capacity building of the ULB staff and officials	
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 Akola may result in such staff members not having a real feel of the problems in the city	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 Akola
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 Akola MC to ensure the reforms actually achieve what they are designed to achieve.	

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
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 of land for poor for housing (LIG/MIG)	1. Earmarking of land for housing of economically weaker sections may ensure identification of poor settlements, thereby possibly translating to avoidance of exclusion of such areas from SWM provision.		Creating awareness to ensure 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			

Reforms	Opportunities	Threats	Prerequisites to ensure opportunities	Steps to mitigate the threats
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 waste-water recycling	1. An improved drain management is an implicit prerequisite for this reform. Such improvement may aid the SWM service provision, through avoidance of dumping of waste in drains.		Build administrative capabilities to be able to appreciate the technical linkages between the drain systems and SWM systems.	
23. bylaws for rainwater harvesting	No direct relevance			

Table 7 Feasibility Analysis of Reforms for the AMC (In prevailing conditions)

6 CHARTER OF DEMANDS, WITH DISCUSSION

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 discussion is envisaged to be carried out to decide the course of actions to be taken by various entities involved. 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 5, and
    ii. The steps to be taken to enhance the opportunities and mitigate the threats arising out of reforms, as discussed in Table 7
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 6.

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 Akola. Alleviation of such malady level issues would form the long term action plan, to be systematically devised based on the deliberations in the aforementioned discussion.

At the same time, the analysis carried out by the study team has thrown up the burning issues to be taken up at the discussion on a priority basis.

6.1 BURNING ISSUES FOR THE DISCUSSION WITH CITY ADMINISTRATION

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

No.	Issue	Source
1.	A total of over Rs. 4 crore has been spent on solid waste management over last three years. Was this expenditure justified, especially given the extent of problems still existent with the city's solid waste management?	The documents, recording the expenses incurred on the SWM system in Akola.
2.	Why was the contract for collection and transportation not discussed or consulted with public? Was the contract prepared with expert input at all?	The contract document governing the arrangement by which the private party engages in solid waste collection and transport seems to have left out on a number of avenues of ensuring seamless coordination between transportation and treatment of MSW from Akola.
3.	Why is the payment to the workers of the SWM system made in cash when there is a	Informal lending, corruption in payment etc are reported to be

No.	Issue	Source
	branch of a bank situated right within the premises of the Akola Municipal Corporation? Such errant mechanism has been reported to affect the workers' performance in a severe yet indirect manner	large problems by the workers which are said to affect their performance.
4.	Why is there no measure proposed to control the amount of waste dumped by the residents, into Akola's SWM system? Why are there no quantified and strict recycling directives to be adhered to by Akola'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 Akola.

Table 8 Burning issues for discussion with city administration, 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 Akola. 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

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