



# **WORKSHOP ON CHALLENGES OF URBANISATION IN INDIA WITH FOCUS ON SOLID WASTE MANAGEMENT**

**VENUE: ADMINISTRATIVE STAFF COLLEGE, GUWAHATI  
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**BY**

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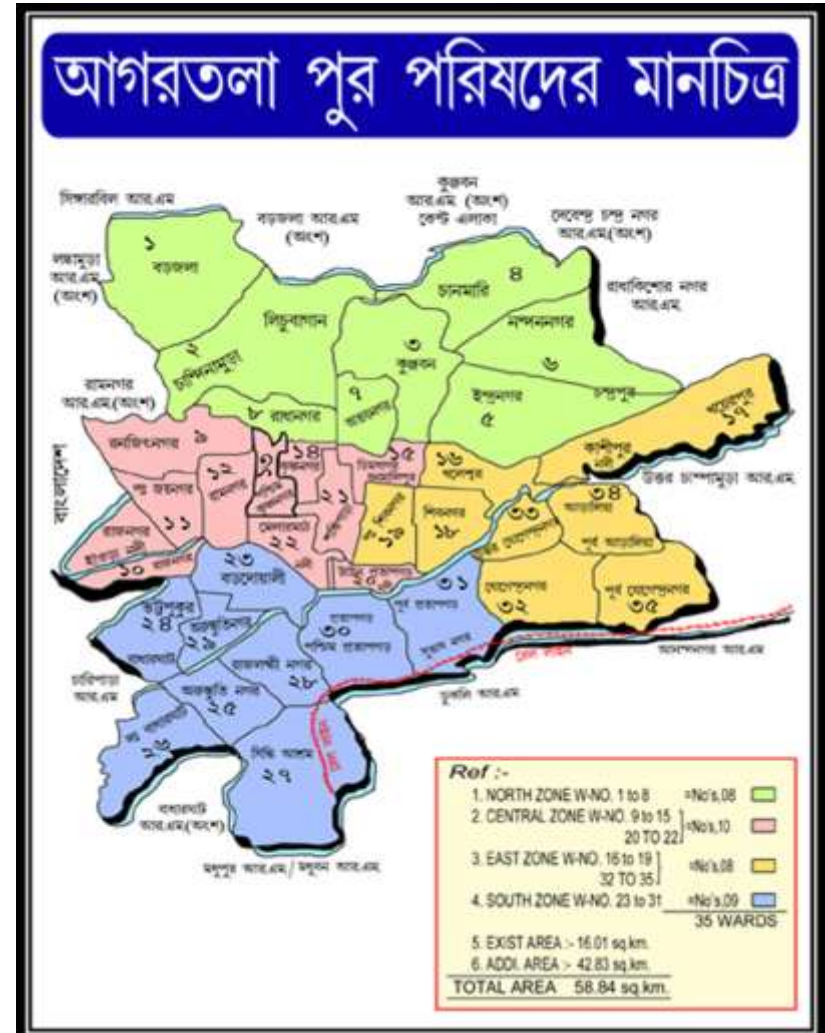


# **Brief information regarding Urbanization in Tripura**

- Total population-36 Lakh
- Urban Population- 6 lakh(21 %)
- 1(One) Municipal Council-  
Agartala Municipal Council
- 15 (Fifteen) Nagar Panchayat



# Map of Tripura & Agartala Municipal Council





## **AGARTALA CITY: AGARTALA MUNICIPAL COUNCIL : BRIEF INTRODUCTION**

- **Agartala**- Capital & Main City, Administrative, Business ,industrial , Educational & Health Center, Airport and Railway facility
- **Agartala Municipal Council**-One of the oldest in India- Established in 1871.
- Population- 4 lakh (2011 Census)
- Daily migrating population-1 lakh
- Four Zones, 35 wards, Total Area- 58.84 Sq Km. No of Households- 90000. Located on NH-44
- Two small rivers i.e. Howrah and Katakhal flow across the city to Bangladesh
- Located on the international border with Bangladesh, trade with Bangladesh through Akhaura Check post



# Statistics of Solid Waste Generation under Agartala City

Sources of Solid Waste Generation	Quantity
Waste Generated by Street Sweeping	50 MT/Day
Waste Generated by Households, Hotels and Restaurants	110 MT/Day
Waste Generated by Markets (Vegetable Markets, Fish Markets, Mandis etc)	80 MT/Day
Waste Generated by Commercial Establishments (eg. Institutions, etc)	10 MT/Day
<b>Total Solid Waste Generation</b>	<b>250 MT/Day</b>



# Management of Solid Waste under Agartala Municipal Council

- House to house collection of Solid Waste
- Collection of Garbage from roads, Markets, Drains etc generated by sweeping/cleaning activity of AMC
- Lifting & Transportation of Solid waste to Dump-Yard
- Processing of Solid Waste





# House to House Collection of Solid Waste



- Outsourced to NGOs
- 52 No of NGOs
- 200 no of Tri-cycle Pullers deployed by NGOs who collect House to House Solid Waste
- Present Coverage:30 to 40 %
- Daily generation of garbage by House to house Collection 25-30 MT per day



# Generation of Garbage from roads, Markets, Drains sweeping/cleaning activity of AMC



- Manual and Mechanized Sweeping
- 650-700 Conservancy ( Sweeping) Staff
- One Automatic sweeping Machine
- All the main roads of the city( Around 40-45 Km) are swept daily
- Periodic cleaning of open drains
- Daily Garbage generation by sweeping & cleaning 140-150 MT Per Day



# Collection of the generated Solid Waste



- 400 no of rode-side 1.1 cu meter medium size Containers on main roads
- 100 no of 4.5 Cu meter big size containers in markets, mandis etc
- 60 number of 0.4 cu meter small size containers near markets situated on narrow lane roads
- One handcart with buckets for each sweeper to carry garbage to the container after sweeping



# Transportation of Solid Waste to Dump-Yard

- Agartala Municipal Council presently operates 87 no of various garbage collection and transportation vehicles ranging from most modern Compactors, Dozers, Loaders Collectors, Skid Steer Loaders etc to ordinary tripper/truck etc
- Two Heavy De-silting machines with high power suction for drainage clearance and transportation, have been recently procured and under operation.
- Two Cess-Pools for clearance of septic tanks (Night Soil) Government & Private buildings are working & two are to be procured shortly



# SWM Vehicles under AMC







# Clean roads of Agartala City







# Processing of Solid Waste

- At present the capacity is only 30 MT/day with the Solid Waste Processing(Composting) Plant at Hapania, Agartala
- Rest 180-200 MT garbage is dumped in open at the dump yard at DC Nagar, Agartala
- DPR is under preparation for setting up of 250 TPD Solid Waste Processing Plant (Compost & Sanitary Landfill unit) at DC Nagar, Agartala on PPP basis. Firm/Agency has already been selected by two stage transparent tender process. Work order to be issued shortly. Plant to be operational by December 2013.



# Sewerage Scheme under AMC

- Rs 102.21 Crore Scheme under progress JNNURM for North Zone of Agartala Municipal Council –to be operational by December 2013. Almost 70 % work completed. 95 km sewer line network covering entire North Zone of AMC, 3500 manholes, 9 pumping stations, 11 lifting stations, one Sewerage Treatment Plant with 8 million liter per day sewerage processing capacity. The components are-
  1. Sewerage House Connections and pipelines
  2. Sewage Pumping Stations
  3. Sewage Treatment and Disposal Facilities

# Photographs of Sewerage Scheme(JNNURM)





# Septage Management under AMC

- Total number of house-holds -90000
- Total number of septic tanks- 70000
- Dry Latrines/No latrines- 18000-20000
- Aim is to clear around 6000 septic tanks mechanically by Cess-pool Machines ( Suction Pumps with Tankers) and treat the septage in Sewarage Treatment Plant (JNNURM)
- At present two no of cess-pool machines are operating. Two split type cess-pools to be procured shortly so as to take the machines in narrow lanes.
- Two high power De-Silting machines ( Rs 2.5 Crore) are already procured and operational to clean the drains mechanically and to prevent manual scavenging



# Plan for septage/ sewerage treatment

- 8 million liters per day Sewerage Treatment Plant(STP) under Sewerage Scheme JNNURM to become operational by December 2013
- The plant is enough for the treatment of all the septage about 20 Septic tanks daily along with the sewerage load of the entire North Zone.
- Agartala Municipal Council shall try to collect all the septage from all the septic tank by this year. Daily 20 Septic tanks will have to be cleared.





# ILCS Scheme implementation under AMC



- 18970 no of Integrated Low Cost Sanitary Latrines are being constructed to convert eliminate all the dry latrines under Integrated Low Cost Sanitation Scheme (ILCS) of Ministry of HUPA, GOI
- Already 1150 completed
- Target to be completed by the end of 2013



# Present Challenges in SWM before AMC

- Behavior/habits and attitude of common people is not so conducive. Citizens demand services but do not share responsibility for common good.
- Lack of Awareness & careless attitude by people.
- It is practically difficult to enforce legal measures.
- Only 30-40 % households are covered with house to house garbage collection system. Rest households through the garbage over roads & drains which is lifted by AMC.
- Only 900 to 1000 septic tanks out of 6000 are being cleared mechanically, thus manual scavenging is being practiced.
- Both the rivers are highly polluted leading to international concerns
- Progress of ILCS is slow.



# Aims before AMC for SWM

- To create public awareness for cleanliness, sanitation and to Change of attitude of people
- To treat entire sewerage/septage by the end of this year & to prevent pollution of city rivers and international water. State to seek support from ADB
- To increase the coverage of house to house garbage collection from current 30-40 % to 85-90%
- To cover half of the roads by mechanical cleaning
- To eliminate manual scavenging entirely by replacing mechanical scavenging by the end of this year
- To eliminate dry latrines and/or open air defecation by the end of this year by completing ILCS target of 18790 units.
- **To make City of Agartala fully clean and green**

# THANKS

