

# **Solid Waste Management of Gulbarga Mahanagara Palike**

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**ABSTRACT:** Waste management is of great concern to mankind as it affects the entire planet and all its living creature, Waste is crises of our own doing, the present article focuses on the solid waste management of Gulbarga municipal carried out by GMP, A brief survey was carried out on the methodology of Solid Waste Management undertaken by GMP, at various waste dumping yard places at Udnoor landfill site, Rag Pickers, Paura karmikas and slaughterhouse waste management. It is documented that total waste generation in Gulbarga city is estimated at about 192 tons per day of which about 132 tons of waste is collected. Segregation of waste at the source and door to door collection is not conducted by the city. The waste generated in the house hold was dumped at open location and bins, it is lastly disposed in Udnoor landfill site in Udnoor village. The mechanism of solid waste management system in Gulbarga requires a recognized model to meet the requirements of MSW rules 2000.

**KEYWORDS:** Solid Waste managment; Mahanagara Palike; rag pickers; paurkarmikas;

## **I. INTRODUCTION**

Municipal solid waste management is one among the obligatory responsibilities of the city corporations as per the Municipal Corporation Act, 1976 [1]. The Solid Waste Management rules, 2000 by the Supreme Court of India mandates scientific disposal of municipal solid waste from generation to final dumping [2].

Solid waste generation is a continually growing problem at global, regional and local levels. Solid wastes are those organic and inorganic waste materials produced by various activities of the society, which have lost their value to the first user. Improper disposal of solid wastes pollutes all the vital components of the living environment (i.e., air, land and water) at local and global levels. Urban society rejects and generates solid materials regularly due to rapid increase in production and consumption. The problem is more acute in developing nations than in developed nations, as their economic growth as well as urbanisation is more rapid. This necessitates management of solid waste at generation, storage, collection, transfer and transport, processing, and disposal stages in an environmentally sound manner in accordance with the best principles of public health, economics, engineering, conservation, aesthetics and environmental considerations. Thus, solid waste management includes all administrative, financial, legal, planning, and engineering functions [3, 4].

In the developed countries, solid waste management (SWM) belongs to prominent thrust areas for pursuing research [5,6] and economic and technological advancements have initiated responsiveness of stakeholders towards it [7].

The environmentally sound management of solid wastes issue had received the attention of international and national policy making bodies and citizens [8]. At the international level, the awareness regarding waste began in 1992 with the Rio Conference, where efficient handling of waste was made one of the priorities of Agenda 21 [9]. The Johannesburg World Summit on Sustainable Development in 2002 focused on initiatives to accelerate the shift to sustainable consumption and production, and the reduction of resource degradation, pollution, and waste [10].

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Gulbarga is a historic city located in north east of Karnataka, and the city is also known as kalaburagi which means stony land in kannada. The city is fast growing with significant activity ongoing on the infrastructure development. Gulbarga is primarily a regional market service centre for the district and also education center and has the central university for the district and also education centre and is home town to the jnana Ganga University and other well known educational institutions including medical engineering, Pharmacy, Dental, law, nursing and other colleges. The region is largely covered with rich black cotton soil. The climate of Gulbarga is generally dry.

The Gulbarga Mahanagara Palike city has classified into 55 wards for administrative purposes. It covers an area of about 64 sq. Kms, surrounding the Ring road and has a population of 5,43,147 as per the 2011 census and now it is more than 7 lakh. The population of the city in 2001 was 430,108, The average population growth rate over the last 3 decades 1981-11 was 35.6% increase per decade. The annual average growth of population over the period 1981-2011 is 3.56% per annum. The slum population of the city is 60,190 residing in 12,084 slum households.

Gulbarga city is the commercial hub to neighbouring districts, it has few tourist attractions they are Sharana Basaveshwar Temple, Hazrat Khwaja Bande Nawaz Musoleum, Old Moated Fort and Buddha Vihar.

Gulbarga Mahanagara palike (GMP) is the urban local body (ULB) responsible and involved in managing the various civic systems and services in the city of Gulbarga. It has various departments for effective management and administration. The commissioner is the Head of the city corporation appointed by the government of Karnataka. The solid waste management activity is managed by environmental engineers. GMP has three Environmental Engineer presently for managing the various aspect of the municipal waste management and supported by senior and junior Health Inspectors [11, 12].

## II. METHODOLOGY

The study was carried out in two phases. The first phase is focused on exploring and documenting of the existing solid waste management (SWM) system/practices followed in Gulbarga city by Gulbarga Mahanagara Palike in general. In the second phase, the brief survey is carried out on Udnoor landfill site, the activity of Rag Pickers, Paura Karmikas, and the system of slaughterhouse management was studied.

A. Documenting the existing SWM practices: Information on SW handling system (collection, Transportation treatment, and disposal) was obtained through information and interview among stakeholders and also through direct observation in order to study the defects and performance of the existing system.

B. Survey carried on (The activity of Rag Pickers, Udnoor landfill site, Paura Karmikas, and the system of slaughterhouse management) the information is gathered by discussing directly with rag pickers, paur karmikas about their daily work performance, the process of land filling or disposing of the waste management is obtained by visiting the places.

## III. RESULTS

A. EXISTING WASTE MANAGEMENT PRACTICES: The current practice followed by GMP in Gulbarga city for SWM was observed. The total waste generation at Gulbarga city is estimated about 192 tons per day (TPD) of which 132 tons of waste are collected. Segregation of waste at source and door to door collection of waste is not conducted by the city. There are 164 bins spread across the city. The waste generated is dumped as the waste in open location and collection bins despite the growing number of shops, institutions, hospitals, and population; the same bins are used to receive all categories of waste(mixed waste). There are inadequate number of bins and distance from the bins has forced people to litter and burn the unsorted waste along the street. The workers will handles the waste with the bare hand. There is no policy followed for waste reduction at source level and scientific method of SWM is not done (waste stream segregation, composting and biogas extraction of organic waste etc). However, valuable material such as metal,

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cardboard, high-density plastic and glasses are picked by rag pickers and sold further, these are again used for recycling.

B. BRIEF SURVEY ON GMP'S MUNICIPAL SOLID WASTE PROCESSING SITE AT UDNOOR VILLAGE: Disposing of waste in a landfill is one of the most traditional methods of waste disposal and it remains a common practice in most countries. GMP has set up a municipal solid waste disposing site at sy. No. 82 of Udnoor village towards the southwest of the city. The landfill is located at a distance of about 13kms from the city center the total area of the landfill site is about 28 acres 19 gunta. The landfill site walled on two sides. The facility has been provided with watchman room. GMP has not deployed any trip entry recorders for the trips of each vehicle on all days. The site is not being provided with a 24 hrs watchman and weighing bridge and concern of lack of greenery around the landfill site.

C. BRIEF SURVEY ON RAG PICKERS: (A.RAJAPUR VILLAGE GULBARGA): Rajapur is a small village comprising a huge population of rag pickers. They are residing in an open ground in huts. According to a survey carried out, there are about 70 to 80 families of rag pickers residing at this area and the rag picking is especially carried out by women and children. The activity of rag picking by rag pickers of Rajapur is carried out in following areas, Basaveshwar Hospital, Jayanagar, ESIC Hospital, University and Prashant Nagar from these areas they pick items such as glass bottles, plastic bottles, milk packets, iron and steel items. These collected items are sold in thrash at wholesale shops. One such shop is located at Rajapur is Nizamuddin thrash wholesale shop where the different items are taken at different rates Plastic bottle -40rs/kg, Metal-20rs/kg, Glass bottle-5rs/kg, Cartoons-8rs/kg etc. This purchased rag is transported to Kapnoor industrial area for a further process where only plastic is made into grains which are later transported to Hyderabad for the recycling process. (B.RAG PICKERS VISITING UDNOOR LANDFILL SITE): The rag pickers visiting Udnoor landfill site reside in Hirapur village. They daily visit that place and collect different types of trash items from heaps of garbage without any protection they collect Plastic bottles, footwear, milk packets, iron and steel items and the collected trash is sold in MSK Mill scrape center at a wholesale shop.

D. SURVEY ON PAURAKARMIKAS OF GMP: Paurakarmikas are staff members employed by GMP. There are about 217 permanent and about 440 staff members who are hired through private manpower supplying agencies. The street sweeping is carried out from 6.00am to 1.00pm in working hours. On an average, each sweeper or Paurakarmikas sweeps about 700-800mts per day. There are 55 wards and for each ward, Health Inspector is deployed. The attendance of paurakarmikas is maintained by Health Inspector. The Health Inspector maintains the data related to the paurakarmikas under the supervision of Environmental Engineer and Zonal Commissioner. Paurakarmikas are deployed for different work like street sweeping, drainage cleaning, garbage lifting, and transportation of garbage to dump at the bins allocated to that particular area /locality.

E. ACCOUNT ON SLAUGHTER HOUSE WASTE MANAGEMENT: The waste generated by the slaughtering of animals like cow, goat, sheep, poultry, for meat consumption is known as slaughter waste. It consist of blood, skin remaining pieces of meat. The slaughterhouse waste is infectious as it contains blood and other biological waste. At present, there are three private slaughter houses situated in the old city area and operated by 3 different committees. Qureshi committee is involved in the operation of slaughter house Municipal Corporation charges yearly fee of Rs. 5000 per slaughter house from the committee. There is around 245 non vegetarian establishments including hotels, restaurants and khana walis in Gulbarga. At present the slaughter house is located at Mominpura Tamela, Mominpura (C) and Roza (B) Tamela in ward numbers 25, 16, and 11 respectively. All slaughter house of city directly disposes the waste into open drains without any treatment which is resulting into pollution and creating a unhygienic condition within the vicinity of a slaughter house.

### IV. CONCLUSION

The present SWM practices done through GMP has to be improved. The people residing in the houses should segregate the waste at the source itself. GMP should provide three different bins to each house to collect different type of waste (i.e Wet Waste, Dry Waste, Hazardous Waste) in separate bins provided. These segregated waste has to be collected

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daily by the GMP workers. The bins at the street side has to be increased. The scientific methods for segregation and disposal has to be applied to waste management practices. The GMP should provide Uniform, Identity card, and Health protection aids (such as Gumboots, Masks, Gloves, Jackets) to each worker and make it compulsory to wear regularly in working hours. Rag pickers contribute directly or indirectly to waste management in society. Hence, rag pickers are entitled or should get Municipal appreciation and identification. For the well-being of rag pickers Municipal Corporation has to be provided with basic health amenities like Gloves, Masks, Gumboots and Vaccination. This will enhance the spirit of rag pickers and give them social recognition in the society. Slaughter House waste should not be disposed directly into the drains without treatment; the treatment facility to each slaughter house should be provided and made it compulsory.

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