



SUPPORTING WAKE UP CLEAN UP* (WUCU)

A work in progress initiative for Solid Waste Management (SWM)

BANGALORE CITY CONNECT FOUNDATION (BCCF)



MARCH 2013

OF SHRINKING LANDFILLS & PRESSURE TACTICS

Circa Aug 2012
Bangalore had the
perfect storm

And some 10,000 tons
of garbage
on it's streets



Mavalipura Landfill closed down
Mandur villagers protest



Garbage contractors week long
strike leads to mounting garbage



WAKE UP CLEAN UP

Supported by



KSBDB



Feb 2013.

WUCU conceived as an integrated response to the 2012 garbage crisis

Managing bulk waste in situ was a start point

Garbage panel: Step in right direction?

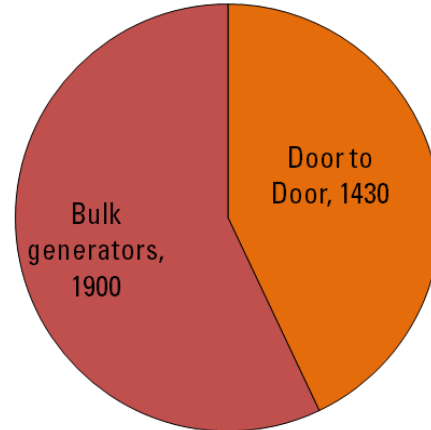
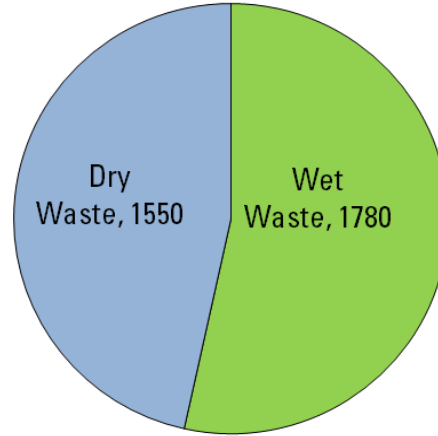


DON'T SEGREGATE, LOSE TRADE LICENSE

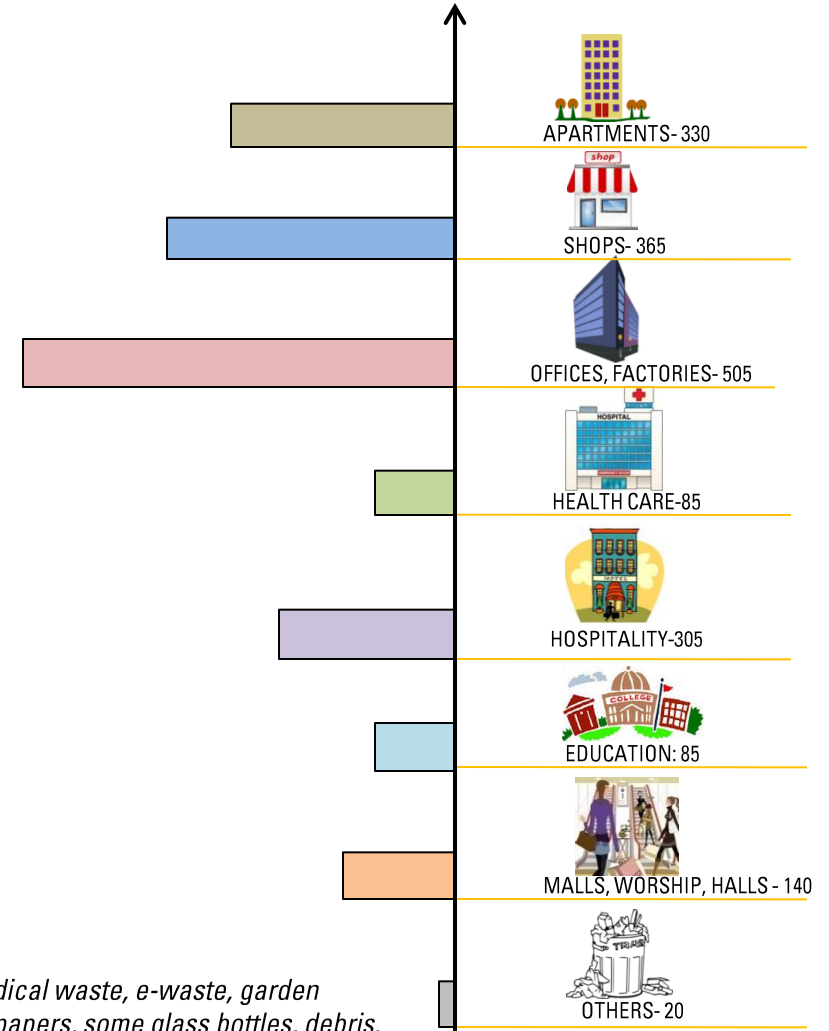


Current Wave

MARKET SIZE: 3300 TONS PER DAY



A PWC study pegs
Bangalore's daily
Municipal Solid
waste @ **3330**
tons / day (TPD)



Excludes medical waste, e-waste, garden waste, newspapers, some glass bottles, debris.

Problem size

MANDUR IS OUR SINGUR MOMENT

Landfills as
Garbage dumps
are not sustainable
anymore

In Bangalore and
across the country



THIS NEEDS A CONTRACT!

Legacy mountains
of waste needs to
be addressed

KCDC, a
composting unit
was dumped with
1.2 mn tons of
mixed waste in
2008!



- Bio mining
- Bio remediation
- Waste to Energy

MIXED WASTE WOES

Mixed Waste is the bane
of our cities

Value from waste
declines with higher costs
of transport & processing



WE HAVE TRANSPORT CONTRACTORS; NOT GARBAGE CONTRACTORS

Not segregating since
the Contractor mixes
is falling into their
'trap'

Contractors interested
in transport contracts!



ISING CONSUMERISM

Waste generation
increasing year on year

Most Manufacturers
not concerned with
post consumer waste
disposal



SECTOR PROFESSIONALISM LIMITED

Lack of scaled up
Social Enterprise in
SWM

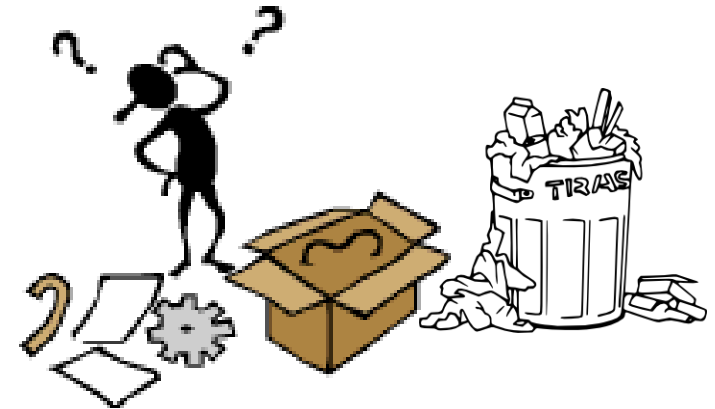
Sector
characterized by
well meaning small
NGOs and informal
workers



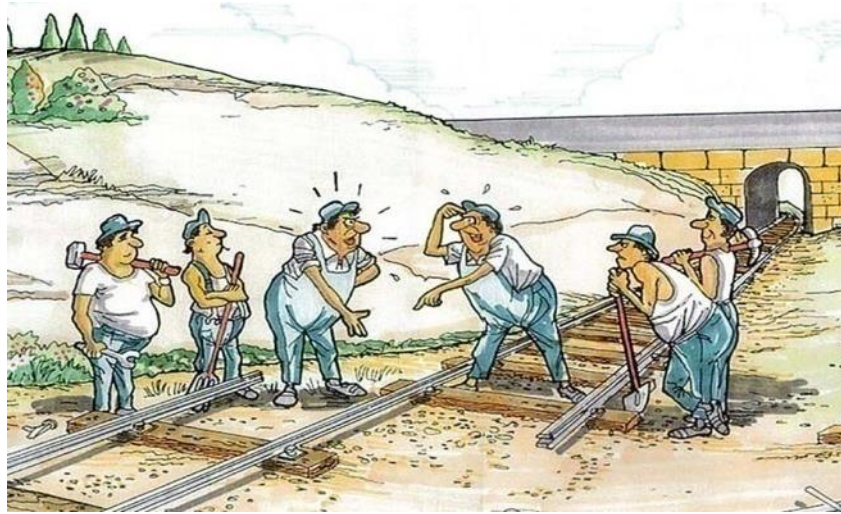
CITIZEN AWARENESS AND ENGAGEMENT LOW

Citizen apathy
around garbage
exists

Awareness of what
can be done is
limited



LACK OF INSTITUTIONAL CAPACITY IN GOVERNMENT



Lack of Institutional capacity in BBMP to deal with SWM issues



- Lack of Governance
- Technology awareness low
- Poor Project Management
- Archaic Vendor contracting practices

GOAL: REDUCE WASTE TO LANDFILL BY 85-90%

Land fills over time
should receive only
inert, rejected
material

For starters deal
with legacy waste



- Remediation, Bio mining, segregation & processing contracts at Land fills to bring down legacy waste
- The High Court in Karnataka monitoring the situation – on Land fills and other solution elements

WET & DRY WASTE IS THE NEW TWOSOME

Segregation of waste at source is a non negotiable necessary step



"HUM DO, HAMARE DO"

- Mandatory segregation in BBMP rules
- Assembly to pass revised laws
- Penal provisions for non compliance with waste segregation

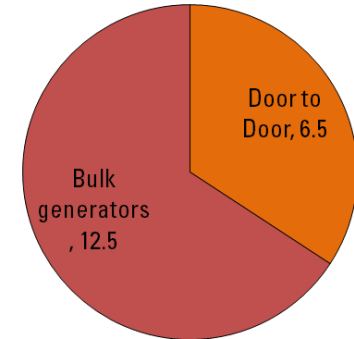
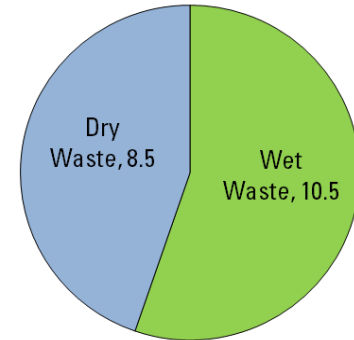
To do:

- Waste compliance certification
- License renewal linked to waste handling for bulk
- New tender guidelines to reflect segregation

FROM NIMBY TO YIMBY (YES, IN MY BACKYARD)



Decentralized
handling, local
processing of
waste and
recycling is the
way ahead



Typical Waste generated per ward: **19 TPD**

Solution # 3

BACKEND INFRASTRUCTURE TO MANAGE AND PROCESS WASTE

One DWCC (dry)
per ward and One
integral yard (wet
& dry) per
Assembly
constituency
planned



Dry Waste Collection Centre (DWCC) Status:

Sl.No	Name of the Zone	No.of DWCC	Existing DWCC	Entrusted to NGO	Entrusted to Contractor	Under Progress/ Yet to start
1	South	44	9	6	3	35
2	West	44	8	2	6	36
3	East	44	12	5	7	32
4	Mahadevapura	17	1	0	1	16
5	Bommanahalli	17	10	2	8	7
6	R.R.Nagar	14	3	0	3	11
7	Yelahanka	11	6	2	4	5
8	Dasarahalli	8	3	2	1	5
Total		199	52	19	33	147

- 27 integral yards (Wet + Dry) planned
 - 3 underway
- Fresh wet waste capacity through KCDC, Composting, Bio gas, hybrid technologies

DEVELOP THE SWM VENDOR ECOSYSTEM

- Social enterprise for waste management to be encouraged
- Develop a vendor accreditation process
- Rework tenders to accommodate new market paradigms
- Work with entities that fund social enterprise to realize scale
- Build a certification system to certify proper waste handling by bulk waste generators

Need to build
professionalism
and scale
operators among
SWM vendors

KEY COMMITMENTS OF BULK GENERATORS

Track	Target	Anchor	Commitments
Trade	250	FKCCI	12 Pilots across business districts in six weeks, monitored and document to scale
Hospitality	300	Hotel Association	Setting up independent collection and processing facility with clearly defined norms
Healthcare	250	Manipal Hospital	Community collection centers for Domestic bio-medical waste; 100% segregation and in situ processing
Corporate	300	CII	In situ management of waste; Tech parks
Homes	250	CREDAI	50 model wards; 60 Pilots by CREDAI; DWCC's in all 198 Wards
Others			In situ waste processing in Government buildings; WM in BDA layouts; Commitments by political leaders

Bulk Generators handling their waste in-situ or using shared services to reduce the pressure on the Public system

SOLUTION GUIDEBOOK

Individual households and bulk generators will have access to a guidebook showcasing SWM solutions for small, medium, large and community scale

Britannia

Britannia, a multi-national company is a renowned manufacturer of BISCO products. This Indian food corporation has several campuses across India and one of them is located at Old Mahanagara Road, Bangalore. Spread over 100 acres, the campus with 300 employees primarily generates recyclable and biodegradable waste.

Types of industries: Food Industry

Campus size:

No. of employees: 300

Scale of waste generation: for example, medium scale

Type of waste generated daily:

Waste type	Tons	% Weight
Wet Waste	11.0	27%
Dry Waste	27.9	36%
Rejects	28.5	37%
Total	67.4	100%

Pre-intervention waste management practices:

- Garden litter – though not audited, the quantity was suitable for composting. There was an existing attempt to collect waste from the garden waste.
- Leaf litter, food waste, and moist waste from celebrations, cafeteria, and restrooms, put out in an enclosed area for collection by the BMMF contractor. This included:
 - Recyclable and organic waste put out for garbage collection.
 - Significant quantities of food waste due to lack of awareness amongst employees.
 - 40% of 20kg of rejects included food waste.
 - Only high value waste (newspapers, cartons, boxes, etc.) being recycled.
 - Dry waste also discarded as rejects as mixed with food waste.

Approach & Implementation:

As part of implementation process, Britannia set up an 800 sq. ft. dry waste sorting and wet waste composting unit within the premises to manage the waste generated on-site. They also appointed 2-3 individuals from the staff to manage the unit and its operations.

Main steps in the implementation of the programme involved:

- Placement of two separate bins in all campus areas of the premises (living area, kitchen, near vending machines & water coolers, guest house).

Before WMS Initiative

22.53 Mg/annum

After WMS Initiative

5.65 Mg/annum

FAQs for Individual Generators such as Households

1. What do you mean by waste segregation/separation?
Waste segregation means keeping wet and dry waste separately so that dry waste can be recycled and wet waste can be composted.
2. Why should I do it?
1. To reduce waste that enters landfills and to reduce air and water pollution.
2. To allow use of various waste management processes – composting, recycling, and incineration – on different types of waste.
3. How do I practice waste management at home?
1. Use separate containers for dry and wet waste in the kitchen.
2. Take two bags for dry waste collection – one bag for paper and plastic and one for the rest of the household waste.
3. Clean and dry the plastic from the kitchen before throwing it into the dry waste bin. Wash glass/plastic containers for re-use.
4. Throw wet waste from the house daily. Store and throw dry waste from house, once a week.
5. Keep a paper bag to throw sanitary waste.
4. What are the first few steps to initiate waste management in apartment complexes?
1. Form a group of people with same interest.
2. Explain separation of waste to your family/neighbors in your apartment building.
3. Get the staff in the apartment building to also understand waste management.
4. Use separate storage drums to store dry waste and wet waste.
5. Place the dry waste picked up by the Dry Waste Collection Centre (DWCC) or your local scrap dealer.
5. What is dry waste?
Paper, plastic, metal, glass, rubber, thermocol, styrofoam, fabric, leather, wood, steel – anything that can be kept for a long period without decomposing in dry waste.
6. Will dry waste rot if I store it for a week?
If it is clean and dry, then it will not rot. Make sure that plastic bags/buckets of milk, curd, oil, salt, batter, any food item, are washed and dried before putting them in the dry waste bag. Then they will not rot.

CITIZEN ENGAGEMENT



- Packages for zonal initiatives
- WUCU awareness films
- Kits for communities and wards
- WUCU Ninjas at the Door steps
- Fame boards & shame boards
- WUCU Gift kits
- Dedicated focus on children and youth

Citizen awareness and engagement across 50 model wards planned

'Black spot' reduction with community involvement feasible



At some stage the
post consumer
waste needs a
Extended
Producers
Responsibility
(EPR) bill

EXTENDED PRODUCERS RESPONSIBILITY (EPR)



- Pyrolysis for polymer fuel from plastics
- Plastic pellets for road asphalting
- More needed.....

SWM REGULATOR AND SWM PLANNING / IMPLEMENTATION TEAM

Need for Regulator

- BBMP cannot be policy maker, implementer and appraiser
- New JN NURM recommends Regulator for Civic services

BBMP needs SWM professionals

- Capacity building
- Training
- Set up for PMO and VMO at BBMP
 - Scope for external experts
- Third party Monitoring
- Pilots and scaling

Akin to Electricity
Regulator, will
need a regulator
for SWM as a
good governance
measure

Individuals and institutions can get engaged with the WUCU campaign

Advocacy and financial involvement options

HOW TO GET INVOLVED WITH WUCU

Institutions

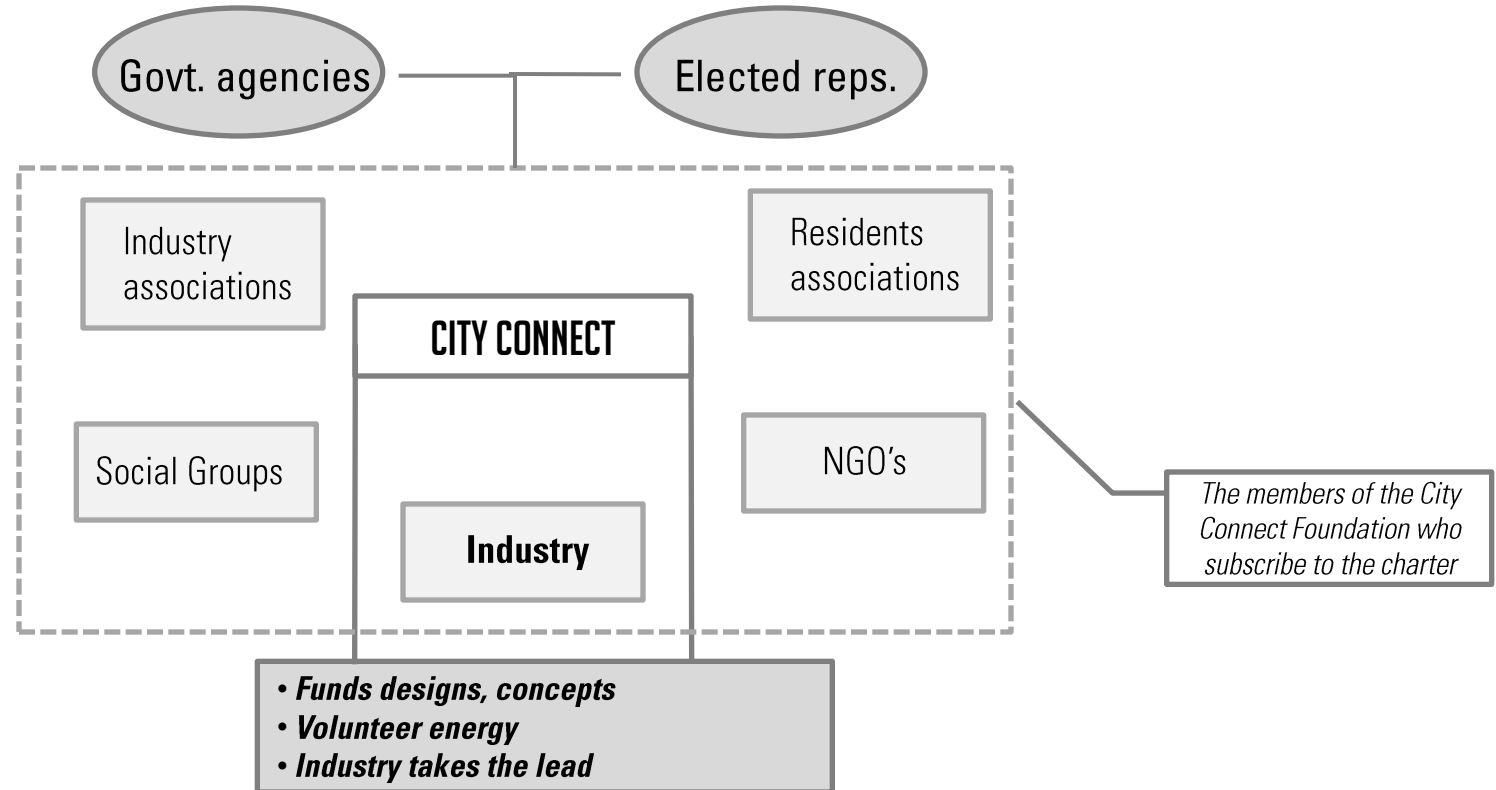
- Commit Zero Waste to landfill
- Get diagnostics done on waste generated and how handled
- Determine and implement best way of handling waste
- Adopt the extended ward neighbourhood to make it zero waste
 - Awareness building
- Adopt neighbourhood DWCC
 - Viability gap funding
- Get employees to Volunteer

Individuals

- Ensure Daily Waste Segregation
- Never handover Mixed waste
- Don't Litter the neighbourhood
- Volunteer in community efforts to reduce waste

THE CITY CONNECT PLATFORM

The City Connect premise is that collaboration between Government and Civil society catalyzed by Industry can lead to better cities



The Idea of City Connect