MUNICIPAL SOLID WASTE MANAGEMENT
SEGREGATION AT SOURCE

SHADNAGAR MUNICIPALITY
1. Brief overview of the nomination &
2. Date since when the project has been operational

Shadnagar is a third-grade municipality which is located at a distance of 50 KMs from the state capital of Telangana. As per 2011 census, Shadnagar has a population of 54431 residing in 18005 households. It is spread across 32.19 Sq.km. The municipality has 29 Non-notified slums with 28921 population residing in 6301 Households. The municipality generates 31.6 MTs of solid waste per day, out of which wet waste is about 9.1 MTs and Dry waste is 22.5 MTs.

As a part of Swachh Bharat Mission, the municipality undertook the implementation of Municipal Solid Waste Management through the process of segregation at the source. Source segregation involves separating waste into common material streams or categories for separate collection. This may be achieved using separate bin services or verge side collections, or through direct delivery of specific wastes to drop-off facilities. Source Segregation may be applied to any waste, including municipal solid waste, commercial and industrial waste, and construction and demolition waste. To sensitize the source segregation at the household level IEC campaigns and street play were conducted in the town.

The concept of source segregation was introduced in the year 2011 however, there was not much response from the citizens due to lack of awareness and motivation. To counter this, various awareness drives were conducted in the city. The target population was not just the residential areas but also the schools and commercial establishments. The city has 672 Self Help Groups in all. They were meant to act as the catalyst agents of change.

This initiative gained momentum with the coming of the Swachh Bharat Mission. The mission gave a major push to the city and the municipal authorities to tackle the issue of MSW management at the earliest. The town has been the recipient of National Swachhta Excellence Award in 2018 for the steps taken in achieving overall cleanliness.

3. Challenges faced before deployment implementation

Prior to the introduction of the Solid Waste Management, they city faced a lot of problems in the areas of health and sanitation. There was rampant random dumping of waste across the city. The residents were in the habit of disposing the house hold waste on the streets, drains and any open/ vacant land that were available. This practice led to various challenges such as infiltration of swine into the city. There was a resultant increase in the swine population that in turn led to spread of various health conditions, especially among the vulnerable sections of society, ergo- children, elderly and the marginalised/ poor people.

The open dumping spots became breeding grounds for mosquitoes that in turn led to the spread of vector borne diseases. Rise in incidences of diseases like malaria and dengue during the change of seasons and more so during the monsoons led to a major decline in the health sector.
There was a lack in regular and efficient collection of waste from households. The absence of vehicles to carry out the collection activities was also a major stumbling factor in the whole process.

The city was also blanketed by the constant odour from these dumping locations. The overall picture of the city was one of abject apathy. There was lack of awareness and motivation on the part of the citizens themselves to undertake any meaningful steps to better the situation. The aesthetic factor of the city was also non-existent. It was realised that this scenario needed to be changed at the earliest. Hence the local authorities decided to take this issue up on priority basis.

4. **Process followed for deployment/ implementation**

Awareness and IEC programs were conducted for the citizens. The aim was to educate them about the importance of segregating the waste into wet waste and dry waste. Multiple campaigns were carried out for this purpose. After this, the municipal authorities conducted drives to distribute colour coded set of dustbins to the citizens— one for wet waste and one for dry waste.

For this survey were conducted to get a stock of the number of households in the jurisdictional area. This would help understand the amount of waste generated and the subsequent requirement of the number of dustbins at HH level and for the community spaces. To ensure that citizens carry out segregation ALF teams of 10 members were constituted. Their job was to ensure that segregation at HH level happens diligently and educate those people who do not do so. They also acted as motivators for the initiative.

Total wards are 23 with one collection team per ward along with colony wise team in each ward. Daily once collection happens in the residential areas. The commercial areas are attended to twice a day.

Tractors (6), pushcarts (18) and autos (4) are used for the purpose of collection. All of these have compartments for putting the collected dry and wet waste. 115 workers in all for the MSW process.

After this the wet and dry waste is taken to the dump yard where wet waste in put into composting pits. The dry waste is further segregated into recyclable and non-recyclable materials at the Dry waste segregating centres. —Iron waste, plastic waste, electronic waste and paper waste. Those items that are recyclable are sold to vendors. This adds a small
5. Describe the innovative aspects of your project/activity &
6. Describe the solution implemented. Please describe the governance practices involved

To create awareness among the citizens, IEC campaigns were conducted to sensitise among the citizens, apart from conducting normal speeches, the municipal organisation also ensured that the information dissemination was done via conducting street plays. These had a greater impact on the citizens.

To ensure efficiency in collection and to keep records of the same, all collection vehicles are fitted with GPS trackers that help the authorities to keep record of the areas covered on a daily basis. A dashboard is created which helps to generate daily reports of solid waste collected, transported and brought to the segregation resource centre. The database allows for viewing the records related to distance travelled by each collector vehicle (on map as well as in figures). To ensure attendance by the workers, bio-metric attendance has been introduced as well to ensure efficiency of workers. The municipality has appointed sanitary supervisor for every ward in the town to ensure that the workers come onto field on a daily basis. These supervisors are called as “Jawans” and they are connected using Whatsapp mobile app with the Municipal officials including the Commissioner. Photographic evidences are provided by the jawans on a daily basis on this group about the areas covered and the work done in every ward.

The dry waste which is collected in the town is transported to the dry resource centres and here the waste is segregated into different categories like Paper, Iron, Glass and Electronic waste. The recyclable items which is segregated is sold to the local vendors. Sale from this along with revenue generated from sale of composted fertiliser results is approximately Rupees 1.56 Lakhs per annum at present.

**DASHBOARD - GPS VEHICLE TRACKING**
7. Details of coverage of the targeted population

Shadnagar Municipality has taken a city-wide approach for implementation of solid waste management for segregation at the source to covering entire population, particularly the slums accounting for over 53% of the total population.

8. Comparison of the pre-deployment with post deployment scenario

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After implementation of this initiative, there is 100% coverage of door to door collection with segregation of waste at source including the slum areas. The municipality has created Area Level Federation headed by the Municipal Commissioner and Sanitary Inspectors, Sanitary Supervisors/Jawans and Colony level committees were created in every ward to ensure the cohesive and comprehensive compliance at all levels.

The revenue generated from the dry segregation has also started to add to the own revenue of the ULB. This can be further improved with time and better working strategies and can be an important asset in revenue generation.

9. Benefits of the solution implemented

There has been an increase in community participation with the residents showing a willingness to adopt to changing practices. There has been a direct enhancement of aesthetic appeal of the city.

Apart from this there has been a significant decrease in outbreaks of diseases among the residents. The town has shown that with a focussed and guided approach, change can be brought about. There is no longer dumping of waste happening in vacant lands and public spaces. Since segregation of waste is happening from the source itself, it is easier to track and manage the entire process of the solid waste management procedure.

The application of a GPS based tracking and monitoring mechanism for the collection vehicles along with the bio-metric attendance process adopted for the onsite workers has helped to streamline the entire process as well as ensure a level of efficiency.

It is to be made note of the fact that prior to setting up a strategy to tackle the issue of the Solid Waste Management, nearly 30 MT of un-segregated waste was dumped in the landfill that catered to the city. This has been reduced to 15MT at present with the implementation of the SWM strategy. Not only is this an incentive for the municipality, but the fact that they are able to generate a small amount of revenue from the sale of recyclable waste has acted as a booster for the authorities to increase the efficiency of the entire process.
10. Potential for replicability arising from the success of your project/activity

There is definitely an immense potential to replicate the activity being undertaken in all of its steps. Other ULBs of similar and lesser grade can take inspiration from the initiative and formulate customized methodologies for their own jurisdictional areas.

Since the basic issues and challenges largely remain the same everywhere, this should be an easily adoptable approach. The scope of replicability need not be limited to just taking up the same steps. Other towns could even devise their own methodologies to increase efficiency in collection aspects. There is also great scope to increase the involvement of self-help groups for women in the process. This would allow them bring in an income for their families and give them a sense of independence as well. There are also avenues to increase community participation and other related activities.

The model adopted here can even be scaled up to suit the needs of larger towns. More strategical steps can be worked out to not just increase the collection efficiency and improve the quality of civic life but also to generate more revenue from the composting activities and segregation of dry waste thereby reducing the overall quantity being sent to the landfill sites.

Steps can also be explored to scientifically dispose off medical and animal waste as well.

11. In case you are selected for certificate of merit/award, who in your organisation will receive it?

Mr B Sharat Chandra, Municipal Commissioner
Shadnagar Municipality - Rangareddy District
Telangana.
PHOTOGRAPHS

IEC CAMPAIGNS

HEALTH CAMP

DUSTBINS DISTRIBUTION

DUSTBINS IN COMMERCIAL PLACES
SEGREGATION