

Zero Waste Ward 177, Jai Prakash Nagar Pilot Project 2019-2020

With the growing population and increase in the quantity of waste, participation of citizens is key in refusing, reducing and recycling waste. Bruhat Bengaluru Mahanagara Palike, is one of the few urban local bodies especially a Metro city that has encouraged citizen participation, 3-way segregation at source, decentralised waste management and integration of wastepickers formally into its waste management process. However, the implementation of these principals has been successful in some parts of Bengaluru but not in all wards. The efforts in 177 that Hasiru Dala intended was to implement the strategies of BBMP in collaboration with Elected representatives, Citizens, and BBMP officials as key stakeholders and Hasiru Dala just played a role of facilitators. The ward was chosen on the invitation by MLA from Jayanagar Constituency, Ms. Sowmya Reddy.

What is Zero Waste?

Zero waste concept is an initiative to better the waste management practices in the city. The best way to do this is to start segregating at source and then stabilising the collection and disposal. According to the study by Innovative Energy and Research in Bengaluru the biodegradable waste is about 55–60% matter. This biodegradable waste can be converted into manure. Recyclable materials such as paper, cardboard, glass, metal, plastic, electronic is 16–25% and used for recycling purpose. 15% of inert materials will go to landfill (<https://www.omicsonline.org/open-access/solid-waste-management-in-bengaluru-current-scenario-and-future-challenges-.php?aid=78824>). The idea is to process the organic waste, sort, grade the non-organic waste within the ward and send only the reject waste and inert diverted to appropriate processing. Reduce the amount of waste that goes to landfill, promote reduction of waste, reuse and recycling.

Role of Hasiru Dala in SWM activities of BBMP:

Started with identification of wastepickers and other informal workers in waste management in the city. In collaboration with BBMP, Hasiru Dala has demonstrated operation of Dry waste collection centre – a decentralised centre to aggregate dry waste of the ward, trained wastepickers to manage biogas unit for two years, managed organic composting at ward level, for non-organic waste by integrating wastepickers into the city solid waste management system through issuance of occupational identity cards to them. Hasiru Dala supports 35 centers and we plan to take on to support 50 centers. Replicated the model in Mysuru, Tumakuru, Nelamangala, Chamaraj Nagar, Puttur, Kudur, Kodagu etc.

In ward 177 Hasiru Dala played a facilitating role to bring citizens to own the local decentralised systems of waste management along with officials and elected representative

Getting started:

Zero Waste Ward 177, J P Nagar, was chosen to experiment with strategy and create an implementation programme that could be replicated across the city. Ward 177 has 12,700 households and approximately 530 commercial establishments.

The MLA, Ms. Sowmya Reddy, identified a small women's group, Women of Wisdom (WoW) who she inspired to work on Solid waste management in the ward and she had donated Leaf litter composter where they used to compost the leaf litter in their own lane of 69 households to make it zero-waste lane. They encouraged in-house composting and street leaf litter composting on the street before Hasiru Dala started working with them. They had the passion to carry out the project but did not have the capacity to take it beyond their lane. The MLA was also very keen to leverage the enthusiasm of WoW group and include other volunteers to reach the whole ward.

Objectives of zero waste ward 177 for the first year:

- Increase segregation at source with two bin one bag method.
- Reduce the amount of the waste sent to the landfill.
- Increase wet waste collection for BBMP processing.

- Encourage people to segregate waste and to do home composting.
- Encourage people to avoid waste, and to reuse and recycle.
- Awareness of environmental waste issues and behaviour change on those issues.
- Setting up of decentralized dry waste collection centres (an aggregation centre for non-organic waste or resource recovery centre) and setting up of composting facilities if possible
- Hasiru Dala to work with citizen think tank SWMRT, to replicate the zero-discharge ward (that is what Zero Waste Wards are called locally) to replicate the similar efforts throughout the city.
- Facilitation of Trashonomics workshop to all the schools of the ward and conducting TOT to all the Teachers of the schools of the ward. However, it was implemented by MLA.
- To set up Leaf composting units in the parks (officials are in the process of identifying the area) so no leaf litter, leaves the ward and citizens can make use of the leaf compost for their home gardens.
- Setting up of lane composters for composting organic waste of the households on the lane, with 69 houses participating.
- A separate stream for the collection of reject waste however were not able to send to the correct destination.

The principles that was followed for the implementation of a Zero Waste project across the ward:

- Implement the Micro plan made by BBMP.
- Three-way Segregation at source – Wet (organic), Dry (inorganic) and Domestic hazardous (Reject) waste.
- Collection of all streams of waste in two different vehicles: dry waste to be collected twice a week, and organic and domestic hazardous waste to be collected every day.
- Facilitate or create decentralized waste management infrastructure for wet waste : Lane composting, leaves litter composting etc..
- Promote in-situ composting at home, institution and other waste generators at the site of generation.
- Efficient management of Dry Waste.
- Integration of wastepickers.
- Citizen engagement.

Technical support by SWMRT:

At the city level, Hasiru Dala has started engaging with a citizen group called “Zero Discharge Wards” (“Zero waste ward” is referred to as “zero discharge ward” in Bengaluru) to exchange notes and replicate the efforts in other wards of the city. The group is facilitated by a citizen think tank called Solid Waste Management Round Table (SWMRT). SWMRT is also supporting our effort through technical support. The effort of the group is encouraging segregation at source and processing of organic waste within the ward. The group has come up with a document that outlines the approach, finance and technology. We are socialising this idea with the city policy makers and bureaucrats. For the initial pilot, 8 wards have been identified and many more will come forward next year and the year after. Hasiru Dala will take a lead in this in the coming years.

Brief components and strategies adopted and worked in the ward at residential area from June 2019 – March 2020:

- Mapping the properties along the lines of micro plan.
- Block level mobilization of citizens for action.
- Setting citizen vigilance of collection and vehicle attendance through whatsapp groups.
- Understanding the roles and responsibilities of the officials/workers and advocating with them to stabilize operations further with the citizens groups and volunteers.
- Upgradation and building of decentralized waste processing infrastructure.
- Street campaigns for awareness and sensitizing residents.
- Awareness campaigns at all schools and TOT for the teachers on ‘Trashonomics’, a methodology to teach children about waste management.

- Training of Paurakarmika on importance of single-use plastic ban, segregation, garbage burning. In addition, information on usage of personal protective gear, accessing ESI and PF benefits, Social benefit schemes available and Financial Literacy.
- Working on the Slum waste management, which comprises a population of 2,000 of low-income groups.

Challenges:

- Engaging more citizen volunteers: It is an individual interest and motivating and mobilising them to work for a cause was challenging.
- Land for processing Dry waste and wet waste. The Dry waste centre was broken down during metro construction and makeshift place was given near the storm water drain which was a smaller space. Proposal has been sent for construction of the centre and wet waste processing and it is taking time to materialise.
- Process of complete elimination of Blackspots as monitoring becomes difficult as it needs systematic and continuous monitoring.
- Mixture of commercial and residential areas: The areas where there are both are a major challenge as there is insensitive waste disposal on the streets
- Managing waste from Low income group areas, still poses challenge and not yet found a solution.
- Lack of Enforcement of law on small to big commercial establishments by the authorities.
- A separate stream for reject waste. It is collected separately and not disposed as per the norms.

Resource Personnel:

- Elected Representatives (MLA, Corporator)
- Citizens Groups (RWA) / Volunteers
- BBMP Officials
- BBMP resources – Contractors, Supervisors, Auto Drivers, Link Workers, Asha Workers, Pourakarmikas etc.,
- Hasiru Dala Staff
- Media / Celebrities (where needed)
- College students
- Religious Heads
- Experts / Organisations from related fields whenever required
- Creative heads for advertisements
- Pollution control board
- Labour inspectors, Labour Department

Activities during the period June 2019-March 2020

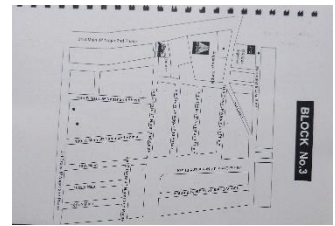
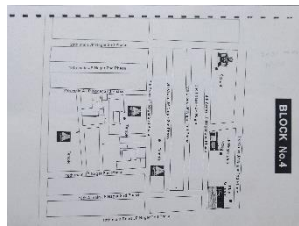
- I. Basic survey of the ward and waste audit along with citizens and Health Inspector.



II. Regular meetings with Elected representatives, BBMP officials and citizens to decide, implement and follow-ups.



III. Identification of Blocks in the ward and active citizen participation through WhatsApp groups. (Annexure – I)



IV. Doing Door to Door survey and creating awareness on segregation of waste, plastic ban and home composting with BBMP officials, Supervisors and citizen volunteers.



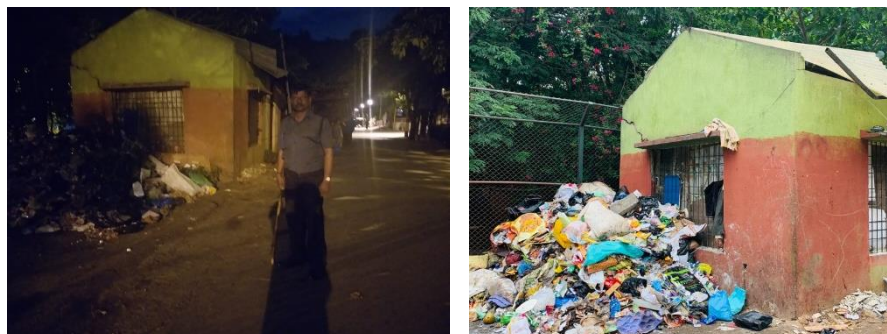
V. Engaging 2 staff on the field by Hasiru Dala for streamlining the waste collection who will be accompanying the wet/dry waste vehicles during collection and their updates.



VI. Clean-up of Blackspot areas with the help of NGO organisations. Picture: In collaboration with Let's Be the Change in the leadership of MLA, Ms. Sowmya Reddy on October 2nd clean up drive was held with WoW members.



Black spot clearance and beautification by the WOW group of Ward 177, near the Dry waste collection centre. This empty spot had been a black spot for a very long time. The nearby residents and commercial establishments from other areas while passing by used to throw waste at this



place. Hasiru Dala experimented by appointing a security personnel at odd hours for a month. The dumping of waste in the area became relatively less.

Later the citizens decided to beautify the area with the help of MLA of the constituency, BBMP Health Inspector and Sanitation workers.



VI. Awareness to sanitation workers on PPE, Financial literacy and offer to facilitate Social security. This was organized by MLA from Jayanagar Constituency, Ms. Sowmya Reddy and Hasiru Dala facilitated the event.



VII. Conducted TOT on Trashonomics for the teachers of Ward 177 and conducted 10 minutes awareness at all the schools of Ward 177. This was organized by the MLA of the Constituency, Ms. Sowmya Reddy and facilitated by Trashomics team of Archana Kashyap and Dr. Shanti Thummula with the support of Hasiru Dala.



VIII. Awareness at the School assembly for all the schools of the ward.



- IX. Installation of lane compost which can compost on an average of 25 kgs of organic waste/day from 70 HHs, managed by Pourakarmikas of that street with local citizen group WoW. In the first batch 365 kilos of compost were harvested. The lane compost was sponsored by Hasiru Dala.



- X. Cycle rally of the children conducted by citizens of Block 13.



- XI. Block 13 – Children’s visit to the Dry waste centre along with their parents and others in the community to understand the next process of recycling.



- XII. Trying to bring a change in the locality of 200 people of low-income group to address the black spots. Hasiru Dala strategized and worked at this locality by donating Dry waste bag with S hook to the residents to promote segregation and storage of dry waste.



- XIII. Learning visit by students of University of Washington and Wastepickers from Alliance of Indian Wastepickers (AIW)





Case study I - Micro block 13: (Before COVID)

Transformation of leaf littered lanes to cleaner lanes.

Block 13 of ward 177 is locality with Officials, technocrats etc., It was mostly littered with leaves and small dumping areas near the trees and was in a bad shape.

The status of the ward before:

1. The residents were not aware of the waste management system and only pushcarts were operative to collect the waste where mostly mixed waste was collected.
2. There was no scheduling and collection pattern.
3. Literally all the lanes of Block 13 were littered and as it was adjacent to mini forest park and commercial establishments there was waste dumped by passerby at almost every tree of the lane.
4. Residents were not aware of the roles and responsibilities of the PK's, Street sweepers or Supervisors. They believed that it was the street sweepers who were supposed to pick the waste and was given to her. They never had a rapport with the PKs as well.
5. They were unaware of the waste segregation and had no clue on destination points.



Measures taken to work to bring desired changes:

1. Awareness was given to the PKs by the citizens groups in the presence of the Supervisors, Health inspector. The wet waste collectors were asked to collect only the wet waste and street sweepers were instructed to do only street sweeping.
2. Continuous IEC activities in the locality by giving awareness to the residents and educating them with the roles and responsibilities.
3. Awareness campaigns happened along with citizens, BBMP officials and HD staff with the wet waste vehicle in the early hours of the morning at 7:00 am. This was done for 3 days to cover the entire block and the same was repeated.



4. The citizens worked with the Marshall and Marshall supervisor during the late evenings and early morning on the blackspot areas.
5. Parallely the Dry waste collection was scheduled for twice a week collection.
6. Regular meetings of the citizens at public places with the officials helped both to understand the issues and resolve it.
7. Awareness on SWM was given at school assemblies of the block.
8. Cycle rally by children of the Block helped to advocate further.
9. Visit of the children and the community to the DWCC further helped them to understand the processing of waste.

Impacts:

1. Segregation level right now is happening at 100% in the block.
2. Forty residents joined another 35 residents who were using Bioman (Service provider) to pick their waste once a week and gave back compost. This worked well and now totally 170 houses (inclusive of lane composter of 5th block) wet waste is diverted from BBMP collection system.
3. Dry, wet and reject waste is collected from homes regularly as per schedule.
4. Blackspots have been considerably reduced with citizen participation and working with waste collectors has helped to achieve cleaner surroundings.

Testimonials by Mrs. Aparna Kumar –

Resident of Block 13, Ward 177

Hasiru Dala along with the local administration, MLA, Corporator ushered in a doable SWM directive in Block 13 ward 177 JPNagar, 3rd phase.

Residents for decades had resigned to their fate thinking waste segregation and collection is on paper as for years we had PKs taking mixed waste in push carts with unknown schedules. Beautiful Avenue trees, road corners, empty sites were dumpsites where stray of dogs and filth would rule.

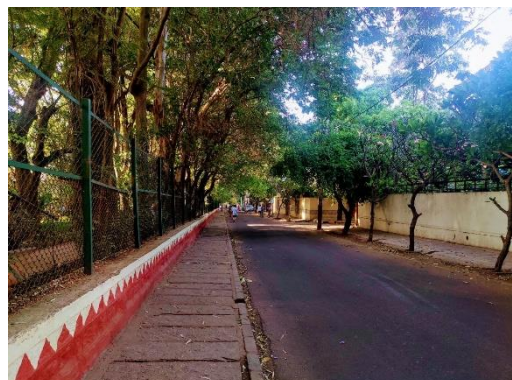


Residents of the area apart from complaining, fighting with the authorities had distanced themselves from their commitment towards waste management generated by them and alike. We named the project walking towards a “Greener footprint” and with the involvement of the old, young, schools, shopkeepers, stores like MegaMore the block moved towards effective and easy management of their wastetaking ownership.

Today the block not only clean, sends 2.5 tonnes of drywaste per month for recycling and composts its wet waste using service providers. Many residents also compost. Chidren of the block have become SWM ambassadors and residents have formed a green community and helping the authorities to effective SWM tasks.

Today the community comprising of teachers, techies, retired bureaucrats, social workers have become a green power to reckon with.

Testimonials by Mr. Lokesh – resident of Block 13 Ward 177: *Beauty in the eyes of the beholder. Appreciate the work of BBMP and representatives. We can take up monthly community activity for one hour as responsible citizens, so that our children learn from it. Let us become more responsible for garbage in front of our residences. Taking picture of is good but making it clear is great!*



Case study II – Micro Block 4 (Before Covid)

Mrs. Divya Rohith who is a citizen coordinated and worked with Hasiru Dala team and here is her story.

"I'd like to address this issue that used to be a menace not just to my home but in the entire neighborhood.

The empty plot next to my house was a breeding ground for garbage, food wastage and even people urinating in public places. I took it upon myself to do something about it not because I lived right next to it but because I wanted to live in a cleaner locality. As I requested the residents of not dumping garbage I was told and given reasons as to why garbage was being thrown in this plot. Some of the reasons were:

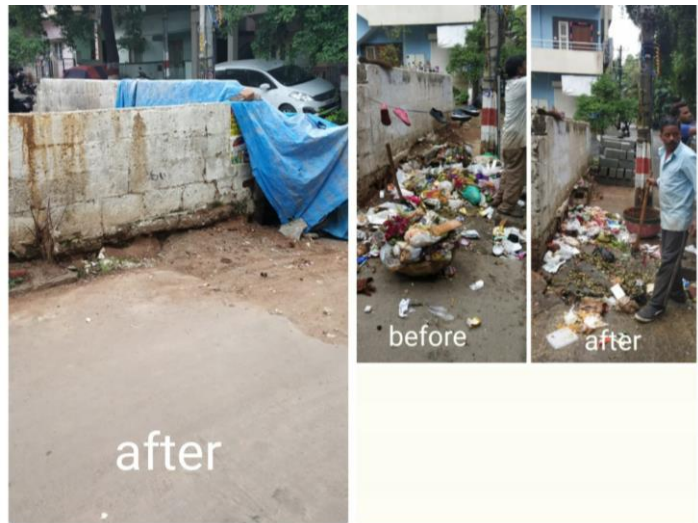
1. *The waste collection never happened regularly*
2. *No segregation*
3. *The garbage trolley was over loaded.*

My efforts went in vain as nobody could nor wanted to see the bigger picture. The stench got worse and it was unbearable. The problem persisted and I just wanted to vacate my own house for the good of my family. I was really embarrassing myself trying to bring a change here. Not until recently miss Lakshmi, our neighbour had enough of the situation and decided to do something about it. She cleaned the plot and bleached it all by herself while me and my husband pitched in by getting the spot cleaned. I'd really like to thank Miss Lakshmi for her efforts but would also like to share this advice I have acquired because of this issue."

"The best help you can find is at the end of your own hand".

Later working with BBMP officials and Hasiru Dala further helped us to streamline the collection system.

Left: Addressing Lakshmi in the picture and Below: Divya working with our team and Health Inspector



Testimonials by Mrs. Pavithra Eswar –
Resident of Block 9, Ward 177:

Before the zero waste awareness campaigns, there was little to no segregation done in our area. The waste was collected by the street sweeper (we thought this was the norm), who segregated the waste from each household herself. People would leave their waste all put together unsegregated, in a plastic bag outside their houses and often the stray dogs would rip open these bags and the garbage would be strewn all over the place. There were diapers and leftover food all on the road!! This was also partly because the garbage was collected at a different time each day. While the dry waste auto came for garbage collection twice a week, we residents were not aware.



After the campaign, with the involvement of the Elected representatives, Health inspector of BBMP, Supervisors and the garbage collectors themselves, the sweepers ,the Hasiru Dala team, WOW group and a few volunteers, now there are cleaner roads and streets with no bags of trash strewn around, reduced black spots, a fixed and timely schedule for wet and dry waste collections and overall improved segregation of waste. We even have the contact numbers of the waste collectors, the supervisors and the health inspector and they can all be contacted to address any of our concerns. There has been a remarkable change in garbage collection in our area.

Ward committee meetings:

After we started working the Ward committee meeting happened for the first time in the presence of the Corporator and ward committee members on 18th September 2019. All civic issues of the ward were discussed here by the members as well as the citizens and their grievances were addressed. Two of the citizens from the citizens group were invited.



South zone meeting with Joint Commissioner Mr. Sarfaraj Khan, Swatch Sarvekshan team, JHIs, SHIs, Marshalls along with citizens groups.



Action Planner was designed by the citizens of Ward177 to plan the activities and setting up of timelines. (Action planner attached)

At the close of the year, here is the observed impact:

- Active Citizens' engagement, with 15 citizens working on ground and 80 members on WhatsApp groups; along with State and City representatives' support to drive the project.
- A complete mapping of every household of the ward has been completed. This was accomplished as a manual survey of households by Hasiru Dala in the months of August-September 2019.
- Segregation compliance rate has increased from 45% up to 85% at the household level.
- There is diversion of wet waste (organic waste) from 2 tpd up to 10 tpd for composting
- Diversion of 600 kgs of dry waste (inorganic waste) up to 1.5 tpd to recycling units.
- Diversion of 30 kgs of wet waste/day of 70 households to the lane composter installed in the lane 17th 'B' main for composting.
- Introduction of Bioman at block 13 and diversion of wet waste of 40 households.
- Elimination of a black spot (illegal dumping on roadside) in Block 5.
- The government has appointed a new contractor for organic and domestic hazardous waste collection vehicles with new Auto tippers for 17 Blocks.
- Conversion of Block 13 lanes filled with leaf litter and dump site into cleaner lanes.
- The collection of Dry waste twice a week has two vehicles; citizen vigilance has helped in complete compliance of appropriate collection. A requisition has been sent for an additional vehicle. This is decided according to the number of households.
- Integration of wastepickers with the SWM programs (For e.g. Running a Dry Waste Collection Center etc.) in the ward as prescribed in Solid Waste Management Rule, 2016

New contractor and new tipper autos:



ANNEXURE – I

Whatsapp Groups: Ward 177 – JPNagar

Agenda: All topics related to waste management

I. Main Group: Zero waste ward 177-JPNagar

Participants: MLA, Corporator, Health inspector, MOH, AEE, JC, Nodal officers, Active Citizens/volunteers, Block volunteers, Hasiru Dala (HD) staff

II. Block wise Groups 1-17

Participants: Block Volunteer, Street volunteers, Active citizen volunteer, Hasiru Dala Staff, Kalyan Sir, Supervisors, Drivers, sweepers and Marshalls (after they are appointed)

Street volunteers will have to update about the street on the following:

- Whether Auto tipper is coming every day on the scheduled time.
- Whether waste is segregated at source. (The driver and the helper will be sensitized not to pick up the mixed waste)
- Segregated waste is picked everyday: Wet waste every day and dry waste on stipulated days.
- Any blackspots located in the street. If there is one, we can have a discussion in the group and sort it out.
- Every day the street litter is picked up which generally comprises of leaves.
- Any other issues concerned to an individual resident who doesn't adhere to the system will be discussed in the group and resolved.
- Posting pictures related to the above can help.
- Identify apartments in the streets. Above 50 units, the waste should be picked up by the empanelled vendor. Less than 50 is picked up by BBMP. Try to get 2 or more ppl from the apartment to join the group.

Block volunteers:

- Follow up the updates from the street volunteers.
- Ensure smooth functioning of the waste management activities on day to day basis on all the streets in the respective blocks (Through whatsapp updates)
- Any issues will be resolved within the group with the help of the Health Inspector, Supervisors, Active citizens and Hasiru Dala staff.
- Any issues that cannot be resolved will be escalated in the main group.
- Should be able to call for a monthly meeting with the street volunteers to understand the progress/developments. If required HD staff, active citizens and Health Inspector will attend.