WATER, SANITATION AND HYGIENE OF THE POOR IN URBAN INDIA

A photo journey into issues, challenges and opportunities

Pic: Ranjan K Panda
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An aggressive urban revamp on the cards

India’s urban planning is undergoing a revolutionary change. The current government at the Centre has embarked upon an ambitious plan of modernising India’s urban areas through 100 smart cities and a revamped urban renewal mission, named AMRUT, for another 500 cities, taking over from the Jawaharlal Nehru National Urban Renewal Mission (JnNURM). The Swacch Bharat Mission has already become an important programme. To facilitate all these programmes, the Union cabinet announced in April 2015 that over Rs 2 lakh crore will be invested into urban areas over the next five years.

Population Foundation of India (PFI) has a programme called the Health of the Urban Poor (HUP) that works to promote safe drinking water, clean and affordable sanitation and hygiene and with it better health among the urban poor in India. We see these new developments as huge opportunities for the urban poor, who constitute almost half of the urban population.

This photo-essay tries to capture the situation as it exists in India’s urban areas particularly in slum and slum like areas with regard to water, sanitation and hygiene (WASH). Through pictures and brief narrations, it brings to the readers the ground reality and some of the experimentations and initiatives being tried out in different parts of the country.

After briefly discussing urbanization in India, the essay looks closely at a few cities – large and small, from across the country – to bring forth various kinds of issues and challenges that exist in urban areas. It then goes into the nuances of a few most significant issues related to the situation of urban WASH today. And finally, the document talks about the initiatives that are being tried and facilitated across the nation.

We are sure, this effort will feed into the new era of urban planning and also make general people aware of the situation so that they too can work to make Indian urban-scapes healthy and hygienic spaces.
Section 1

Issues and Challenges
Urbanisation in India: Why it must take the poor on board?

In just about 35 years, or may be much earlier, 50 per cent of Indians will live in urban settlements. Going by the current trends, most of this growth will happen in the slums that typically characterize shanty locations where one can see people defecating in open, living in unhygienic conditions, queuing up for hours to fetch a bucket of drinking water and so on. Addressing these problems of the urban poor needs an inclusive development and their participation.
While about 30 per cent of the urban Indians still do not have pipe water connections at their homes, almost 20 per cent households lack toilets on their premises. For the urban poor, it is still worse. While there is no assurance of quality for the water they get through pipes at home or roadside taps and tankers, the fact that they live in shanty locations exposes them to all sorts of health hazards.
Gloomy WASH stats

The World Health Organisation estimates that unsafe drinking-water, inadequate hygiene and sanitation contribute to an estimated 1.9 million annual deaths, primarily in children under five. The Planning Commission estimated that each year, between 0.4 and 0.5 million Indian children, under age five, die of diarrheal diseases. According to the United Nations Development Programme, 73 million working days are lost each year in India to water-borne diseases at a cost of $600m (INR 38 billion) in terms of medical treatment and lost production.
Life on the drains and dumping yards

Statistics suggest that about a quarter of the slums are located around drains. Water logging affects more than 50 per cent of the urban slums. Majority of the slums are also situated besides waste dumping yards. Even though safe drinking water, sanitation and living in a healthy environment are considered basic needs in the country, the urban poor continue to remain deprived of them.
Inclusive growth?

The capital city of India has grown nearly 42 times since 1901, but half of it still lives in slums, unauthorized colonies and in about 860 jhuggi-jhonpri clusters. Nearly 20 per cent of its residents do not receive drinking water on their premises, 20 per cent have no toilets and four per cent defecate in the open. More than two thirds of Delhi has yet to be covered by sewerage lines.
Legal holdings, illegal connections

Government considers illegal settlements by the urban poor a bottleneck in providing basic amenities. However, cities such as Agra testify to the fact that despite owning the properties legally, the poor have not been able to access piped water supply. In Agra’s slums, 96 per cent of the people own their premises, but only 60 per cent of them get water supply from the municipality. Ground water extraction for drinking water is a huge problem in such cities.
More the slums more are the woes

Cities that have grown the most have grown more in the slums. For example, Mumbai, world’s fifth largest city, where 78 per cent of people live in slums. Slums in Mumbai are known for their large habitation size, population density and extremely unhygienic living conditions. Reports show infectious diseases in the slums of Mumbai are always in alarming proportions.
Sufficient supply, deficient access

Some other cities face another type of a problem and Bhubaneswar is a typical example. The city gets more than double of the water it requires – from both surface and ground water sources – but the distribution is highly inequitable. Two third of the slums don’t get safe drinking water. About 80 per cent of the slum dwellers defecate in the open.
Garbage: piling up

India’s urban areas are confronting a huge problem - the growing waste they generate. The Central Pollution Control Board estimates the total municipal solid waste of the country at 127 million Kg per day. Toxic solid wastes litter all over the cities and expose the people, especially slum dwellers, too many health hazards. Currently, only 70 per cent of waste is collected and merely 12 per cent is treated.
Septage: spreading fast

Managing septage is yet another mountainous task for India’s urban areas. As per Census 2011, piped sewer systems are only available to 32.7 per cent urban households. Rest of the households rely on onsite sanitation systems, such as septic tanks, use public toilets, or defecate in the open. India needs much better, scientific and locally adaptable management of septage.
Manual scavenging: Banned yet continues

Manual scavenging, a traditional practice, has been banned with the enactment of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013. Septage is mostly handled mechanically, but manual scavenging is still in practice mainly because the existing cesspool suckers – that come either with trucks or tractors – cannot reach the narrow lanes. Manual scavengers, usually belong to the Dalit community, living in some of the most unhygienic conditions in the cities.
Pollution of rivers and water bodies

It is alarming that more than half of India’s rivers are polluted. The number of polluted rivers has more than doubled from 121 to 275 in the last five years. The Yamuna in Delhi is almost a drain today. The Ganga faces severe pollution as well. Most of this is untreated urban sewage, industrial effluents and other wastes. The health of the urban poor is directly influenced by the health of the rivers and water bodies.
Quality of the water we drink

Seventy-two per cent urban households have a water source on their premises. However, having a source inside one's complex does not guarantee the quality of water one gets. Statistics make us believe that only 32 per cent of India’s population receives treated water. However, many cities report regular cases of hepatitis and other water borne epidemics due to contamination both at source, pipelines and point of use.
Women: the burdened half

Women living in urban slums and on pavements go through several hardships and challenges in their day to day life. They queue up for hours to fetch water from public posts or tanks, face humiliation and even sexual harassment while defecating in open, and get exposed to infections. The poor condition of public toilets also exposes them to infections and other health hazards.
Children: future in jeopardy

Indian urban spaces, especially the slums, are known for visuals of children defecating in the open – alongside drains and railway tracks, and all other possible spaces that are near to their habitation areas. Unknowingly therefore, the children become the cause of their own woes. Statistics point that at least 1,600 Indian children under five years of age die every day due to diarrhoea caused by lack of proper sanitation. Routine open defecation is also found to be the primary cause of India’s stunting epidemic, which affects an estimated 48 per cent of the country’s children.
Section 2

Solutions, Experiments and Innovations
Tackling health hazards at the point-of-use

The HUP-PFI has been endeavoring to sensitize the urban poor and build the capacity of the functionaries at various levels to mitigate contamination of water at the Point of Use (PoU). HUP-PFI has organized training programmes on the point of use water disinfection for NGO staff, frontline workers of various allied departments and community based organisations in the four major cities of India i.e. Delhi, Jaipur, Bhubaneswar and Pune to popularise the PoU approach. The training includes peoples’ education through information sharing, demonstration and interaction on available options to improve water quality at the household level. The result of water contamination reported in the course of training confirmed that water at PoU is more contaminated as compared to Point of Source.
Sanitary survey of public drinking water sources

HUP-PFI, with the help of the local government departments and NGOs, carried out an extensive sanitary survey of drinking water sources in Bhubaneswar slums. The purpose was to understand the risk to public drinking water sources based on onsite inspection and water testing of the source with field test for pipe water supply and H2S bacteriological contamination test. This survey, done with the involvement of the local people by using testing kits and related survey methods, revealed that 35 per cent of the sources were facing high risk of contamination, while 43 per cent and 19 per cent sources were exposed to intermediate and low risks. Two per cent of the sources faced very high risk. Such surveys can help the water supply agencies and municipal bodies to regularly monitor and de-contaminate the sources to be able to provide safe drinking water to the urban poor.
**WASH in Schools**

Many organisations working on WASH in urban areas are now trying to focus on school WASH programmes. Plan India that works among 5000 communities across 11 states is a pioneer among them. Plan believes that schools are a permanent institutional arrangement and children are agents of change. Plan’s School WASH programme adopts a rights-based approach that involves children, parents, teachers and local community leaders for effective management of the school’s water, sanitation and hygiene (WASH) ecosystem. Plan India’s WASH strategy is aligned to the Government of India’s Swachh Bharat Abhiyan (SBA).
DEWATS - local solutions to larger problems

Even as the governments are struggling to check pollution of the Yamuna from urban areas, the Decentralized Waste Water Treatment System (DEWATS) at Kachhpura in Agra is already providing an example of how local initiatives to treat drains can contribute in a big way to such efforts. Designed and constructed by the Centre for Urban and Regional Excellence (CURE) in partnership with multiple stakeholders, this system is treating 50kl of waste water to bring down BOD (Biological Oxygen Demand) to acceptable levels prior to reuse in urban agriculture. The treated water at ‘compliant level’ is then discharged into river Yamuna.
There are many local initiatives across Indian cities where slum dwellers themselves have taken the lead in maintaining public toilets. Malgodown-Behera Sahi in Cuttack is a perfect example where, with the help of local and national NGOs, the locals decided to revive and renovate an old community toilet. They transformed it into one with separate bathrooms for men and women along with eight child-friendly toilets. They have formed a committee and maintain the complex by collecting user fees. There are similar initiatives in Trichy, Delhi and many other cities. Cities now need to invest more in toilets for differently abled persons as well.
Fighting the traditional supply and subsidy driven approach of sanitation, the Kalyani Municipality, West Bengal adopted a participatory approach of creating awareness and demand for toilets and this has been recognized as a best practice by the Government Communities were made aware of sanitary toilets that are affordable and can relieve the slum dwellers from a lot of their medical expenses. Open defecation has stopped and health hazards have reduced.

Community-led sanitary toilets
Jal-TARA water testing kit and community water filter

The New Delhi based organization, Development Alternatives, has developed the Jal-TARA Water Testing Kit that can test 16 essential parameters in water. This kit, certified by prestigious laboratories, is handy and can be used by persons who don’t have any scientific background. Another product by the same organization, Jal-TARA Community Water Filter, is being used to treat drinking water contaminated with pathogenic bacteria and turbidity using slow sand filtration technique. Various urban slums are already benefitting from these.
Using technology in garbage management

The city of Pune has taken up multiple initiatives to manage solid waste. The Pune Municipal Corporation has asked residents to segregate dry and wet wastes at source, commissioned biogas plants that decompose organic waste into methane, which then produces electricity and organic manure. A centralized waste recycling plant and incentives provided to citizens who actively participate, are helping the city manage garbage. Despite there being a few challenges, this project has the potential to be scaled-up.
Only two and a half years ago, the garbage bin at the entrance of Madanpur Khadar’s B2 block in Delhi was overflowing with more than three times of garbage it could hold. Residents were used to the stink, and it was usual to live with the garbage. FORCE, an NGO, decided to make people ‘unused to living with garbage’ and involved the communities to clean the local environment. Multiple measures were taken, including door-to-door collection of garbage in cycle-rickshaws. It also developed local people as entrepreneurs who earn a livelihood from garbage collection and transporting it to the municipality collection point.
Several cities, large and small, are gearing up for septage management. Musiri, a city of about 30,000, started a project for treatment of sludge from 19 community toilets and about 1500 septic tanks through a pilot-cum-demonstration unit comprising of a vertical flow constructed wetland for treating septic sludge, and is designed like a conventional sludge drying bed. After some initial success, it faced protest by the local people for the foul smell it produced and is now waiting to be redesigned.
The conventional way of managing waste through landfills has been controversial and has invited local outrage. Both the transportation and onsite dumping have become the causes of pollution, and hence, conflicts. Unless the dry and wet waste materials are segregated at the source level, landfills would never serve their purposes. In 2012, the Karnataka High Court passed the first-of-its-kind order that made segregation mandatory. The Karnataka assembly passed a law in this regard. Hope the other states will follow suit.
Cleaning a river, a difficult task but there is no way out

The Yamuna, after the Ganga, is the most polluted river of India. Starting from 1993, several actions under the Yamuna Action Plan have been taken up in different phases. Thousands of crores have been spent in laying of sewers, installation of pumping stations and building of sewerage treatment plants. Not much has been achieved, but government officials are still hopeful. Cities such as Agra have initiated the Decentralized Wastewater Treatment (DEWAT) in some drains to improve hygienic living conditions for poor as well as reduce the pollution of rivers.
Caring for menstrual health, improving the environment

Adolescent girls and women in slums face both access and taboo problems with regard to the use of sanitary napkins. The conventional napkins pose environmental challenges at disposal. The readymade pads are non-biodegradable and can’t be recycled. Research says, a woman on an average would throw somewhere between 120 to 150 pads in a year. These then disintegrate into microscopic components and cause pollution by entering waterways. To solve this, an NGO in Udaipur is now making, with involvement of slum dwelling poor women, reusable fabric sanitary napkins UGER, which literally means a 'new beginning' in Mewari. Women in the slums happily adopt them.
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Being the change to bring about change

Indian urbanscapes certainly need a drastic overhaul of infrastructure and services if they want to bring the poor slum dwellers on board for an inclusive urban growth. The cities need to invest in behavioral changes, infrastructure building, service provisioning and monitoring. The women, adolescent girls and children, need special emphasis in all these. Hand washing, sanitary napkins, women and child friendly toilets, toilets in schools and Anganwadi Centres, quality monitoring of sources, piped water supply to each household, well maintained community toilets, proper garbage and septage management, abating pollution of water bodies and rivers are just some of the many tasks that are at hand. The country has already started facilitating the involvement of a cross section of stakeholders in the programmes for the urban poor. The need of the hour is to bring in more partnerships from government departments, municipalities, private agencies, civil societies, user groups, citizen committees, and above all, the poor families themselves. A real Swachh Bharat can be achieved when programmes for the urban poor can provide good health, hygiene, nutrition and environment.

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