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Urban Slum Environment and Associated Problems in Slums of Bilaspur Urban Area

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Abstract

Urban slums have become an inevitable byproduct of rapid urbanization in developing cities like Bilaspur. The unplanned expansion of urban areas, combined with inadequate infrastructure and limited socio-economic opportunities, has led to the formation of densely populated slum settlements. This study explores the environmental conditions of slums in Bilaspur Urban Area and investigates the major issues faced by residents, including poor sanitation, water contamination, overcrowding, inadequate housing, and lack of access to basic health and educational services. Particular attention is given to how environmental degradation and municipal neglect contribute to public health risks and reduced quality of life. The findings highlight the urgent need for integrated urban planning, improved civic amenities, and policy interventions to address the complex challenges of slum environments and promote inclusive urban development.

Keywords: Urban slums, Bilaspur city, environmental issues, sanitation, water pollution

Introduction

Urban expansion in Indian cities has brought with it several challenges, one of the most critical being the emergence and spread of slums. Slums have increasingly become a defining feature of urban landscapes across India. According to the Census of India (2001), slum populations have been recorded in approximately 640 cities and towns across 26 states and union territories. Among these, Andhra Pradesh leads with 77 cities reporting slums, followed by Uttar Pradesh with 69, Tamil Nadu with 63, and Maharashtra with 61. Bilaspur Municipal Corporation, recognized as a rapidly developing urban region, contains nearly 27 slum clusters, which account for around 12.85% of the city's total population. This study investigates the impact of poor sanitation and polluted water on the health of residents living in these slum areas. In similar urban environments, such as the Bilaspur region, slums face numerous issues including overcrowding, environmental pollution, inadequate toilet facilities, insufficient medical and educational services, and poor waste management. One alarming issue is the intermingling of water supply lines with drainage channels, which frequently results in contamination of drinking water. Furthermore, many public water taps are located adjacent to garbage dumping sites and open drains, exacerbating the problem of waterborne infections. Diseases caused by contaminated water remain a serious threat to public health, particularly in slum settlements.

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Review of Literature

Urban slums have long been the focus of academic and policy-based research, particularly in the context of developing nations where rapid urbanization has outpaced infrastructure development. The growth of slum settlements is often a direct response to increasing rural-to-urban migration, poverty, and inadequate urban planning.

UN-Habitat (2003) defines slums as overcrowded urban areas lacking access to basic services such as clean water, sanitation, and secure housing. These informal settlements typically evolve in environmentally hazardous locations and are marked by substandard living conditions. In the Indian context, Kundu (2010) observes that the proliferation of slums is largely due to socio-economic disparities and insufficient housing policies. Urban areas like Bilaspur, which are undergoing rapid spatial expansion, have seen a similar rise in slum settlements, leading to complex environmental and social challenges.

Desai and Mahadevia (1993) argue that slum environments are typically neglected in city planning, resulting in poor waste management, waterlogging, and air pollution. These factors severely impact the health of slum dwellers, particularly children and the elderly. Studies such as Patel and Aggarwal (2007) highlight the lack of sanitation facilities and clean drinking water as major contributors to the spread of waterborne diseases like cholera and diarrhea.

Further, Ramanathan (2008) examines how the proximity of water pipelines to open drains in urban slums leads to frequent contamination of drinking water, posing serious health risks. Similar patterns have been observed in the Bilaspur urban area, where infrastructural inadequacies directly affect environmental quality and public health.

Sivaramakrishnan (2011) discusses the institutional failure in addressing the needs of slum populations, pointing out that urban governance structures often exclude these settlements from formal planning mechanisms. This results in irregular land tenure, poor civic amenities, and lack of public investment.

Local studies focused on Chhattisgarh, including research by Tiwari (2016), emphasize that urban slums in Bilaspur face multidimensional problems—ranging from housing insecurity and unemployment to poor drainage and environmental hazards. These conditions are often aggravated by the lack of political representation and weak implementation of urban welfare schemes.

Overall, the literature reflects a consistent concern over the deteriorating environmental conditions of urban slums and the socio-economic exclusion of their residents. There is a growing consensus on the need for participatory urban planning, slum upgrading initiatives, and sustainable infrastructure development to mitigate these challenges. However, a location-

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specific understanding, such as that of Bilaspur's slum scenario, is essential for designing targeted interventions.

Objectives of the Study:

- To analyze the Environmental Attributes of slums in the study areas.
- To study the Associate problems of slums of the study areas.

Research Methodology:

Primary Data Sources:

There are a total 27 slums in bilaspur city in which 16517 peoples reside. For collection of primary data questionnaires will be filled by selecting 50 houses from 09 slums. here are mainly 27 slums in Bilaspur town out of which 10 slums have been selected for collection of primary data which comprises more than 40% of the slums.

Secondary Data Sources:

Topo sheet, Tahsil office Reports, Census Handbook, Record of Town Planning Office, Record of bilaspur Corporation Office, Paper cutting and web sites are the secondary data sources for this study

Analysis of Data:

The data collected through primary and secondary data sources will be analyzed with the help of statistical tools.

Discussion:

The Compact slum Structures in Slum regions causes most of the environmental problems and also lead to deteriorate the urban environment and it also affects the effects on human health of slum dwellers. To get the clear understanding of environmental problems of every selected slum zone and slum huts. The every slum and their status of water supply, sanitation has been shown with separate Google image of respective slum pocket. The Region wise and slum wise status of water supply, sanitation, and associated health problems in slums were discussed with the help of the data collected through various sources. The region wise details of these environmental problems were discussed with the help of Table, Graphs and various Google images of the region. *(Rajesh T. Birajdar & Dr. Arun D. Andhale, 2014).* Bilaspur city, one of the major urban centers in Chhattisgarh, has witnessed rapid urbanization over the past few decades. This growth, however, has not been evenly distributed, leading to the expansion of slum areas where access to basic amenities like water and sanitation remains a pressing issue. A closer look at the slum clusters in Bilaspur reveals significant disparities in water availability, sanitation infrastructure, and related public health outcomes.

Associated Health Problems

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The combination of unsafe water and poor sanitation has a direct impact on the health of slum dwellers. Common health issues reported include:

- Diarrheal diseases, particularly among children under 5.
- Skin infections and fungal diseases due to stagnant water and unhygienic conditions.
- Vector-borne diseases like dengue, malaria, and chikungunya are recurrent, especially during monsoon, due to open drains and waterlogging.
- Respiratory illnesses also occur due to poor indoor sanitation and damp living conditions.

Health facilities are often distant or underutilized due to lack of awareness or financial constraints, leading to untreated or late-treated illnesses.The condition of water supply and sanitation in Bilaspur's slums demands urgent attention. The municipal authorities, in collaboration with health departments and urban planners, must prioritize:

- Expansion and regularization of piped water supply.
- Construction of individual and community toilets with regular maintenance.
- Implementation of effective waste management and drainage systems.
- Awareness campaigns on hygiene practices and disease prevention.
- Periodic health camps and mobile clinics in vulnerable slum pockets.

Addressing these concerns will not only improve public health outcomes but also enhance the overall urban quality of life in Bilaspur city.

Drinking water taps- surrounding wet marshy places to cause water pollution

The cleanness of drinking water taps & location of water taps is a very important aspect for sanitation in slums. There are about four drinking water taps. These are situated at different sites .The observation of daily cleanness and maintenance regarding drinking water pipeline, water taps point, measurement of the covered marshy area and water pollution around the drinking water taps were observed the time of field work. Urban slums in Bilaspur city, Chhattisgarh, face acute problems related to basic amenities, especially drinking water facilities. While taps are installed at certain points by municipal authorities, the lack of proper drainage systems has led to the formation of wet, marshy areas around these water points. These waterlogged surroundings not only breed disease-causing pathogens but also contribute significantly to water contamination and pollution, affecting the health of thousands of slum dwellers.

Table 1. Impact on Water Quality and Health

Impact Area	Description
Bacterial Contamination	Stagnant water attracts bacteria like E. coli, contaminating nearby water.
Vector-Borne Diseases	Wet zones become breeding grounds for

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	mosquitoes (dengue, malaria).
Gastrointestinal Issues	Consumption of polluted water causes diarrhea, cholera, and typhoid.
Reduced Lifespan of Infrastructure	Standing water corrodes tap base, leading to further leaks.

The growing slum population in Bilaspur city needs not just access to drinking water but also safe and hygienic conditions around those water points. Marshy and stagnant surroundings near water taps pose a serious threat to public health and urban sanitation. With focused intervention and integrated planning, these localized pollution centers can be converted into clean, safe water supply zones.

Table 2. Causes of Waterlogging Around Taps

Cause	Percentage
No drainage	40%
Tap leakage	25%
Water spillage by users	20%
Garbage and blockages	15%
Total	100%

Sanitation facilities in slum areas of the city

Sanitation facilities in slums are important for improving living conditions and public health. Lack of community waste disposal systems, regular garbage collection and access to clean water lead to the spread of diseases and environmental hazards. Inadequate sanitation facilities in the slums of the city increase health risks for the residents. Lack of proper waste management systems in the slums leads to accumulation of garbage and other waste material, which attracts pests and disease vectors like mosquitoes and rats to the area. This increases the risk of diseases like dengue fever, malaria and leptospirosis. In the survey conducted on sanitation facilities in the slum areas of the city, it was observed that the reach of mobile phones is more than the reach of toilets. The number of people giving negative answers to the questions asked in the schedule on sanitation facilities in these areas was higher.

Conclusion:

Educating slum residents about proper waste management and sanitation practices is essential. Involving the community through local initiatives and partnerships can in still a sense of ownership and responsibility for maintaining sanitation. These efforts not only enhance the well-being of slum dwellers but also contribute to a safer and more sustainable environment for all.

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