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SANITATION CONDITION OF RAIPUR CITY IN CHHATTISGARH: AN OVERVIEW

RESEARCH ARTICLE

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ABSTRACT

The sanitation system of Raipur city has gradually evolved with the urban growth of the city. Sanitation and Conservancy Services are vital for the hygienic life of any Urban Community. Broad estimates suggest that 80 percent sickness in India is caused by excreta-related diseases. Human excreta have had always been viewed as an obnoxious filth. As we know that urban health is primarily dependent on the provision of safe drinking water and sanitary disposal of excreta. These two services are complementary to each other. Traditionally, provision of water supply has received priority in national planning as well as in state-level planning, but it cannot be over emphasized that to achieve that desired health benefits from water supply proper sanitation is essential. Many water supply schemes failed to bring about perceptible improvement in the health condition of the recipient community in absence of complementary sanitation services. This paper attempts to focus on a new awareness in the process of planning for urban infrastructural facilities.

Keywords: Urban Community, Hygienic life, Water Supply, Sanitation services

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Introduction

Human excreta have had always been viewed as an obnoxious filth. Studies indicate that it is the source of more than fifty diseases having different degrees of virulence. Broad estimates suggest that 80 percent sickness in India is caused by excreta-related diseases. Urban health is primarily dependent on the provision of safe drinking water and sanitary disposal of excreta. These two services are complementary to each other. Traditionally, provision of water supply has received priority in national planning as well as in state-level planning, but it cannot be over emphasized that to achieve that desired health benefits from water supply proper sanitation is essential. Many water supply schemes failed to bring about perceptible improvement in the health condition of the recipient community in absence of complementary sanitation services. This has created a new awareness in the process of planning for urban infrastructural facilities. Over time, there has also been a redial change in the attitude towards water-borne sewage system; the engineer and planners now readily recognize the need for examining various less costly alternatives of providing sanitation facilities.

Rationale of the study: Urbanization is a very complex and vibrant process and its impact is not limited to the Physical, Socio-Cultural, economic, health, educational, political and environmental, aspects of city. The study of sanitation condition has become an important topic as the modern cities are most rapidly enlarging their shapes size an expending fatly all along the main paths at the batter skates of the administrative boundaries. This city sprawl has created a lot of environmental problems (Jharia, 2014).

Objectives of the Study: The objectives of this study is as following-

- To study the present status of the sanitation scenario of Raipur city of Chhattisgarh of India.
- To analyze the changing trend of sanitation conditions and problems of Raipur city.
- To suggest some eco-friendly remedial measures to improve the sanitation of Raipur city.

Methodology: The primary data include observation of different part of Raipur city through questionnaires and interrogation with municipal authorities and slum residents. The Secondary data has been collected from Nagar Palika Nigam office, data obtained from Census 2011 and District Portal of Government of Chhattisgarh, India. GIS and Microsoft Excel have been used for statistical analysis also.

Geographic Environment of Raipur in Chhattisgarh: Geospatially located within 20.94°N 21.63°N and 81.53°E 82.20°E latitudes and longitudes respectively Raipur district in Chhattisgarh (Fig. 1) covers metropolitan area of 226 km² and the city of Raipur city (21.25°N, 81.63°E) is elevated at 298.15 m (978.18 ft.). The total population and density of population of this city is 1,010,087 and 4,500/km² respectively. The record high temperature is 47.9°C and record low is 3.9°C with average rainfall (annual) of 1193.3mm. Raipur can be roughly divided into two major physical divisions, viz. the Chhattisgarh plain and the Hilly Areas. It occupies the south eastern part of the upper Mahanadi valley and hills in the south and east. Raipur is a part of the rich and diverse topography of Chhattisgarh. It includes landforms of mountain ranges, plateau region and plain areas.ⁱ

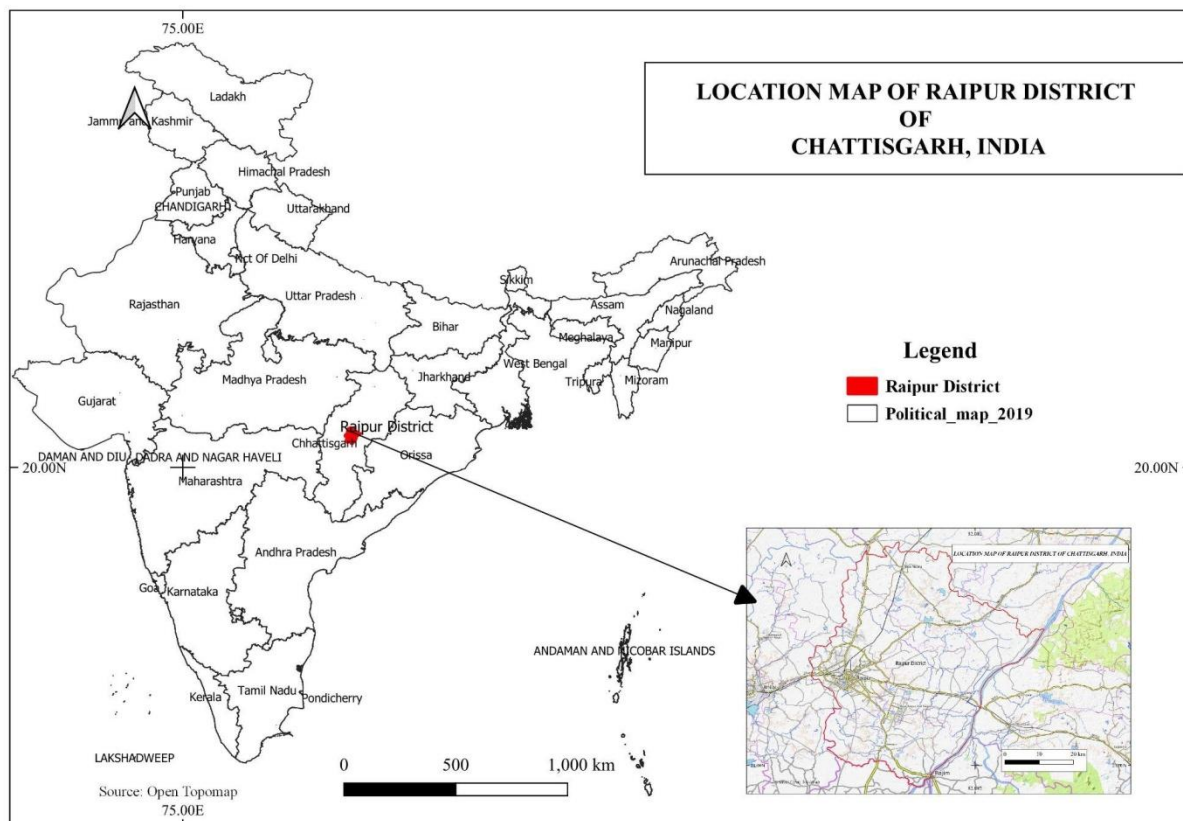


Fig. 1: Location of Raipur in Chhattisgarh of India

Geospatial analysis: The sanitation system of Raipur city has gradually evolved with the growth of the city. Sanitation and Conservancy Services are vital for the hygienic life of any Urban Community. The first step towards these services was the appointment of a Health Officer by the Municipality, to look after these arrangements in the urban area of Raipur. Presently, he is assisted by a Health officer and a Chief Sanitary Inspector. In order to maintain clean-team of roads, drain and latrines, number of different workers following given below:

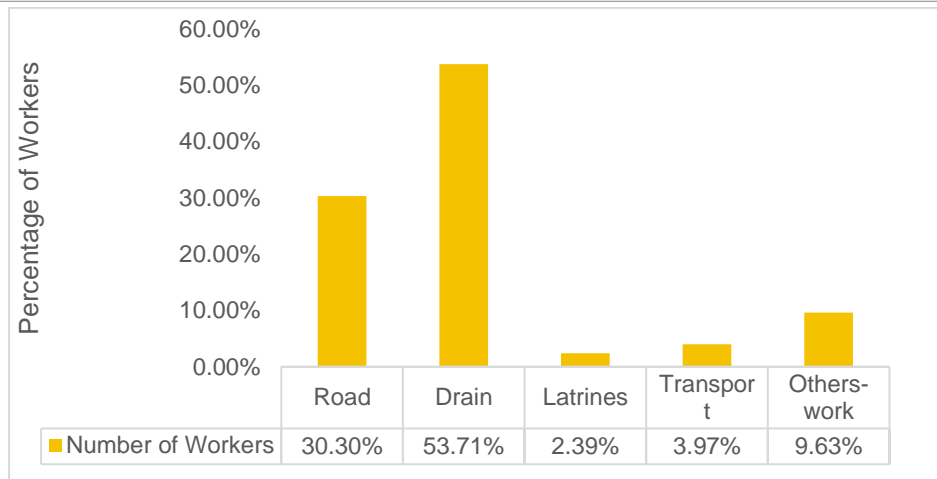


Fig. 2: Percentage of workers engaged in Sanitation related works in Raipur (2015)

Source: - Nagar Palika Nigam Raipur

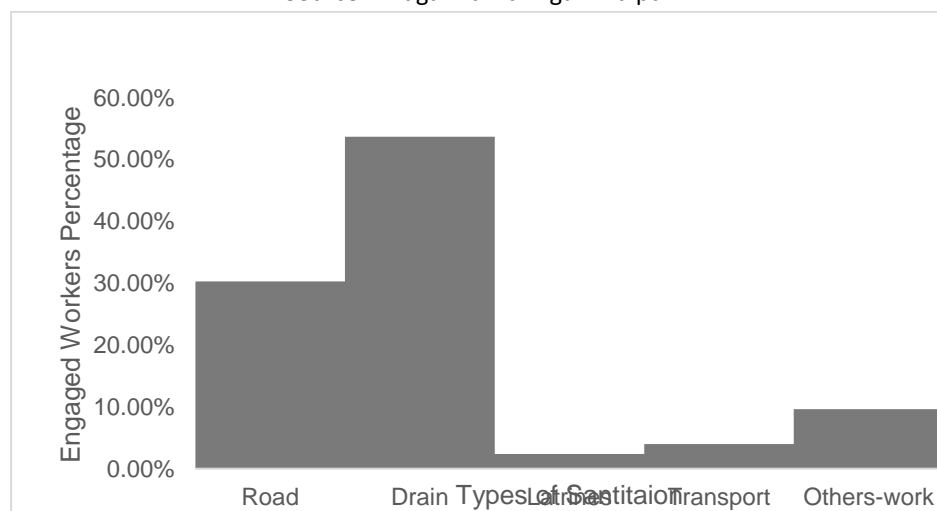


Fig. 3: Maintaining of Cleanliness (2015)

Source: - Nagar Palika Nigam Raipur

In total number of workers allotted in maintenance of cleanliness is 1713 among which 30.30% are Road workers, 53.71% are Drain workers, 2.39% are Latrines workers, 3.97% are Transport workers and 9.63% are engaged in others sanitation works. In Raipur City, Municipal Corporation workers are divided into three types i.e., a) Regular b) Daily and c) Contractor.

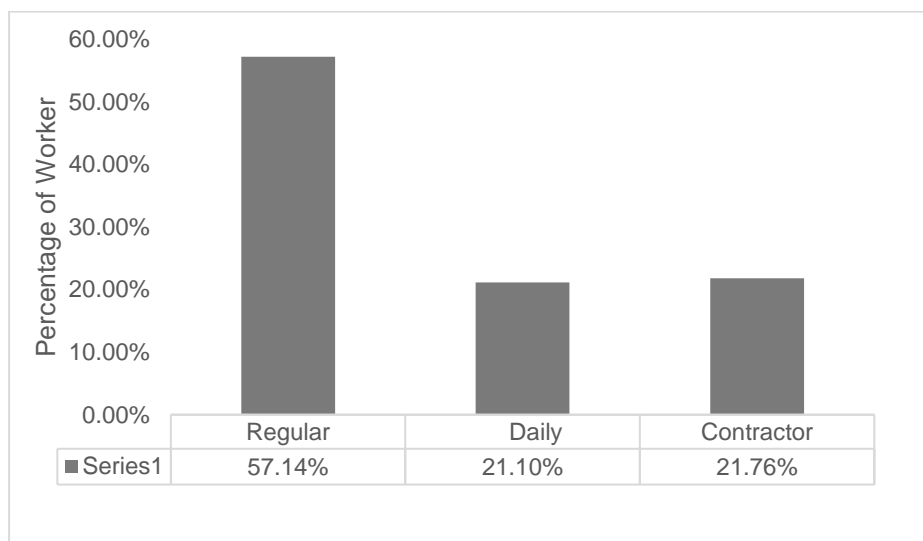


Fig. 4: Municipal Corporation workers engaged in Sanitation work (2015)

Source: - Nagar Palika Nigam Raipur

Among the total number of 1792 Municipal Corporation workers, 57.14% are Regular workers, 21.10% are Daily workers and 21.76% are under Contractors. For the collection and transportation, the Municipality is maintaining the laws of plying of Rickshaw, Four-wheeler Thelas (local cart) etc.

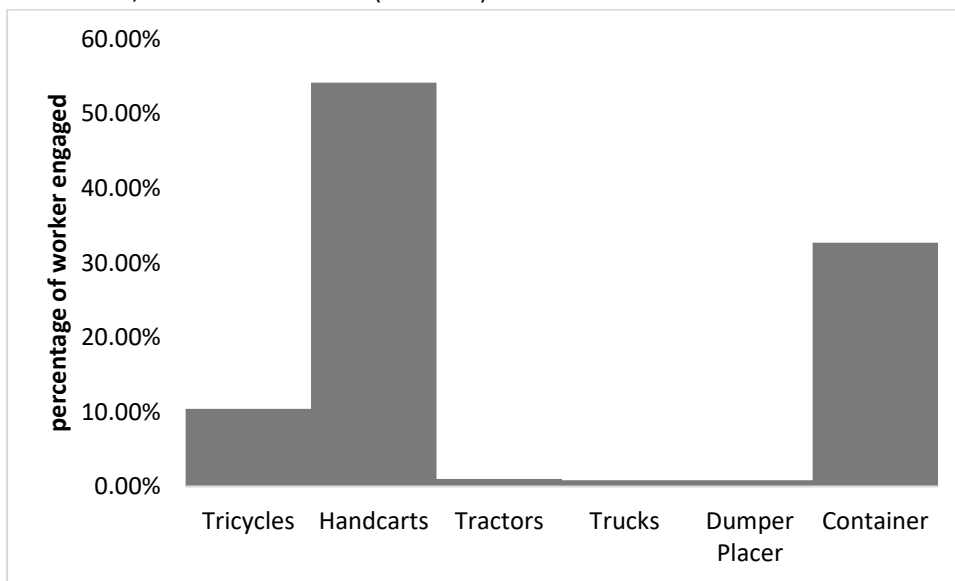


Fig. 5: Mode of transportation for waste disposal (2015)

Source: - Nagar Palika Nigam Raipur

In total number of west Transportation vehicles is 978, 10.43% Tricycles, 54.19% Handcarts, 1.02% Tractors, and 0.82% Trucks, 0.82% Dumper Placer, 32.72% Container are engaged in this work. These disposals are stored or gathered in different places like in cemented container or at open space.

Number of Waste storage dept.			
Cemented	Container	Open	Total
46	290	431	767
6.00%	37.81%	56.19%	100%

Fig. 6: Raipur City Waste Storage scenario (2015)

Source: - Nagar Palika Nigam Raipur

In total number of waste storage depot. (767), 6.00% cemented, 37.81% container 56.19% open. Collection and disposal of sewage from living areas and urban waste from manufacturing areas is essential to maintain healthy living conditions in the city. The present habited areas of the city partially served by sewerage system include Tikarapara, New Panchsheel Nagar, Daladal Seoni etc. Sewerage project for different areas in Raipur is in progress which was prepared by P.H.E Deptt. Here I found of 5 pumping stations such as:

1. Tikarapara
2. Khokhopara
3. Khamrtari
4. Birgaon
5. Daladal Seoni

There are 5 pumping stations and 7 oxidation ponds among which 4 at Rawabhata and 3 at Daladal Seoni. All these seven oxidation ponds have been completed and functioning also. The areas at present, which are not served by sewerage system, include old city areas served by conservancy system / individual septic tank. Some areas are having their own community septic tanks with their effluent discharging in to the open sullage drain ultimately joining the natural drainage.

Problems: The Census 2011 report reveals the fact that during the last three decades the percentage of slums in Raipur has increased to 51.66% and the number of slums has increased from 154 in 1991 to 282 in 2011. Raipur, due to its typical geographic location (Fig. 1) is the most attractive destination to the nearby rural population for municipal facilities and for transportation (Patel, 2019) and communicational advantages. The people living below poverty level

(BPL) and non-working population target to somehow settle near the city to get a job opportunity. Least job opportunity and poor transportation and communication network also accelerated the increase in slum area around the Raipur city.

Prospects: Recently Under the Jawaharlal Nehru Urban Renewal Mission (JNNURM), Raipur is the only city to get Rs.392 crores in the current financial year to execute the Basic Services for Urban Poor (BSUP) project.¹ But unfortunately the proper utilization of the aid and improper management through latest scientific technologies led to the problem remain as same. The Swachh Bharat Mission has given a boost to entire India for improving the sanitation related issues. The study area has ample opportunities to take the advantages of the benefits to develop the slums in Raipur.

Conclusion

The total people of the Raipur city have gradually increased but decreased the quality of life in Raipur. It was minutely observed that the population was 461851 in 1991 which increased to 1027264 in 2011. The approximate population is now 10.6 lakhs. Soon, in future the Raipur city will get the status of a megacity if the population has increased in this way. Several urban facilities like water supply, power supply, transportation network and sanitation-related facilities are being provided here. Even though, the mismanagement in execution of the planning and projects are not properly handled by the local authorities (Lanjewar, 2014). The State Government should take from necessary steps to improve the sluggish sanitation and sewage systems in the interior portion and dirty area of Raipur city. The Government also should take care of regular cleaning of the garbage and raw waste materials and recycle them to develop the urban environment. To get the healthy urban and eco-friendly slum environment steps should be taken from Ministry level to Municipal level from the state Government for environmental management and city planning. Proper monitoring and auditing of the sanitation system and execution of central government schemes can improve the sanitation environment of Raipur. Last but not the least, eco-friendly recycling processes of garbage collected should be encouraged to bring healthy urban environment and to control the pollution level in Raipur.

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