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India's rapid urban growth causes concern over water and sanitation supply

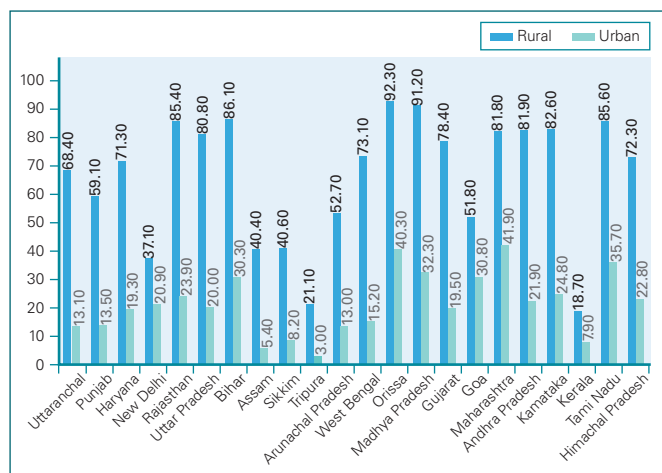
Whilst the growth in India's population and industrial economy continues unabated, the lack of attention to the water and sanitation infrastructure is a cause for concern. Although the government is increasing infrastructure expenditure year-on-year, population increases and the continued migration to urban areas means that much still remains to be done. However, with water and sanitation systems often left behind in the call on resources, excessive leakage and pollution are building up costs for today and serious health problems for the future.



Throughout the last half century the migration of the rural population to the large cities in India has continued unabated. This has put huge strains on the infrastructure in those cities. In fact, in the fifty years between 1951 to 2001, the urban population has risen by over 350% to 280 million.

Sanitation and health

The link between poor sanitation and disease is well known, and water borne diseases thrive where there are no adequate toilet facilities. The bar chart below shows the percentage of Indian homes without a toilet as revealed in the 2001 census.



The water landscape

The development of these mega-cities, without the continuous upgrading of water distribution systems, has led to high levels of leakage in most major cities. In order to reduce leakage levels, water supply is often restricted to just a few hours a day – as shown in the table below.

Moreover, at the recent IWA Conference the contamination of the existing water reserves in many parts of India raised a major concern. In Rajasthan for example, where the population largely depends on ground water supplies, many of the sources are severely contaminated with fluoride and nitrates.

City	Pop. with piped water supply (%)	Hours per day of water supply	Unaccounted for water (%)
Bhopal	67	2-4	64
Gwalior	68	4	64
Indore	68	1	52
Jabalpur	89	4	52
Bangalore (2002-3)	100	4	34-44
Kolkata (2004)	60	9	30-40
Chennai (1997)	92	4	20
Delhi (2004)	75	4	40
Mumbai (1997)	100	5	18
Hyderabad (2002-3)	100	0.5 - 4	33

Water for the World activities in India

Borouge and Borealis are actively working with partners on a number of water and sanitation projects in India.

Bangalore

Water and Sanitation for the Urban Poor partners are working to bring water and sanitation to 90,000 people in slums on the outskirts of Bangalore.

Malkapur

In a pilot project initiated by the Maharashtra State Government, Borouge, together with pipe manufacturer Kimplas, is working to deliver reliable, uninterrupted water supplies to 30,000 people in the village of Malkapur, 24 hours a day, 7 days a week.

Andhra Pradesh

In 2006 Borouge worked with the Sri Sathya Sai Central Trust to build a reliable water supply system for 500,000 people in 450 water-scarce villages in the east and west Godavari districts of Andhra Pradesh.



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