Situation Analysis of Solid Waste Management in Hyderabad Region, Telangana State

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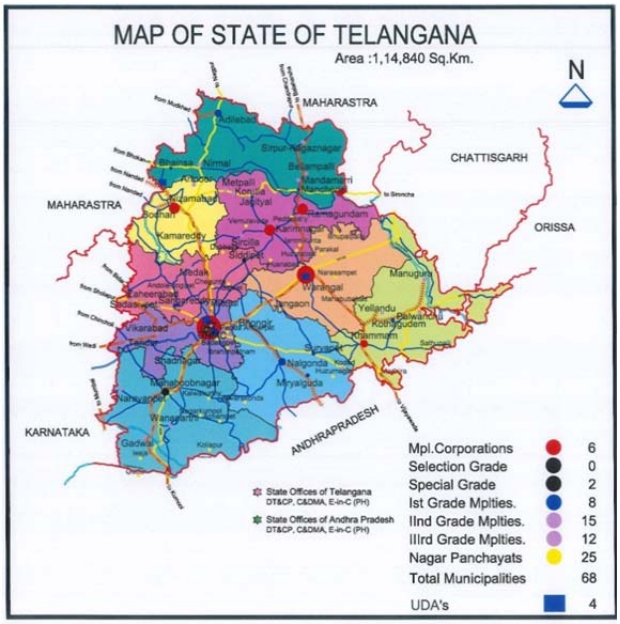
Abstract—*Solid-waste management is a major challenge in urban areas throughout the world. Without an effective and efficient solid-waste management program, the waste which is generated from various human activities, both the industrial and domestic, can result in health hazards and have a negative impact on the environment. In order to overcome this problem urban solid waste management requires proper planning for assessment of many complex interactions between collections, transportation, and processing methods. The authors discuss the present situation analysis of 19 urban local bodies. The data can be used for future planning of solid waste for collection and disposal and also to determine the optimum site location of disposal facilities in all urban local bodies.*

1. INTRODUCTION

Solid Waste Management (SWM) is one of the most essential functions of the local authorities in India to achieve a sustainable development in the country. Nevertheless, it has also been one of the least prioritized services during the last decades. Solid-waste management is a major challenge in urban areas throughout the world. Without an effective and efficient solid-waste management program, the waste generated from various human activities, both industrial and domestic can result in health hazards and also have a negative impact on the environment. Understanding about the waste generated, the availability of resources, and the environmental conditions of a particular society are important in developing an appropriate waste-management system. (**source:** APO, 2007). The present paper aims to outline the existing situation of SWMS in Hyderabad Region Urban Local Bodies (ULBs), problems associated with the system and also highlights some best practices and lessons learnt by ULBs.

2. SITUATION ANALYSIS IN ULBS

In Telenagana there are two regions which are in Warangal and Hyderabad, The Municipalities of Ranga Reddy, Medak, Mahaboobnagar, Nalgonda and Nizamabad Districts come under Hyderabad region. There are 18 municipalities and 1 Municipal Corporation under Hyderabad region. The 19 ULBs are as follows in Table No1. The C&DMA(Commissioner & Director of Municipal Administration)is still today struggling to manage wastes on a tight budget, with limited trained but inexperienced manpower, highly inadequate and malfunctioning equipment, inefficient collection practices with variable levels of service, and poor unhygienic operating practices, in the absence of environmental control systems and little or no legislative authority and experience in waste management. Given the lack of education and awareness, coupled with the negligible penalties (if any) for non-compliance, the public is generally scarcely cooperative with seemingly little sensitivity to the garbage around them or any awareness of responsible waste management [3].



(source: http://cdma.telangana.gov.in/)
Fig. 1: State of Telangana Map

2.1. Door to Door Collection and Source Segregation

Initially due to insufficient vehicles and lack of awareness among the people in the Municipalities there was zero percentage of door to door collection of Garbage. After appointing the Environmental Engineers,

Table 1: District wise Urban Local Bodies

Ranga Reddy	Tandur, Vikarabad
Medak	Sangareddy, Siddipet, Sadasivpet, Zaheerabad
Mahaboobnagar	Mahaboobnagar, Gadwal, Narayanpet, Wanaparthy
Nalgonda	Nalgonda, Bhongir, Miryalguda, Suryapet
Nizamabad	Nizamabad, Kamareddy, Bodhan, Armoor

the E.Es(Environmental Engineers) have made effort by submitting proposals for procurement of required vehicles under 12th FC Grants and bringing awareness among the people , it has been noticed that there was gradual increase in the percentage of Door to Door Collection of Garbage in all the Municipalities of Hyderabad Region. And further Segregation at the source was also been 100 % implemented by some of the Municipalities as seen from the monthly reports of Door to Door Collection in Table No2.

2.2 Ban on Plastics

Plastic ban below 20 microns is being effectively implemented in the Municipalities of Vikarabad, Sangareddy, Medak, Sadasivpet, Mahaboobnagar, Sadasivpet, Gadwal, Narayanpet, Wanaparthy, Bodhan, Nalgonda, Kamareddy and Suryapet.In addition to this, fine is also being imposed on traders by conducting surprise rides. Further for the replacement of Plastic covers, the municipalities of Sadasivpet, Bodhan & Suryapet have been distributed sample jute and cloth bags to the traders.

2.3 Collection system and Transportation

Normally, daily working hours for a crew is 8 h, including time of lunch and clearance at the landfill. Each vehicle consists of two crew members who are fully responsible for the collection and disposal of the wastes from the bins. Transportation of waste from the waste storage depots to the disposal site is done through a variety of vehicles such as wheel barrows, three-wheelers, tractors, and trucks. A few ULBs use modern hydraulic vehicles as well. Most of the transport vehicles are old and open. They are usually loaded manually. The fleet is generally inadequate and utilization in optimal. Inefficient workshop facilities do not do much to support this old and rumbling squad of squalid vehicles.

The traditional transportation system does not synchronize with the system of primary collection and secondary waste storage facilities and multiple manual handling of waste results [4]. In Table 2 given Status of Door to Door Collection in All ULBS, Different ULBs using different vehicle type per day garbage lifting 596 MT/Day out of 648 MT/Day of waste generation due to

the inadequate vehicle, limited manpower they are unable to reaching 100% collection in ULBs.

Table 2: Household Data and percentage of collection

Sl. No	Name of the ULB	Population as per 2001 census	Total No.of House holds	Cumulative No.of house holds covered	% of cumulative coverage
1	**2**	**3**	**4**	**5**	**6**
1	**Tandur**	57941	14996	14770	98
2	**Vikarabad**	42410	8877	5800	65
R.R. Dist Total:		**100351**	**23873**	**20570**	**86**
3	**Sangareddy**	57113	10750	8872	83
4	**Siddipet**	61809	11063	10625	96
5	**Medak**	41945	8995	8675	96
6	**Sadasivpet**	36334	8970	8485	95
7	**Zaheerabad**	45359	7642	5800	76
Medak Dist Total:		**242560**	**47420**	**42457**	**90**
8	**Mahabubnagar**	139534	26000	25656	99
9	**Gadwal**	53601	10243	6200	61
10	**Narayanpet**	37569	8018	7413	92
11	**Wanaparthy**	50262	11500	10932	95
Mahaboobnagar		**280966**	**55761**	**50201**	**90**
12	**Nalgonda**	111745	23522	22988	98
13	**Suryapet**	96200	25000	25000	100
14	**Bhongir**	50407	12165	8758	72
15	**Miryalaguda**	91270	16873	15154	90
Nalgonda		**349622**	**77560**	**71900**	**93**
16	**Nizamabad Corporation**	286000	46782	41742	89
17	**Kamareddy**	64496	19500	16800	86
18	**Bodhan**	71520	20000	18000	90
19	**Armoor**	40836	12034	8837	73
Nizamabad		**422016**	**86282**	**76542**	**89**
Regional Total		**1395515**	**290896**	**261670**	**90**

Table 3: Garbage Collection in different ULBs

Sl. No.	Name of the Municipality	Total Garbage		% Cleaning
		Generated (in MTs)	Lifted (in MTs)	
1	**2**	**23**	**24**	**27**
1	**TANDUR**	28	27	**100.00**
2	**VIKARABAD**	21	21	**61.54**
Ranga Reddy Dist. Total		**49**	**48**	**84.47**
3	**MEDAK**	28	25	**95.89**
4	**SANGAREDDY**	45	41	**69.32**
5	**SIDDIPET**	40	40	**98.88**
6	**SADASIVAPET**	24	21	**87.10**
7	**ZAHEERABAD**	24	22	**44.44**
Medak Dist. Total		**161**	**149**	**77.69**
8	**MAHABOOBNAGAR**	75	71	**98.82**
9	**GADWAL**	32	28	**85.00**
10	**NARAYANAPET**	24	15	**69.23**
11	**WANAPARTHY**	36	36	**57.53**
Mahaboobnagar Dist Total		**167**	**150**	**82.40**
12	**Nalgonda**	58	52	**74.91**
13	**Bhongir**	32	32	**94.84**

14	**Miryalguda**	50	45	**91.85**
15	**Suryapet**	44	44	**75.76**
Nalgonda Dist Total		**184**	**173**	**83.49**
16	**Nizamabad**			**#DIV/0!**
17	**Kamareddy**	37	34	**36.84**
18	**Bodhan**	50	42	**85.71**
19	**Armoor**			**#DIV/0!**
Nizamabad Dist Total		**87**	**76**	**57.58**
HYD. REGION TOTAL		**648**	**596**	**78.67**

3. COMPOST YARD:

All the Municipalities except the municipalities of Sangareddy, Narayanpet do not have ULB own Compost yard and the same has been identified for the land Acquisition which is being sanctioned in the 12thFC and 13th FC(Finance Commission) Grants. And further some Municipalities have deficit land for Compost yard. Further in all the Municipalities proposals for the Development of Compost Yard have been sanctioned and the works are under progress.

4. CONCLUSION

The results of this study indicate that urban Solid waste management may be one of those unique cases where decision making can be more than incremental due to fewer fixed facilities and certain legal mandates. Programming optimum locations of disposal sites and transfer systems would appear to provide high pay-offs in determining the least cost system for such areas. However, compost project financials can also be impacted due to poor quality of finished compost resulting problems in marketability. Further, the market for compost may take long time to develop in the absence of segregated waste input and subsidy given to fertilizers. Composting should be regarded as a treatment option rather than a self-supporting project. The real change is to generate markets for the finished compost.

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