

Original Research Article

Water and Sanitation Situation in Urban Slums of India: Evidence from NSSO

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ABSTRACT

Introduction: India is urbanizing at a fast pace mainly due to migration of people from rural areas to urban areas. The slum population is constantly increasing and it has doubled in the past two decades. Rapid urbanization puts pressure on already strained infrastructure of the city leading to creation of slums.

Methods: The secondary data analysis was done using National Sample Survey Organization's (NSSO) 2008-2009 round on slums.

Results: The NSSO's survey of 2008-2009 has identified 49000 slums in urban areas. The growing slum population and the lack of basic amenities adversely affect country's overall target achievement in water and sanitation sector. NSSO survey in 2008-2009 found that basic amenities varies and these numbers are not uniform across all the states of India rather a wide disparity is noticeable among the states.

Conclusion: All urban informal settlements should have access to certain basic minimum services like affordable housing, water and sanitation facilities with cost-effective designs, access to educational and health services. In addition, we need to have a clear policy on urban slums.

Key words: Urban slums NSSO, Urbanization, Water and Sanitation.

INTRODUCTION

Urbanization refers to a process in which an increasing proportion of an entire population lives in cities and the suburbs of cities. Historically, it has been closely connected with industrialization and has been driven by the concentration of investment employment opportunities and productive activities in industry in urban areas. By one estimate, 80 per cent of the world's gross domestic product (GDP) is generated by urban areas.^[1] As cities attract business and jobs, they bring together both the human and the entrepreneurial resources to generate new ideas, innovations and increasingly productive uses of technology. India is urbanizing at a very fast pace. There have been significant changes in the trends

and patterns of the urbanization process in recent years. The Census of 2011 has shown that for the first time more people from urban India were added to the total population as compared to rural India.^[2] This has been accompanied by a large decline in agricultural employment and increase in non agricultural employment even with in the rural areas. There is evidence that commutation has also increased.

Uncontrolled urbanization is intimately connected with migration of people from suburban and rural areas, which put pressure on already strained infrastructure of the city leading to creation of slums. A slum is defined as a cluster inside urban areas without having proper

water and sanitation access. The slum population is constantly increasing; it has doubled in the past two decades. The current population living in slums in the country is more than the population of Britain. India's slum-dwelling population rose from 27.9 million in 1981 to over 40 million in 2001 to 65 million in 2011.

The percentage decadal growth of population in rural and urban areas during the decade was 17.9 and 31.2 percent respectively. [2] If urban India is considered a separate country, it would be fourth largest in the world after China, India and the United States. In 2001, there were 35 cities with million plus population and 393 cities above 100,000 populations. It is estimated that the number of million plus cities in India will grow to 75 by 2021. In addition there would be 500 large cities with population above 100,000 by 2021. [3] Over one-fourth (25.7%) of the urban population of India is poor i.e. their consumption expenditure is less than the poverty line of Rs. 538.60 per capita per month. The benefits of urbanization have eluded this burgeoning urban poor population, most live in slums. [4]

In the last decade, India grew at an average annual growth rate of 2% but urban population grew at 3%, megacities at 4% and slum population rose by 5-6%. [5] This rapid and unplanned urbanization and simultaneous growth of urban poverty in the limited living spaces have a visible impact on the quality of life of the slum dwellers of the city. Existing infrastructure and services are hard-pressed to cater to this growing urban population and the urban poor bear the brunt of this burden. When infrastructure and services are lacking, slums and other vulnerable settlements are amongst the world's most life threatening environments. [6] Lack of basic services like lack of access to improved sanitation facilities and improved water source, supplemented sometimes, by the absence of waste collection systems, electricity supply, surfaced roads and footpaths, street lighting

and storm water drainage add to the miseries of slums.

Table 1: Projected Urban and Total Population in India –2021 and 2026

Item		2001	2011	2021	2026
Total Population (million)		1028.61	1192.50	1339.74	1399.83
Urban Population (million)		286.12	357.94	432.61	534.80
Urban (%)		27.82	30.02	32.29	38.21
Total AEGR (%)		1.48	1.32	1.23	1.16
Urban AEGR (%)		2.24	2.07	2.50	1.89

Key Demographic indicators of slums

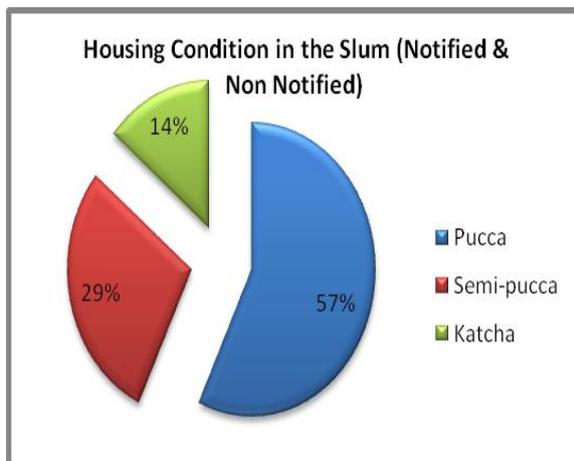
- About 49000 slums were estimated to be in existence in urban India in 2008-09, 24 percent of them were located along nullahs and drains and 12 percent along railway lines.
- About 57 percent of slums were built on public land, owned mostly by local bodies, state government, etc.
- In 64 percent of notified slums, a majority of the dwellings were pucca, the corresponding percentage for the non-notified ones being 50 percent.

Housing condition in slums

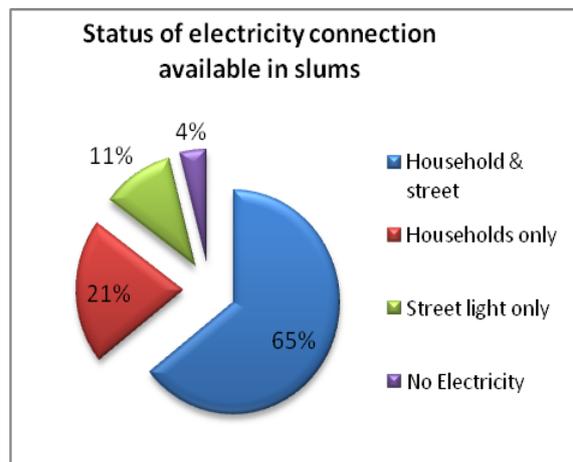
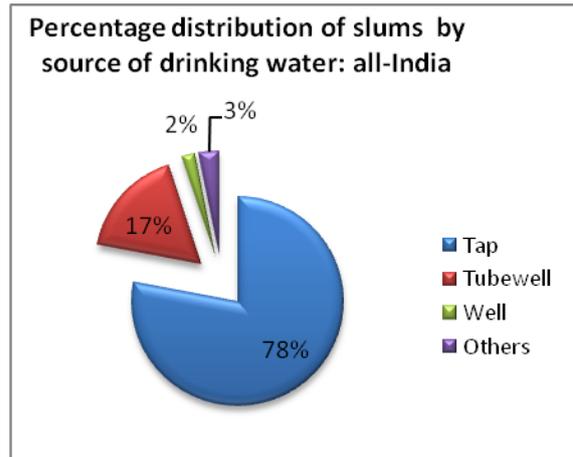
It is seen that there has been a noticeable change in respect of type of structure of houses in the slums during the period between 2002 and 2008-09. [7] The percentage of slums where the majority of houses were *pucca*¹ was 48 % in 2002. This percentage is seen to have increased to 57 % in 2009. Slums with the majority of the households living in *pucca* structures constituted about 64 per cent of notified slums and 50 per cent of non-notified slums in 2008-09. Wide variation across the states was, however, observed in this respect. In some states like Uttar Pradesh, Andhra Pradesh, Delhi, West Bengal and Maharashtra, 72 percent or more slums had the majority of their houses built with *pucca* materials. On the other hand, the majority of the houses in the slums of Orissa, Gujarat

¹ Houses made with high quality materials throughout, including the floor, roof, and exterior walls, are called *pucca* houses.

and Madhya Pradesh both notified and non-notified were of type semi-pucca or katcha.²



Water supply and Sanitation: Inadequate water supply facilities and poor sanitary conditions can have a deleterious impact on household outcomes. Slums surveyed in the 58th round (2002) as well as in the 65th round (2008-09) of NSSO were classified according to major source of drinking water available to residents. When notified and non-notified slums are considered together, there is little change seen since 2002 in the distribution of slums by major source of drinking water, that is tap (78%), tube-well³ (16-17%), well⁴ and other sources(5-7%). It is seen that during 2008-09, although the proportion of slums using tube-wells as major source of drinking water has increased for notified slums as compared to 2002, it has declined during the same period for non-notified slums. In all the states except Orissa and Uttar Pradesh, more than two-third of slums notified as well as non-notified relied principally on tap water for drinking purpose.



The sanitary conditions in the slums in terms of latrine facility during 2008-09 appear to have improved considerably since 2002. At all-India level, the proportion of slums not having any latrine facility declined sharply from 17% in 2002 to 10% in 2008-09 for notified slums and from 51% to 20% for non-notified slums. During 2008-09 the proportions of notified and non-notified slums with no latrine were very high in Orissa (49% and 36% respectively), Gujarat (39% and 48% respectively) and Tamil Nadu (27% and 40% respectively).

In 2008-09, 33% (30% in 2002) of notified slums and 19% (10% in 2002) of non-notified slums had underground sewerage. The proportion of slums having underground drainage or covered drainage system constructed with pucca materials increased from 25% to 39% in notified slums. The share of slums with open drainage declining from 61% to 50% and of those without any drainage from 15% to

² Houses made from mud, thatch, or other low-quality materials are called *katcha* houses.

³ A tube well is a type of water well in which a long 100–200 millimeters (3.9–7.9 in) wide stainless steel tube or pipe is bored into an underground aquifer.

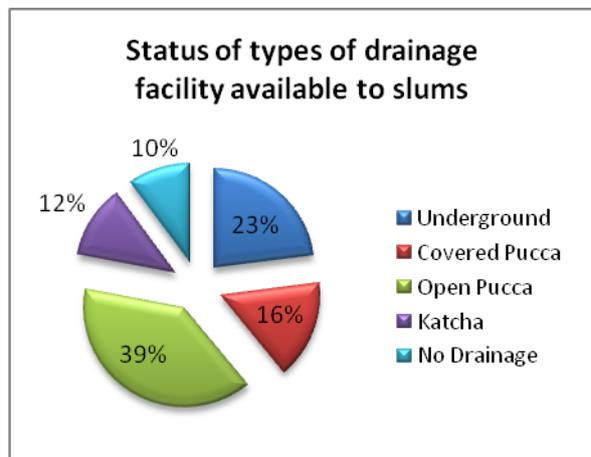
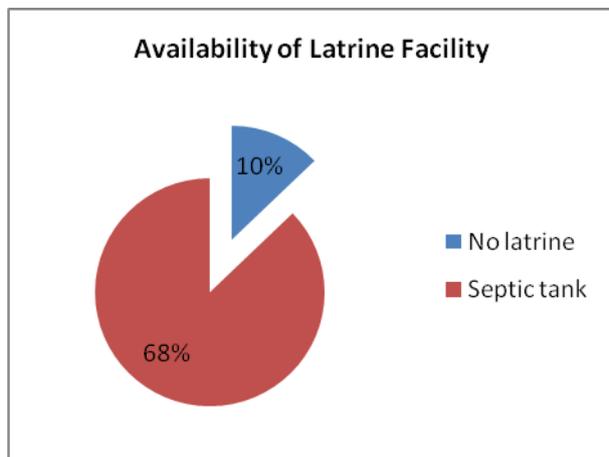
⁴ A water well is an excavation or structure created in the ground by digging, driving, boring, or drilling to access groundwater in underground aquifers.

10% between 2002 and 2008-09. Among non-notified slums, the share of slums with underground or covered drainage system and those with open drainage both increased by about 10 percent, while the share of those with no drainage declined from 44% to 23%. During 2008-09 the proportion of notified slums with no drainage was highest in Gujarat (62%) and Orissa (49%), while for non-notified slums the highest proportions of slums without drainage were found in Uttar Pradesh (54%), Orissa (49%) and Gujarat (40%).

Electricity:

It was found that in 2008-09, electricity connection was not available in only 1 per cent of the notified slums and

about 7 per cent of the non-notified slums. The overall proportion of slums without electricity came down from 8 per cent in 2002 to 4 per cent in 2008-2009. Among non-notified slums, the proportion was 34% for Uttar Pradesh, 17% for Andhra Pradesh, and 10-11% for Delhi and Gujarat. The proportion of notified slums at all-India level with electricity for both household purposes and street lighting is seen to have declined from 84% to 76%, the states worst-off in this respect in 2008-09 being Gujarat (15%) and Orissa (32%). Compared to 2002, the percentage of non-notified slums with street light facility only has increased from 6 to 15 percent in the year 2007-08.



DISCUSSION AND CONCLUSION

The results are consistent with past findings that urban slums are under-served by government facilities, dealing with the problems of slum dwellers. The data on living conditions and demographic profile of the slum dwellers collected by the NSSO in its 65th round and compared with its 58th round highlights the fact that there has been a considerable improvement in the living conditions in the slums and squatters in India over the last one decade. However, the rate at which the slums are growing as a result of unplanned urbanization in the country multiplies the slum problems at a rate much faster than they are resolved or taken care of. [8] The impacts of lack of basic amenities like sanitation, garbage disposal, and potable water on health on the

one hand, and accessibility and quality issues of health facilities on the other, make the urban poor vulnerable to health shocks. [9] High number of substandard housing structures often built with non-permanent materials unsuitable for housing, with local conditions of location and climate, e.g. earthen floors, mud-and wattle walls, thatched roofs, etc. Often in violation of housing norms are still persistent in the slums. Over-crowding and high occupancy rate, co-habitation by different families and a large number of single-room units, often five and more persons share a one-room unit for cooking, sleeping and living making them more vulnerable to unhealthy / hazardous conditions. The onus of slum development has been mostly on the government, and it does not seem as though

it has succeeded to provide a clean environment and adequate basic facilities; in fact the situation has remained almost static for the past several years. [10,11] Rural sanitation in India has received considerably more attention and funding than urban sanitation. In slums, space constraints make it difficult to install individual household toilets and build the requisite infrastructure. Community dynamics are often less cohesive than in rural areas, and confused or insecure land tenure rights make it difficult to change behaviors, assign and collect tariffs for communal toilets, or build expensive permanent structures. [12]

The lack of political will to contain the problem compounds the issue manifold. [8] All the state governments in the country are not taking this problem seriously. Many of them do not use the funds allocated to them by the central government for the specific purpose and the money, thus allocated, lapses. Later when there are review meetings with the states/UTs they complain of shortage of funds for improving the lives of people living in the slums. The Rajiv Awas Yojana initiative was launched in 2012 to bring urban slums under formal city management, thus improving prospects for urban service provision, although many implementation hurdles remain. [13]

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