

Workshop Report

Developing a Roadmap for Awareness Generation & Segregation of Waste at Household level



April 17, 2010

Conference Hall
Nashik Municipal Corporation
Nashik

Workshop Report

Workshop for developing a Roadmap for Awareness Generation & Segregation of Waste at Household level

A. Background

In order to develop a Roadmap for Awareness Generation and Segregation of Waste at Household Level, a workshop was held in the Conference Hall, of the Nashik Municipal Corporation on April 17, 2010. Agenda for the workshop is included as Annexure I and List of Participants as Annexure II.

Objectives

To understand the current system of door-to-door collection of municipal solid waste in Nashik and prepare a roadmap for interventions from all partners for introduction of segregation of municipal waste at household level and for related awareness generation and capacity building.

Target Group

Officials from the Nashik Municipal Corporation
Consultants, Nashik Environmental Cell, GTZ-ASEM

Expected Outcome

Roadmap prepared for NMC covering the following aspects:

1. Segregation and collection of waste at household level
2. Transportation of segregated waste
3. Complaint redressal system
4. Awareness generation
5. Capacity building

B. Introduction

The workshop was inaugurated by Mr. Satish Khadke, Deputy Commissioner, Nashik Municipal Corporation and the welcome address was given by Dr. Regina Dube, Senior Advisor & Head, Sustainable Urban Habitats, GTZ-ASEM and Dr. Kondiram Pawar, Chief Health Officer, Nashik Municipal Corporation.

The points that came up for discussion during the meeting and the internal preparation/ way forward for segregation of waste at household level are given below:

C. Discussion on Current System for Collection and Transportation of Solid Waste in NMC area

1. System of waste collection:

Nashik Municipal Corporation is a Bin-free city and the system for collection and transportation of waste from households to the compost yard with the help of Ghanta Garis (automated vehicles with bells) is also very innovative. This system was established in 1996 and has been working successfully since then.

The collection and transportation system works on a PPP mode and 2 contractors have been employed for managing the 108 wards with the help of 124 Ghanta Garis (municipal waste collection vehicles). 1 vehicle is deployed in each ward and in addition there are 2 vehicles for collecting bulk waste from hotels, markets, temples; the remaining vehicles are for emergency usage.

The households use their own dustbins/ containers to deliver the waste to the Ghanta Gari. The Ghanta Gari stands at each cross-road for approximately 15-20 minutes and 90% of the residents in the vicinity (lanes and by-lanes) either deliver the garbage themselves or through some help.

It is not allowed to keep garbage outside the house and if the van is missed on some day then NMC has instructed that the garbage should be given on the next day and not thrown on the streets and residents abide by this.

People have made informal arrangements to adhere to the system: For old citizens – the sweepers collect in wheel barrows from house for a minor tip. For persons living in apartments- the apartment guard is the in between man who delivers to the Ghanta Gari on arrival. In houses where both husband and wife work and there is no one at home, people have made special arrangements with their neighbours/ with the sweepers for taking their garbage.

There is no separate collection charge collected from hotels/ restaurants and any money to the contractor for collection of waste from hotels/ commercial establishments is usually in the form of tips.

For defaulters, NMC has very strict rules in place and there are fines ranging from Rs. 50-100 for throwing garbage in the streets, in the river, etc. According to the Bombay Police Act 115, which is for Prevention of nuisance and increase in sanitation. All Divisional Sanitary Inspectors, Sanitary Inspectors & Sanitary Mukaddams are empowered with policing powers as per this Act and have the right to levy a fine of Rs. 50-100/- for littering. This Act has been instrumental in getting the system in place. Every month Rs. 15,000 - 25,000 is collected as fine and it is a source of income for NMC.



Collection of waste from Households

Informally, the workers already do secondary segregation in the garbage trucks. All vehicles first go to the kabariwala for selling the sellable segregated waste from the trucks before moving to the plant.

This system is very effective in NMC area as there are no visible dustbins anywhere in the city and the roads are also very clean.

2. How the process of door-to-door collection of waste was started in Nashik

When this system was introduced in the city, as a first step all infrastructure was brought in place by NMC – namely the contractors and their workers, preparing of the route plan for loading points and vehicle movement. Timings for the vehicle reaching a particular place were fixed. A Sanitary Mukaddam was appointed as a Supervisor at ward level from side of NMC.

Initially, 2 contractors were employed and the vehicles of the contractors were used for collection and then transportation of waste to compost plant. One vehicle was deployed per ward and as a strategy, NMC removed all the dustbins from the city and requested the households to give waste only to the Ghanta Gari.

The NMC staff went from house to house personally and asked the households to put waste in the Ghanta Gari.

Each ward Corporator was given the authority to appoint the vehicle owner and also some workers which were in the vehicles. As the Corporators own people were immediate beneficiaries, they did not oppose the scheme.

A fine of Rs. 50-100 was levied for not giving waste to Ghanta Gari and for littering. There were lot of court cases and objections from people. There were instances when NMC had to take the help of the police. Exposure visit to Surat was organized and some good practises were adopted.

The motivation for the NMC staff was movement towards a Bin-free city and they used the plague in Surat as a deterrent for the residents. With gradual and concentrated efforts from the NMC Nashik is now a Bin-free city.

3. Contractual Arrangement with the Contractor:

The contract period for the contractors is 3 years. The collection charges paid by NMC for the services of collection are between Rs. 720-825 per ton of waste. The cost variation is because of the distance each vehicle has to travel before depositing the waste at the composting unit. NMC deducts Rs. 200/ton as Innovation charges from the collection fee paid to the contractor/ ton. The money is collected under a separate head, and can be used for any future innovations within the Corporation.

4. Maintenance of vehicles

These vehicles are owned by NMC and have been given to the Contractors for running the operation of waste collection. The current vehicles have been procured from the JNNURM funds and are in use since 2009. Minor maintenance of the vehicles is done by the contractor himself. For major/ regular maintenance – NMC has a maintenance contract with

the vehicle company, for an initial term period of 5 years and this was built into the contract at time of purchase of vehicles.

5. Roles and Responsibilities

For administrative purposes, NMC area has been divided into 6 Administration divisions/zones and 108 Electoral wards. All Officers stay on the field between 6am to 1pm. Refer to Fig. 1 for Reporting Structure and Complaint Redressal System.

Divisional Inspectors – They are the zonal incharges and there is 1 per zone.

Sanitary Inspector – They are in-charge of 3-4 wards. Sanitary Mukaddams directly report to the Sanitary Inspectors

Sanitary Mukaddams – There is approximately 1 wards are under each Mukaddam. For the purpose of street cleaning, 6 to 10 Safai Karamchari's are assigned to each Mukaddam and for garbage collection there is one Ghanta Gari per ward. Each Ghanta Gari is manned by one driver and two workers who are responsible for the door-to-door waste collection.

Mukaddams are responsible for the daily monitoring of street cleaning and garbage collection in the assigned ward. It is their duty to ensure that the garbage in the wards assigned to them is collected.

Safai Karamcharis - (employees of NMC) are responsible for street sweeping and depositing the waste collected from the streets onto the garbage vehicles. They collect the waste in wheel barrows or stack it at strategic locations for being picked up by the Ghanta Gari.

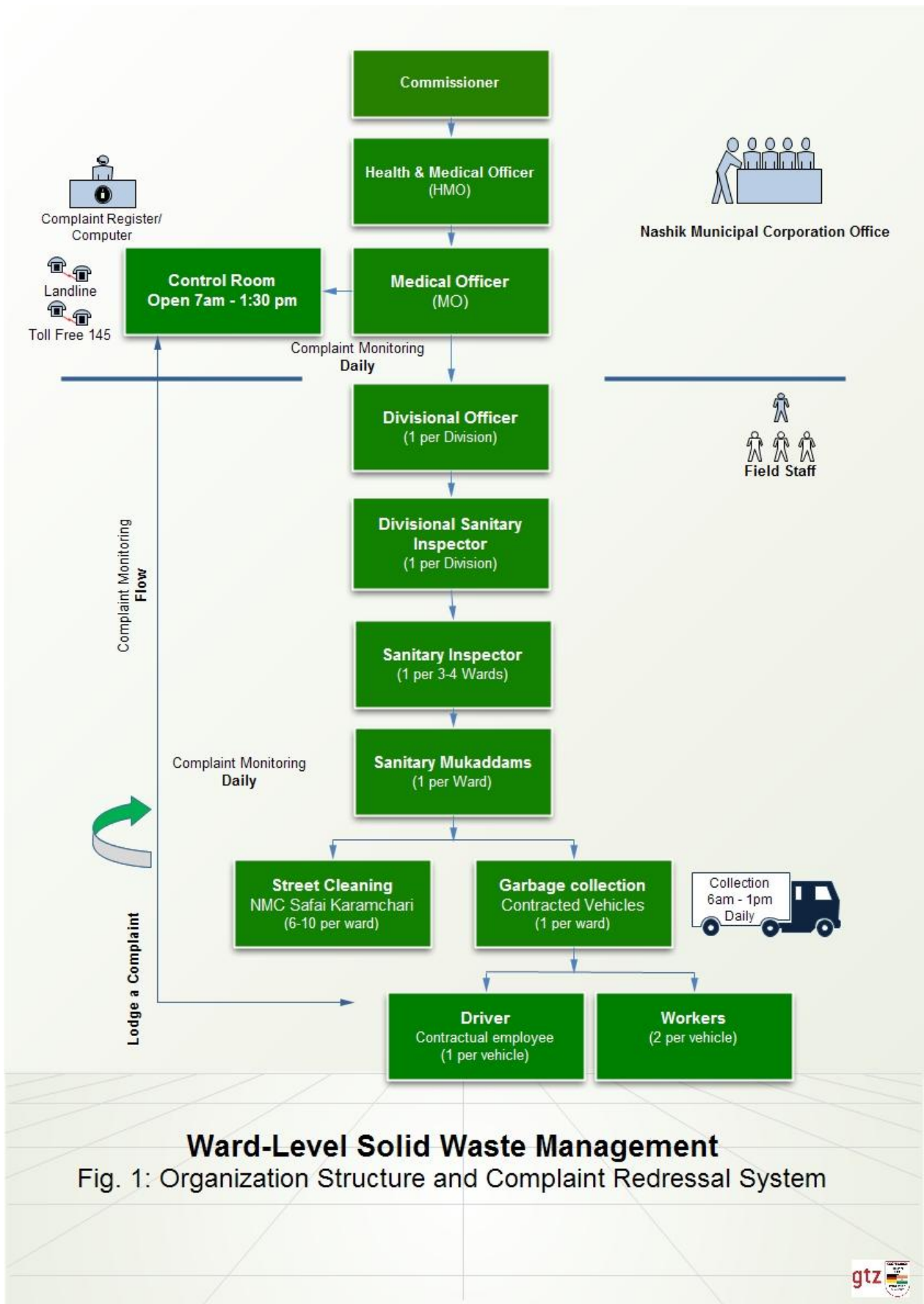
Waste Contractors – There are 2 contractors who are responsible for the door-to-door garbage collection in the 108 wards in NMC area. 1 vehicle is dedicated to one ward and its route has been predetermined by NMC officials. Each vehicle is manned by a driver and 2 workers, who are responsible for the collection of waste.

6. Complaint Redressal System

Control Room within the Corporation: The Control room is housed within the NMC main office building and it is under the direct supervision of the Medical Officer.

The control room operates from 7am to 1:30pm and residents/ users can file complaints here with the help of 2 telephone lines – one is a Toll Free number 145 and the other is a landline. It is also possible to lodge complaints at Division offices.

On the ground complaints – Users can also complain to the Vehicle Operator and the Sanitary Mukaddam or Sanitary Inspectors.



Ward-Level Solid Waste Management
 Fig. 1: Organization Structure and Complaint Redressal System

However a lot of complaints are also made to the Corporator/ Councillor of the Ward. The Corporator calls the Health & Medical Officer or the Commissioner directly for immediate action.

The usual complaints are 'Not on time', 'Irregular' and 'No Show'. A few complaints are from citizens who stay on the top floor of apartments and by the time they come down the Ghanta Ghari goes to the next stop.

Another problem was that of smell of garbage and the linkage of complaints of drinking during work and abusing of residents by sweepers and garbage collectors. Such complaints were very high before the Bin-free system and the Ghanta Garis were started in the city. This problem is no longer there since the waste is collected on a daily basis and there is no smell in the garbage.

The contractor has 1 Supervisor per division and a total of 3-4 Supervisors who help in complaint monitoring.

There are some incidents of burning waste during spring and autumn, when there are more leaves on the ground. But the power for Spot fining upto Rs. 50/- is vested with the Sanitary Mukaddam for garbage burning.

7. Performance Monitoring

The Contractors are evaluated on the basis of Monitoring of complaints and the nature of complaints received.

The average collection in the city is approximately 325 metric tons. Each vehicle is weighed at the weigh bridge on entry (with waste) and on exit (without waste). The latter gives the average weight of the truck which is 3metric tons and 2.25 metric tons. The weight of each vehicle is monitored daily.

For monthly payments the contractor has to prove that he has brought x tons of weight and every month he gets his cheque. As per the conditions in the ToR maximum fine is for late and absent. In general each contractor is payed Rs. 15 lakhs per month and according to the condition of violation (as per ToR of the Contractor) on an average Rs. 10,000 – 15,000/ month (approx. 1%) is the fine collected.

Monitoring for construction debris in the garbage vehicles is very innovative. When the vehicle reaches the plant – an improvised instrument (an iron pot tied to a long bamboo shaft) is thrust into the truck. In case of any sand residue being scooped out, the truck is sent back to empty the construction waste. Checking is also done at the time of unloading. This method seems effective since there were hardly any traces of construction debris at the compost site.

NMC is in the process of having GPRS system fitted on vehicles and is also making a complete record of these vehicles and their routing plans on GIS. This will help in keeping a track of the vehicles.

8. Charges for collection of waste

Sanitation tax of 3% is charged along with the property tax. NMC is proposing to increase this 3% charge to 7%, since it is currently running in losses. There are no user charges which are levied for collection of waste from the households. Plans for levying this user charge are also in the pipeline and will be justified with the for the treatment facility.

C. Internal Preparation/ Road map for Segregation of Waste at Household level

S.No.	Steps	Responsibility
1.	Submission for Approval of Council	NMC
2.	Segregation at Household level – manmade and natural – but compartment in vehicle has been removed because of an imbalance in the vehicle. There is some form of segregation in the vehicle. a. Visible segregation – visible to households will have to be arranged in the vehicles b. Talk to contractor about segregation of waste – it is also in the ToR for contractor	NMC
3.	Awareness – strategy will vary with each zone. 1. Flier a. English, Marathi, Urdu b. Flyer for distribution -at ward office by Corporator, contractor, NMC, etc. 2. Street plays 3. Awareness for definition of manmade and natural 4. media campaigns – TV, radio, newspapers, posters 5. School children – essay and painting competitions 6. Message to be given on the receipts 7. Message on ghantagari – slogans on autos	Detailed Design for flyer by GTZ for approval to NMC; Microplanning by NMC in cooperation with GTZ
4.	Capacity Building a. Corporators and political workers should be motivated b. Capacity Building of workers in ghanthagari and street sweepers, NMC workers, Contractors c. Self-help groups & Senior citizens d. Ward committees	Detailed Design by GTZ for approval to NMC/ program conducted by GTZ
5.	Forming of ward committees a. Letter has been issued to SI for formation of the committee b. Ward committees - Corporators supporters/ public representative c. Committee at ward level under president ship of corporator – below him the NMC workers, ghanthagari workers, residents, etc. d. Once every month to discuss the problems in the ward – as citizens they should be responsible. e. Competition amongst ward committees	NMC
6.	Hotels - Collection of segregated organic waste (kitchen) a. Separate activity – assign vehicles for this b. Monitor the quality and quantity of pure organic waste from Hotels	NMC order- (immediate)
7.	Vegetable Markets - Collection of segregated organic waste a. Separate activity – assign vehicles for this c. Monitor the quality and quantity of pure organic waste	NMC order- (immediate)
8.	Heavy metals a. Identification of possible sources of heavy metals which may contaminate the municipal waste as per MSWM Rules 2000 b. Rectify through monitoring	NMC order – (immediate) (GTZ cell to help)

Photos from the workshop





Agenda

Workshop for developing a Roadmap for Awareness Generation & Segregation of Waste at Household level

Venue: Conference Hall, Nashik Municipal Corporation

Date: 17-4-2010

Time	Agenda
10:00 am – 10:30 am	Welcome to the participants by Dr. Regina Dube, GTZ-ASEM Welcome by Mr. K. R. Pawar, NMC Introduction of participants
10:30 am – 11:00 am	Presentation on current best practices in India in segregation of waste – Mr. K.P. Pravinjith Discussion
11:15 am	Tea on the table
11:15 am - 1:00 pm	Discussion on the current system of Solid waste management in Nashik: <ul style="list-style-type: none"> • Door-to-door collection of waste • Methodology for transportation of waste • Complaint redressal system
1:00 pm – 2:00 pm	Lunch
2:00 pm – 3:30 pm	Discussion Need for segregation of waste and awareness generation Steps to be adopted
3:30 pm	Tea on the table
3:30 pm – 4:30 pm	Discussion continued
4:30 pm – 5:00 pm	Road map for awareness generation and segregation of waste for NMC
