

**INNOVATIVE SUSTAINABLE WASTE MANAGEMENT PRACTICES
FOR CLEAN HYDERABAD: A CASE STUDY OF KAPRA**

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Abstract

Greater Hyderabad Municipal Corporation (GHMC) generated more than 4000MTD waste, which is generated/accumulated from residential, commercial establishments, manufacturing and bio medical waste etc., although large quantity of waste is collected but city resembles/remains untidy. Large amount of garbage piled up all along the roads and streets corners due to poor management of waste collection and lack of motivation among sanitation staff and indifferent attitude of citizen towards sanitation and apathetic feelings of people towards rich image of the city. In order to overcome the problem GHMC has taken up many innovative waste management systems to identify and stub out practice of dumping waste carelessly. The article detail out the outcome the practice carried by GHMC in Kapra circle.

Introduction

Solid waste management is a challenge for the modern cities, authorities in developing countries mainly due to the increasing generation of waste, the burden posed on the municipal budget as a result of the high costs associated to its management, the lack of understanding over a diversity of factors that affect the different stages of waste management and linkages necessary to enable the entire handling system functioning.

The process implemented for the collection of solid waste starts from a household level, this is the key and the crucial step for the end results to be effectively workable. The need for segregation of waste is taken into practice by individuals and the Government, so as to make the mission functional. The mismanagement and the comfort methods by individuals has led to

Garbage vulnerable points(GVPs), Thus the collection of dry waste (the waste that has been stored over period of time due to the lack of proper and guided disposal) is a good step to move ahead.

The article report also recommends that waste-management infrastructure should be a strictly-enforced pre-condition in new development areas. It advocates on the importance of waste segregation and the cleanly disposal of waste. It brings awareness in the local people the importance of Swachh Hyderabad is through Swachh colony, Swachh Street, Swachh house thereby implementing the collection and management of solid waste for the betterment.

Sanitation improvement faces a challenge for demand creation and people's initiative to construct and use toilets; urban sanitation improvement is dependent to a great extent. Access to toilet and usage is the most important aspect of sanitation. Besides, restoration of dignity, privacy, safety and social status, sanitation has strong bearings on child mortality, maternal health, water quality, and gender equity, reduction of hunger and food security, environmental sustainability and ultimately poverty alleviation & improvement of overall quality of life.

The Government of India has launched the flagship program Swachh Bharat Mission with the vision of ensuring hygiene, waste management and sanitation across the nation as a tribute to Mahatma Gandhi on his 150th birth anniversary to be celebrated in the year 2019. Government of Telanganahas launched the Swachh Telangana Mission with a goal of achieving "Open defecation free cities", "clean and green cities" by 2019 in line with the above vision. This mission works for the improvement of cleanliness and proper solid waste disposal.

Kapara circle is located in the East Zone of GHMC with population of 248210 with an area of 48sq.km and 4 wards. Clean Kapara Circle initiative is taken up as a part of SwachhTelangana and Swachh Hyderabad under the guidance of Dr.B.Janardhan Reddy, I.A.S., Commissioner, GHMC.

The major objectives of this initiative were:

- To reduce the Garbage Vulnerable Points (GVPs) and maintain the area free from waste dumping and unhygienic environment.
- Guided solid waste collection by distribution of the dry and wet waste bins and autos in all areas.
- Creating awareness and participationof the people for clean Hyderabad.

Existing Situation - Kapara

Before taking up the drive, the situation of the door to door garbage collection was in poor condition with 50% to 60% coverage of door to door collection of waste,this collection was done by the rickshaws, which in turn used to dump the waste collected from residents at various points in and around the colony. Therickshaw had to carry the waste to the GHMC bins that are located in the prescribed areas but as the manual rickshaws was creating stress and strain for the disposal at the destined location;the practice of dumping in open areas was adopted.



Photographs: Piled up Garbage Vulnerable Points in an area

On the other hand due to poor coverage of rickshaws the residents used to through the solid waste in open areas, these areas have been the most vulnerable points. Lack of awareness among the residents, lack of supervision from GHMC in guiding and maintenance of the rag pickers, rickshaw pullers and the irregularity in the collection of waste are some of the few reasons for this situation.

“Plastic” has been a major issue and problem of concern with its tremendous increased use and also litter. The predominant usage and disposing is growing problem, hence the usage has to be reduced considerably and the alternatives of plastic should be adopted and used.

Commissioner GHMC has instructed to take obligatory measures to stop this bad practice by creating enabling environment for sanitation staff to be responsible and motivating the citizen for clean Hyderabad, due to this a concept of new waste management has evolved to gain control over willful waste generated.

Methodology Adopted for elimination of Garbage Vulnerable Points

Principal problems is to identify GVP by location, the garbage vulnerable points were identified in the residential and commercial areas in the circle. The problems of the disposal at these points were identified and found out from the residents, later these areas have been tied up with the respective areas auto tippers and the residents were told about this. Thus the residents were asked to dispose the waste in rickshaws for elimination of GVPs. The sanitation staff was integrated with the GVP based on the location, each Sanitary Field Assistant (SFA) is held responsible for GVP supported by the cleaning staff slum level federation responsible of cleaning that area.



Photographs: Piled up Garbage Vulnerable Points in an area

Access Gained and Garbage Vulnerable Points: What is Achieved and Sustained?

Integrated solid waste management is practiced by collecting 100% door to door collection of waste by Swachh Auto/Tri cycle in residential areas and 100% collection of waste from commercial and industrial areas. The areas cleaned in due process were implemented with various activities like doing Rangoli at the GVP, some areas have taken up wall paintings with a message of Swachh Hyderabad. They were also banners tied and plantations done. There were also initiatives of relocating the road side vendors, hawkers (tea stall, vegetable cart, pan stall) in these points so that the area could be maintained tidy for a prolonged period.

The resident welfare associations proved to be of great help in the elimination of GVPs as they have taken an active participation and spreading the word of proper disposal of solid waste. The Kapra circle has also taken the initiative of employing Jawans to guard the vulnerable points during the early morning and late nights as many people dispose during these timings. They have collected the details and reasons for their disposal at the areas along with their names, and residing area. so the problem can be solved accordingly with the issue and regarding the area. An inventory act was taken for people dumping waste in the GVPs on the pretext of publicizing their pictures.



Photographs: Interaction with RWAs SFA

Swachh autos were provided replacing the tricycles to the rickshaw pullers with coverage of 600 to 800 House Holds for each Swachh auto. For slum areas where it is difficult to operate Swachh autos the cycle rickshaws are provided. These autos rickshaws were displayed along the colonies showing the segregation and the method of segregation of dry and wet waste in the blue and green bins distributed. They also announced going in and around the colonies that the autos were provided and solid waste to be given to them, by doing so the percentage of disposing through autos has increased from 60% to 100%.

The solid waste and plastic usage of the commercial shops was also a growing problem so special attention was taken for these. The merchants association and the vendors of vegetable markets were motivated not to use plastic below 40microns. They were inspected and penalties

were charged for shops using plastic bags or plastic below 40 microns. They were allotted with rickshaws for the solid waste disposal eradicating their practice of littering along the road.



Photographs: Training programme to sensitize the SFA on GVP elimination

The weekly vegetable markets which were held every week were also given special attention. The Kapra circle has almost 17 weekly markets held in the area, with every market having at least 2 to 3 open dumping areas. The authorities have employed 40 supervisors spreading in all areas, instructing people the proper disposal of the vegetables remains. They were provided with new bins with the number increasing from 3 – 4 to 15 – 20. The markets along the main roads and the ones within the internal roads were also taken into consideration.

Understanding Garbage Vulnerable Points

GVP is the outcome of the failure to 100% collect waste that is generated hence the waste is thrown along the street corners or open plots creating negative space. Citizens must be educated the ill effects of the littering the garbage in open areas. IEC campaign are organized to sensitize the public.

Factors Influencing Demand Generation and Sustainable Behavior Change

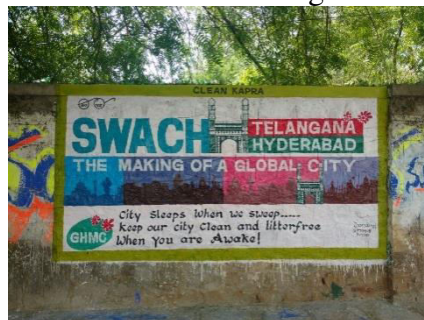
Cleaning of GVP is costing Rs.300-500 at a location but after cleaning if place is again acclimated with the garbage that the real motive is not resolved, to overcome this problem behavior change of the citizens has to be addressed along with capacity to deal with factors influencing garbage generation need to be tackled by the sanitation staff.

Each GVP is cleaned by the SLFs and Rangoli is placed in place of GVP with a message not to litter waste in the place, Rangoli or Muggu is an integral part of the people culture reflecting the clean environment after due cleaning. There after the place is painted on the wall with a message and plantation of trees to improve the aesthetics of the place.



Photographs: Community Worker participation

They have started with a new program of collection of dry waste particularly the old furniture, old mattresses, old used pots, flower pots, plastic containers, utensils etc., this is done every Sunday and government holidays. People were informed ahead of collection. As the rickshaws and autos cannot afford space in the containers in collecting wastes on daily basis.



Photographs: Community Worker participation on various activities

What People Have Invested in

Clean environment is the accomplishment of the people of the Kapra who has responded positively to the change and are now being part of the initiative that have transformed GVP into a beautiful space livable with an aesthetic space in the neighborhood. Clean environment will have many positive changes in the people.



Photographs: Inspections by GHMC officials

Institutional Roles for Sanitation Improvement

Under new public management various steps were taken by the authorities to motivate people and staff, one such initiative is Good Practices day organized very first Saturday in circle office to facilitated citizens and employees performing splendidly. Voluntary organizations, NGOs, RWA civil society and individuals are facilitated on the accusation.

Augmentation of existing facilities has be initiated by the zonal commissioner by decentralizing the waste collection and by capacity building transfer stations at Saket with 80 MT of total capacity at present 45MT is in use and Mallapur with 100MT of total capacity at present 85 MT is in use. Further measures are taken to have intermediate transfer stations at ward level suitable land is being identified in the process. Swachh Volunteer is another initiative to identify a person responsible to sustain the eliminated GVP, local person like street vendor, shop owners, RWA member etc. nearby a GVP is identified as Swachh volunteer and assigned the task to sanitize people not to litter and create GVP. All the identified Swachh volunteers work closely with the SFA to sustain the cleanness of the area.

The authorities are also implementing new programs for the disposal of various waste generated from different activities and aspects of daily life called dry waste collection drive every Sunday. Dry waste will be collected from house to house, most of the dry waste can be put to reuse for instance the coconuts and reusing them in collaboration with the companies and people who make usage of the coir and prepare mats, and decorative.

All the parks are provided with composting pits, where the dry leaves and vegetable waste will be utilized for compost making. The vegetable waste which can be decomposed and used as compost for plants and trees.

Awareness meeting with the Restaurants, Function Halls, Hotels and Apartment Complexes is conducted with the support of IICT scientist for introduction of “Bio-digest machines” which digests Organic waste generated from the above units. The machines are available in various capacities as per the requirements.

Conclusions: or way forwards

The outcome of the new waste management practice adopted by the GHMC Kapra circle has win the hearts of the citizens as many colonies/RWAs are now volunteering the GVP surrounding the their location, all the residential societies has taken up pledge for clean Hyderabad and started owing the place and volunteering the in the beautification of the city by painting the walls with informative messages and planting the tress, the Municipal authority has geo-tagged existing 23 GVP and making continuous efforts to sustain them and no new GVPs are formed in the circle.