

Case Study 7.2

The Clean Cities Championship: A Participatory Approach for Improved Municipal Solid Waste Management in Warangal

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Central Pollution Control Board



Ministry of Environment, Forests & Climate Change



Ministry of Housing & Urban Affairs



National Productivity Council

The Clean Cities Championship: A Participatory Approach for Improved Municipal Solid Waste Management in Warangal

Location: Warangal

Population: 3,512,576 (Census, 2011)

Year of Start: 2012

Main Players: Directorate of Municipal Administration, Government of Andhra Pradesh, Warangal Municipal Corporation (WMC), Clean Cities Foundation, Andhra Pradesh Industrial & Technical Consultancy Organisation, Andhra Pradesh Pollution Control Board, communities, and school students.

Approach: In order to make waste management a competitive sport, the Clean Cities Foundation in partnership with the Directorate of Municipal Administration started the initiative of source segregation and door-to-door collection service in collaboration with Andhra Pradesh Pollution Control Board and Andhra Pradesh Industrial & Technical Consultancy Organisation. This was a low-cost participatory approach for integrated municipal solid waste management. The process included a hands-on approach to planning a sound waste management system and then implementing cost-effective solutions on the ground. Strong leadership from the administrators and politicians ensured participation and revenue generation for sustaining the process.

The following approach was adopted:

- Financial grants for the championship were first secured from different departments at state level.
- Intensive pre-championship activities were carried out, namely:
 - ✓ Planning inputs: Assessment of resource and capacity enhancement needs for WMC
 - ✓ Administrative planning: Creation of solid waste management (SWM) and resource management wing within WMC with clear roles and responsibility
 - ✓ Technical planning: Micro route mapping and collection and transportation efficiency route synchronisation of RWAs, market associations, NGOs, SHGs, and other stakeholder should be held until the community fully adopts this practice. The ULB through the NGOs, Rotary clubs, CBOs, and other such organisations should conduct school-level awareness and education programmes focusing on source segregation; waste minimisation through reduce, reuse, and recycle; and the importance of proper management of waste. Students should be made aware of the menace posed by increasing waste quantities and environmental impacts of unscientific disposal. School authorities should educate and encourage students to practise segregation of waste in schools as per specifications given above in Table 2.1. Building community awareness and consensus is essential for ensuring community participation in storage of segregated waste

TECHNICAL ASPECTS: SEGREGATION, COLLECTION AND TRANSPORTATION

Procurement of infrastructure like:

- Pushcarts with tools for segregation, bins, weighing scales, dry resource bags, and personal protective equipment
- Tractors, sirens, and audio systems
- Vermicompost sheds and windrow compost pads and dump site
- Dry resource centers with bailing units
- Biogas plant

Transportation plan and rationalisation of vehicles, including servicing and deployment of compactors for secondary transportation

- Route and loading plans (373 pushcart-wise maps for 53 wards) prepared by field-level functionaries for the entire city on geographic information system maps provided by WMC, thus ensuring ownership of WMC
- Tie-ups with:
 - ✓ Private weighbridge close to dump site for continuous measurement of waste quantities
 - ✓ Recycling units to sustain the activity through revenue generation and creation of market for the material Cement plants for dry combustibles that could not be recycled
- Stakeholder involvement:
 - ✓ Women SHGs were involved in door-to-door collection of waste in 60,000 households, which they already served. This was to demonstrate waste collection to other households in the area.
 - ✓ Mass awareness campaigns regarding segregation of waste were organised through different means like media, cycle rallies, etc. Focus group discussions among religious groups, resident welfare associations (RWAs), schools, colleges, self-help groups (SHGs), etc. were also conducted.
 - ✓ The WMC staff and municipal staff from other cities were divided into teams and received hands-on training during the championship. There were 240 teams from WMC and 130 teams from other cities.
- Training and Capacity Building:
 - ✓ Teams for carrying out the segregation and collection of waste were organised.
 - ✓ Training on the segregation and collection of waste was provided to the municipal staff and workers

The Championship:

- Championship was spread over 7 days.
- Different coloured contest cards were introduced for the municipal staff, SHGs, and households during the championship. Signatures on the cards by the route monitors (National Cadet Corps) earned eligibility to be part of the target group draw for prizes.
- Intensive micro and macro level management and continuous dynamic SMS updates were made on the official website of WMC for verification.

Manual on Municipal Solid Waste Management

Each participating team (WMC and other cities) was assessed for performance, and the winning team was awarded.

Outcome:

- SWM wing was established to oversee the task carried out on a timely basis and to address the problems as and when generated.
- Segregated waste was collected and weighed daily per route, and the data bank was updated through internet on real-time basis. Accurate measurements were documented for the total waste generated in Warangal City and of recycled, combustible, and compostable waste.
- Segregated waste was further transported to sorting centers, recycling units, and cement plants.
- WMC was able to reduce 30% to 40% of waste going to the dump site.
- Improved collection efficiency through constant training, monitoring, and efforts from the team to build the capacities of the workers.

Success Factors:

- A strong political and administrative will was required, and the Commissioner led the championship.
- Strategic planning and correct pre-assessment of the existing situation were initiated.
- Minimal financial inputs were needed to improve or adopt the locally appropriate technologies for the required capacity of MSW in the city.
- Training of municipal staff and SHGs was implemented and so was the ownership of the ground level workers in the system.
- Training and capacity building of the urban local body (ULB) staff was promoted as well as awareness and involvement of the citizen to ensure continued practice of the system.
- Intensive campaigning and interaction of officials with citizens was initiated regarding the proposed door-to-door collection and segregation of waste.
- Intensive monitoring of activities by the ULB was carried out with support of different group like citizen groups, National Cadet Corps, online systems, etc.

Sustainability:

There has been a reduction in operation and maintenance (O&M) costs by 30%. This initiative can be sustained through the regular municipal budget of the ULB as well as the revenue generated from the sale of recyclables and compost. However, for centralised infrastructure and rehabilitation of the dump site, financial aid would be required.

This model of championship has been replicated in Guntur and Visakhapatnam in Andhra Pradesh, and many other municipalities have showed interest in doing the same to set up an efficient system of awareness raising and of segregation, recycling, and transportation of waste.

Source: WMC