



Please  
insert  
your  
ULB's  
logo

# **Forum of Cities that Segregate (12-13 December, 2017) New Delhi**

**CITY ULB NAME: BOBBILI**



# Existing Status of Waste Management

- ┌ Population: 56,871
- ┌ Generation: in Tonnes per day - 18 Mts
- ┌ Composition: % of *biodegradable, non-biodegradable and inert fraction generated*
- ┌ *Biodegradable- 40%*
- ┌ *Non biodegradable- 26%*
- ┌ *Inert Waste- 34%*
- ┌ Segregation in percentage (%) : 100%
- ✓ ***Segregation started since (2012)***
- ✓ ***Number of wards where segregation is happening,- 30 (in all the wards)***
- Door to door (DTD) collection- started in the year of 2012
- Collection efficiency (in %): 100%
- Processing (recycling & treatment of wet/dry waste ) : 82%
- Disposal : 65%

# Does the city have by laws as per the SWM Rules, 2016

## HAZARDOUS WASTE

(Do NOT use a plastic liner)

### Sanitary waste

(Use a newspaper for wrapping)

Diapers/Sanitary nappies  
Bandages  
Condoms  
Nails  
Used tissues  
Medicines



(Limited quantities of mixed waste is allowed, such as heavily soiled plastic or soiled paper)

Sharps<sup>5</sup> (small quantities only; wrap in newspaper and hand over separately)

Razors/Blades  
Used syringes  
Injection vials



Construction debris/Inerts<sup>8</sup>  
(Hand over separately)



## DRY WASTE

## WET WASTE

(Do NOT use a plastic liner)

### Kitchen Waste

Vegetable/fruit peels  
Cooked food/Leftovers  
Egg shells  
Chicken/fish bones  
Rotten fruits/vegetables  
Tissue paper soiled with food  
Tea bags/Coffee grinds  
Leaf plates  
Swept dust



### Garden waste\*

(small quantity only; from Apt)  
Fallen Leaves/twigs  
Puja flowers/garlands  
Weeds



(Use only reusable bags for disposal)

### Plastic (Must be rinsed if soiled)

Plastic covers/bottles/boxes/items  
Chips/toffee wrappers  
Plastic cups  
Milk/Curd packets

### Paper (Must be rinsed if soiled)

Newspaper/Magazine  
Stationery/Junk mail  
Cardboard cartons  
Pizza boxes  
Tetrapaks  
Paper cups and plates



### Metal

Foil containers  
Metal cans



### Glass (handle with care)

Unbroken glass bottles



### Other dry waste

Rubber/Thermocol  
Old mops/Dusters/Sponge  
Cosmetics  
Ceramics, Wooden Chips  
Hair  
Coconut shells



### E-waste (handle with care)

Batteries  
CDs/Tapes  
Thermometers  
Bulbs/tube lights/  
(hand over separately)





# Any penalty provision littering?





# Any state policy to ban plastic?

ప్లాస్టిక్ ని నిషేధిద్దాం..

పర్యావరణాన్ని పరిరక్షిద్దాం...

ప్లాస్టిక్ వద్దు



మా పట్టణంలో ప్లాస్టిక్ వాడకం నిషేధించడమైనది.  
పట్టణంలోనికి ప్లాస్టిక్ (కవర్లు, గ్లాసులు) తో ప్రవేశించవద్దు  
దయచేసి మాకు సహకరించ వలెను

కమిషనరీ  
బొబ్బిలి పురపాలక సంఘం



సుస్వాగతం....



కాగితం/ గుడ్డ ముద్దు



GO GREEN

## Bobbili, first town to go plastic-free

Behara Raja Rao | ENS  
Bobbili (Vizianagaram, December 30)

THE historical town Bobbili set a record in the region by going totally plastic-free. The municipal authorities have succeeded in implementing ban on use of polythene and plastic.

Choking of major drains and other outlets by huge dumps of polythene and plastic bags used to be a regular affair in the town. Besides posing health hazards, it called for frequent desilting of the drains for free flow of water. The municipal administration then passed a resolution to ban use of polythene in April and implemented it from August.

Awareness camps were conducted for all sections of society particularly business community, self help groups and students. Rallies were also carried out with the school children and several competitions like songs and dramas organised to put across the message to the people.

Taking note of the municipality's sincerity, the people also responded well and stopped using polythene even before the date of implementation. The response was so overwhelming that even the petty establishments like mutton shops stopped using polythene bags and asked the customers to bring their own bags.

On August 2, the commissioner of municipality got phone calls from the public regarding the stocks of polythene. The officials immediately rushed to the spots and seized the materials.

Though some shop owners and people's representatives resorted to pres-



A municipal worker taking plastics and polythene bags to dispose of in Bobbili.

sure technique as usual, the municipal authorities stuck to their plan and rejected their pleas. On the other hand, they asked them to cooperate in the drive.

The whole exercise faced a major hurdle in respect of water sachets. But the municipal authorities stopped sale of water packets in the town from 1st

December. In the absence of adequate potable water, there was opposition and protest from some quarters particularly on the eve of festivals in Patla Bobbili and Gollapalli streets of the town.

Again Municipal Commissioner P Prasad interferred and assured the potable of supplying drinking water.

True to his word, around two lakh people were supplied drinking water during the festivals.

The Commissioner also told the people that if necessary they could call him from 5.30 am to supply the water as he had resolved to keep the town clean the day he assumed charge as commissioner.

When I took charge as Commissioner, I had resolved to make the town plastic-free. Today, it has been achieved.

P PRASAD  
Municipal Commissioner

99

As part of drive, the vehicles move in all the wards announcing "chet bandi vachindamma, Mee inta chetani andinchandi" (hand over the household garbage to the staff coming to the doorstep). The people were all warned that if they throw garbage on the road or drains, fine upto ₹500 would be imposed.

After successful implementation anti-plastic drive, the Commissioner told Express said that the municipality has taken up solid waste management programme in a big way. It has received ₹1.31 crore from 12th Finance Commission which will be used open a vermi compost yard in eight acres at Ramannapalem.

Vehicles have been procured to dump the garbage. Already households have been provided two baskets- one for wet and another for dry garbage Prasad added.

THE NEW INDIAN EXPRESS 3  
FRIDAY, DECEMBER 31 | 2010 | VISAKHAPATNAM

# RTMS – new system for door to Door collection

**Ideal Pushcart should consist of**





# Personal Protective wear-Neww

Rain  
Coat



Cap



Mask



ID

Jacket



Gloves



Gum  
Boots



Soa  
p



Oil





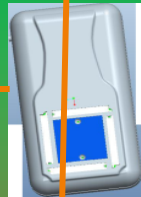
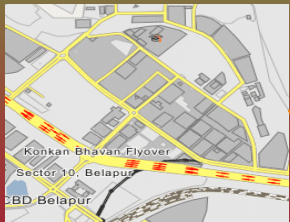
## Source segregation and placing at the Gate





# Real-Time Monitoring of Sanitation and SWM

On Field Biometric Attendance Monitoring



Real-time Data Flow



Citizen Complaints Redressal through *Puraseva* App

- GPS Tracker for Vehicle Monitoring
- Weighment at Waste Transfer Points - To ensure Segregated Waste Collection
- RFID Scanners for Each Micro Pocket – Service Delivery Monitoring
- 180 -200 Gate Points per Micro pocket ( 300 – 350 Households
- RFID Tags Fixed to Each Gate

# Has the ULB adopted Decentralized Waste management? Comp





# Biomethanization



LEACHATE TREATMENT THROUGH BIOGAS  
PLANT

**14 CMT BIO-GAS PLANT SUPPORTED BY  
NEDCAP**





**Raw material (cowdung +  
leachate water )**

**Soil**

**Coconut coir (Temperature  
control )**

**Stones +Sand**



**VERMICOMPOSTING OF SLURRY FROM BIO-GAS PLANT**



# Observation of Horticulture and Organic farming by the Swachh bharat Misssion team





# Others (Inorganic waste recycling)



- In Organic waste Management
- Hydraulic Bailing system





- News Paper, Paper Glass Bales and Cost 4.50Rs/kg
- Average Weight of the bale is 67 Kgs.



# Packing of Glass Bottles and cost at 3Rs/kg irrespective of all glasses





## **Major gaps and challenges of source segregation**

Earlier the waste lied littered all across the streets of Bobbili, garbage heaps were not cleared regularly and people were not habituated in segregating of the waste, as a result the drains were very frequently blocked especially with the polythene bags. Moreover, there were very few waste-transport vehicles and even they had out-lived their lives, thus resulting in increased fuel consumption and low efficiency at waste-collection, let alone any sort of waste treatment. Diarrhea, malaria and dengue had become common diseases at Bobbili. Now all the gaps were filled in a sustainable manner.

# The Centre for Science & Environment had announced that the Bobbili municipality stood 4<sup>th</sup> place in India in managing municipal solid waste scientifically which was published in Down to earth magazine for the year-2016

**COVER STORY**

## 4 BOBBILI

ANDHRA PRADESH

**IN 2008**, Bobbili was as dirty as any other Indian city. Waste littered the streets of the town, garbage heaps were not cleared regularly and as a result the drains were frequently blocked, especially with polythene bags. Moreover, there were very few waste-transport vehicles. The problem kept aggravating until 2009, when K Prasad assumed office as the town's new municipal commissioner.

**Awareness among citizens**

In 2008, Prasad started mobilising people for a cleaner town. He conducted regular awareness programmes for public that helped build an understanding for segregating wet and dry waste at every household and completely stopped incidences of careless littering. In April 2011, the municipality passed a resolution to ban the use of polythene bags.

The municipality began door-to-door collection of waste from June 6, 2011. By the end of 2011, a significant population had started practising waste segregation at source. In early 2015, the municipality's sanitation work force had 14 permanent workers and 57 contractual labourers for cleaning the streets, drains and collecting waste door-to-door. The entire municipal area, with 30 wards, is divided into nine routes to be taken care of by different groups of sanitation workers and vehicles. The routes are decided on the basis of population density.

The collected waste is taken to the lone transfer station where the segregated waste is sent to the Solid Waste Management (SWM) Park. The S.W.M. park, started in June 2011, receives waste for treatment and disposal. Of the 14 MT of waste generated and collected in the town per day, around 3.6 MT is processed. The Bobbili municipality is also using livestock as a part of the solution. The park rears a few pigs which are fed the food-waste received from the waste heaps and ducks eat the fish-food waste. The rest is dumped without any processing.

The municipality does not charge waste collection fee from residents, but charges an annual fee from the 1,072 commercial establishments. This comes to around ₹3.6 lakh per year. The municipality earns around ₹7.26 lakh annually by selling re-

cyclables like plastic bottles, paper glass bottles, and bio-compost. Waste management costs the municipality about ₹77.61 lakh. It earns about ₹2.6 crore annually from property tax, of which 30 per cent is spent on waste management.

**What needs to be done**

Shankara Rao, the commissioner of Bobbili, plans to revive the dying practice of waste segregation at source. He also wants to construct an engineered landfill site because, currently, the leftover waste is being dumped unscientifically. Interestingly, the municipality plans to adopt a village—it will take fresh cow-dung and kitchen-waste from the village residents and give them biogas as cooking fuel and compost in return. Bobbili deserves accolades for the 100 per cent collection of waste—a rare feat.

**PROBLEM**  
Inefficient waste management system

**ACHIEVEMENT**  
100 per cent door-to-door collection of waste

Of the 14 tonnes of waste generated and collected in Bobbili per day, around 3.6 tonnes is processed



## Bobbili town - an inspiring lesson in smart waste management

**Bobbili Municipality has achieved 100 per cent door-to-door collection of garbage and waste segregation (dry and wet) at source level and is one of the 10 towns in India which has smart waste management in place**

**No streetlights**  
The street lights in Bobbili are not working. The town has no streetlights. The town has no streetlights. The town has no streetlights.

**Pig menace**  
The town has a pig menace. The town has a pig menace. The town has a pig menace.

**Need dustbins**  
The town needs dustbins. The town needs dustbins. The town needs dustbins.

**Drainage water**  
The town has drainage water. The town has drainage water. The town has drainage water.

**NATURE NURTURES**  
The town has nature nurtures. The town has nature nurtures. The town has nature nurtures.

**COMING BACK TO LIFE**  
The town is coming back to life. The town is coming back to life. The town is coming back to life.

**re-use and recycle:** The current Bobbili municipal commissioner B. Shankara Rao has carried on Prasad's legacy and further improved on the waste management system with the support of a capable municipal chairperson T. Ashwari and around 100 municipal staff who are endeavouring to keep the town clean.

The city generates 14 tonnes of garbage daily of which around eight tonnes are wet, around four tonnes are dry and five tonnes are lean debris. Exploiting the provisions of waste management, Shankara Rao said, "From 6 a.m. time

sewage vehicles are despatched to take refuse to the town landfill a 15 km drive with a mile-long stretch to drop the household garbage in the waste bins instead of littering. Each vehicle is fitted with 20 bins of 40 litre capacity and 10 bins of 100 litre capacity. The bins are used for wet waste. When the bins are used for dry waste, each vehicle carries six workers, who collect and segregate the waste at the source and bring them to the intermediate station 10 km from town. From there, all the segregated waste would be sent to the Solid Waste Management Park (SWM) and compost. The town has a composting unit at the SWM park. The compost is used for the town's gardens. The town has a composting unit at the SWM park. The compost is used for the town's gardens.

The penalty for violation is also strict and effective. "Those who would not cooperate with the municipal staff and litter the roads and drains would have to construct one to three garbages for plantation depending on the severity of crime. If the shop owners litter the town, they will have to throw back the garbage in front of their own shops. If the shop owners litter the town, they will have to throw back the garbage in front of their own shops. If the shop owners litter the town, they will have to throw back the garbage in front of their own shops."



# Swachh Bharat Award by the Hona'ble Chief Minister, AP for the year 2016.



Man masters nature not by force,  
but by understanding it.

*THANK YOU FOR YOUR  
KIND ATTENTION*

