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Reinventing Public Toilets in Delhi

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Abstract

Lack of adequate sanitation is a pressing challenge in both rural and urban India. Sanitation-related diseases take a heavy toll of lives, especially children's lives, and are a drain on productivity and incomes. Lack of adequate sanitation also forces households into the continued indignity of open defecation, which is an acute problem especially for women and young girls. Improving access to sanitation is therefore appropriately included in the Millennium Development Goals.

Since May 2006, more than 150 slums in Delhi have been demolished under government pretenses of transforming India's capital into a clean and more cosmopolitan "world city." Home to the city's labourers and working class, slum colonies have come under increasing attack by politicians and more elite residents who criticize the specter of poverty as leaving a black mark on the growing image of a "shining India." With the upcoming 2010 Common Wealth Games to be held in Delhi, demolitions have sped up to make way for a sports stadium and other commercial centers.

The slum demolition process has resulted in dire human rights violations of India's largest urban population, the working poor. Evicted from well-established squatter communities in the heart of the city, many poor families have been shipped out of sight, and often out of mind, sometimes disappearing altogether from the city. Yet the amenities and conditions of poverty in resettlement areas are among the worst in the city, as many of these colonies lack basic water and sanitation infrastructure, and are further excluded from employment opportunities, education and medical facilities.

Serious problems stand in the way of efforts to expand and sustain water supply and sanitation system in the country. The crisis of safe drinking water and sanitation has

reached a critical stage in India. Securing adequate water supply, which is the very basis for human survival is one of the most critical problems. Lack of safe drinking water and sanitation facilities is a major problem affecting all community's particularly rural, slums and resettlement colonies in cities.

The rise of resettlement colonies have added to the problems of poor. The deprived populations have been sent to the peripheries using instruments such as master plans, environmental legislations, slum clearance/rehabilitation projects etc. It thereby successfully carries out a process of sanitization. Functioning of informal land market, too, has facilitated a process of socio-economic segmentation through population redistribution within and around the city.

Even though a great deal of effort has been directed towards the various sanitation activities, the progress has been very slow. Required basic facilities are not being met and undersupply what is needed by the informal settlements. In promoting the International Year of Water (2007), and International Year of Sanitation (2008) UN Secretary General Ban Ki Moon recognized these UN promoted activities as having challenged humankind to spur actions on a crisis effecting one out of three people on the planet.

Keywords:

Public Toilets; Sanitation, Total Sanitation, Toilet Tripod, Eco-toilets, Community Toilets

Introduction

Sanitation (often referred to as 'environmental sanitation') includes interventions for the safe management and disposal/re-use of waste. The delivery of safe sanitation services includes infrastructure (e.g. latrines, sewers), associated behaviors (e.g. toilet usage, hand-washing) and a requisite enabling environment (e.g. public health regulations, fiscal incentive schemes for achieving sanitation outcomes). Safe sanitation prevents waste from coming into contact with humans. This is linked to reduced burden of disease and illness-related expenditure, improved water quality and a cleaner environment, ultimately resulting in a better quality of life.

Everyday, an estimated 1,000 children under five die in the country because of diarrhea alone, a preventable disease. Prevalence of child under-nutrition in India (47 per cent according to National Family Health Survey III, 2005-06) is among the highest in the world and nearly double that of Sub-Saharan Africa. Child under-nutrition is aggravated by the prevalence of diarrheal disease, and is responsible for 22 per cent of the country's burden of disease (World Bank 2005). Some studies suggest that it affects child cognitive and motor development and undermines

educational achievement. Sanitation related illnesses in both children and adults drain productivity and income, ultimately perpetuating poverty. In addition to public health implications, lack of adequate sanitation forces households into the continued indignity of open defecation, which is an acute problem especially for women and young girls. On the other hand, access to safe sanitation in schools is linked to continued education enrolment by young girls and teenage women, particularly at puberty. Sanitation, therefore, is appropriately included in the Millennium Development Goals as it has a direct bearing on initiatives to reduce poverty and improve health and literacy.

Urban Sanitation begins with a look at existing coverage in Indian cities, noting that while a third of India's urban population does not have access to adequate sanitation, the situation is even more grim with respect to the urban poor. To address this situation and building on earlier initiatives, the Government of India has formally approved the National Urban Sanitation Policy in 2008 which envisions the creation of totally sanitized cities and towns. The policy articulates the following goals: awareness generation and behavior change, open defecation free cities in which all urban dwellers have access to safe sanitation, integrated city wide sanitation planning and sanitary and safe disposal of urban wastes. In addition, the policy promotes community and local government participation in the planning, implementation and management of urban sanitation services.

In urban sanitation too, the importance of sustainability is highlighted, specifically addressing the issue of 'willingness to charge' for services and the impact on environmental health. This section concludes with an analysis of three successful initiatives in urban sanitation from across India – public toilet blocks built under the Build-Operate-Transfer model in Delhi, participatory and community-led approach operationalized in the Mumbai Slum Sanitation Program and the integration of community participation, local government initiative and private sector participation incorporated in the Alandur sewerage project, Chennai.



Figure 1 A closed Community Toilet Complex in Gadha Colony.



As per the report of the National Capital Region Planning Board (1999), the norms for informal housing community toilets are one latrine seat for 25 persons.

Government allocates a large amount of funds for the development and upliftment of the people dwelling in these cities but it still does not accomplish the purpose to its fullest. A participatory approach is essential to draw out a realistic plan to augment the existing water and sanitation facilities, identify the gaps in the infrastructure and to list out the immediate and future requirements. It is also important to find out the current practices of the community regarding the use and maintenance of the existing infrastructure.

An integrated approach linking water, sanitation, hygiene and health would improve the quality of life of the entire community. Understanding of the delivery system of water and overall solid and liquid waste management will help in identifying and overcoming the problems of sanitation in the community. A plan for community based management and maintenance of water and sanitation facilities will ensure that the entire community and not just a handful of people derive benefit, thereby assuring equity and sustainability. Further, a collaboration of sector-related agencies and departments for a focused implementation of the water and sanitation programs along with the involvement of NGOs and community, especially women, could make such a plan truly participatory.

Delhi has 413 public toilets out of which 176 managed by Delhi Urban Improvement Shelter Board (DUSIB), 174 by Municipal Corporations of Delhi and 63 by Delhi Development Authority and New Delhi Municipal Corporation (NDMC).

Delhi and Yamuna River

National River Conservation Directorate, Ministry of Environment & Forests, Government of India has received a soft loan from Japan Bank for International Cooperation for Yamuna Action Plan Phase-II, which aims at pollution abatement of River Yamuna through various core- and non-core schemes, and is being implemented in 15 towns across three, states i.e. Delhi, Haryana and Uttar Pradesh. The project is being implemented through Project implementing Agencies which are Public Health Engineering Department (PHED) in Haryana, UP Jal Nigam in Uttar Pardesh and in Delhi, Delhi Jal Board (DJB) is responsible for implementation of sewerage schemes, where as Non-Sewerage works will be implemented by Municipal Corporation of Delhi.

The sewerage schemes in Delhi under YAP-II includes construction of Ring Road Trunk sewers, Bela Road Trunk Sewer, Wazirabad Trunk Sewer, Rehabilitation of Keshavpur 72Mgd Sewage Treatment Plant, and Construction of New STP at Okhala 30 MGD, where as the non-sewerage schemes include Pilot Implementation on Decentralized Waste Water Management, Dairy farm Waste Management, Dhobi Ghat, Crematoria, DPRs on Slum & slaughter house improvement, and Reform Project on

Urban Local Bodies besides Community Participation & Awareness programme.

One of the key components under YAP-II is **Public Participation and Awareness program**, which has been envisaged with a view to securing participation of beneficiary groups in the YAP-II Activities, create acceptance for the YAP schemes and enhance usage of the facilities created earlier such as community toilets and crematoria. In this regard, specifically planned interventions are proposed to be undertaken in all targeted towns of YAP, which will be carried out with the help of NGOs and organizations of relevant experience.

In Delhi, it has been decided that the main course activities of Public Participation and Awareness which will be carried out using area and target group specific communication packages in various pockets, shall be supplemented with an additional specially targeted campaign namely "**CLEAN YAMUNA MANCH'** which will focus more on orientation & mobilization of communities and various stakeholder groups such as media, elected representatives, corporate houses, schools, academicians etc towards the CLEAN YAMUNA.

Policy Framework

Under the Constitution of India, water supply and sanitation is a State subject. Urban Local Bodies (ULBs) have the responsibility for planning, design, implementation, operation and maintenance of water supply and sanitation services in cities and towns. At the Central level, the Ministry of Urban Development is the nodal agency for formulation of policies, strategies and guidelines and assists the States by providing financial assistance for the development of urban water supply and sanitation schemes in cities and towns. The Central Public Health and Environmental Engineering Organization (CPHEEO) is the technical arm of the Ministry and assists in preparation of policy guidelines, technical manuals etc. related to urban water supply and sanitation.

To achieve 100 per cent population coverage for sewerage, sewage treatment and low cost sanitation facilities in urban areas during Eleventh Plan, the following steps have been identified:

- Install more plants to treat, recycle and reuse sewage.
- Industrial and commercial establishments must reuse and recycle treated sewage to reduce fresh water demand.
- ULBs should amend their by-laws to make it mandatory for all residents to connect their toilets to the existing sewerage system.
- Fringe areas of cities and colonies of economically weaker sections and slum dwellers be covered with low

cost sanitation facilities, either on individual household basis or community basis with "pay and use system" with adequate maintenance arrangements. Necessary penal clause to be enforced effectively to stop open defecation practice as well as indiscriminate throwing of garbage/litter in public places.

- Targeted subsidy may be given to urban poor for taking water supply/sewerage house service connections, metering, to and construction of toilets.
- Comprehensive storm water drainage system be developed in all cities and towns in order to avoid water logging during monsoon.

National Urban Sanitation Policy, 2008

The Government of India, in discussion with the States, constituted a National Urban Sanitation Task Force in 2005 comprising eminent policy makers, practitioners, experts and NGOs in order to take stock of the situation and formulate a policy to comprehensively deal with the challenges in urban sanitation in Indian cities. Based on the recommendations of this task force, a National Urban Sanitation Policy has been approved by the Government of India in October 2008

Millennium Development Goals (MDGs) of Sanitation

The Millennium Development Goals (MDGs) (Goal No.7) enjoin upon the signatory nations requiring them 'to halving the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015'' and 100% access by 2025. This implies extending coverage to households which are presently without improved sanitation, and providing proper sanitation facilities in public places to make cities open-defecation free.

Community Toilets under Yamuna Action Plan

Under Yamuna Action Plan 959 Community Toilet Complexes were constructed 741 No by General Wing, MCD and 218 No. by Slum & JJ Deptt. The 959 complexes were divided into 103 groups, each group comprising of 8 to 10 complexes and they were allotted to various short-listed NGOs as per auction programme conducted in the month of May and June-2002 and thereafter these complexes were handed over to successful NGOs on license fee basis for further operation and maintenance for a period of 3 year.

During the operation and maintenance of Community Toilet Complexes by these NGOs, it was found that NGOs (O&M agency) are not operating these CTCs

properly and some of CTCs have been kept locked due to poor economic viability, lack of users, open defecation due to vacant land nearby and ladies not willing to pay the user charge. In addition to these, NGOs were also not depositing their due payments such as licence fee, insurance premium and electricity consumption charges etc. Due to this about 33% toilet complexes remained non-functional. Since the money was provided by Government of Japan through Ministry of Environment & Forest, GOI as a grant to MCD. MCD was under pressure from Japanese Government as well as Ministry of Environment & Forest to find out the solution to make these toilet complexes functional in the larger public interest.

Tourism in Delhi

Tourism emerged as the largest global industry of the 20th century and is projected to grow even faster in the 21st century. India has immense possibilities of growth in the tourism sector with vast cultural and religious heritage, varied natural attractions, but a comparatively small role in the world tourism scene. A New Tourism Policy, which builds on the strength of the national Tourism Policy of 1982, but which envisages new initiatives towards making tourism the catalyst in employment generation, environmental re-generation, development of remote areas and development of women and other disadvantaged groups in the country, besides promoting social integration is, therefore, vital to our economy. It would lead to larger foreign exchange earnings and create conditions for more Foreign Direct Investment.

The other thing that has to be taken into account is that the great influx of the tourists in historic cities like Delhi demand for the maintenance of good quality public toilets. The allied infrastructure has be augmented and this calls for construction and maintenance of the public toilets in Delhi. During the Common Wealth Games, they city administration constructed good number of public toilets and rejuvenated some of the old ones.

The work done by ministry of tourism and Municipal Corporation of Delhi is really praiseworthy. Some of the tourist spots have good public toilets facilities in Delhi.



Figure 2 Accessible Toilets Humayun's Tomb

Unauthorized Colonies

The unauthorized colonies are residential areas developed by private colonizers without approval of concerned authorities. The layout of these colonies is highly profitable which has ignored to follow the norms and standards of urban settlements. Thus, the unauthorized colonies are lacking in terms of essential services and basic infrastructure. These colonies are divided into two categories to simplify the analysis. The first category of unauthorized colonies is that, which came into existence after partition of the country but before DDA started functioning effectively with enforcement of Master Plan. The number of such unauthorized colonies stood at 110 in the year 1962. All these colonies do not conform to norms and standards of settlement planning, existing at that time. All 110 unauthorized colonies were deficient in basic utility services and had a very poor urban environment in terms of availability of water, sewerage, drainage, shops, educational facilities, dispensary and health centre, etc. Above all, the transport services are highly inadequate and the streets and lanes are very narrow causing traffic bottlenecks. The residential plots were not built in accordance with standard norms. The overall scenario in these localities today is, therefore, marked by a high degree of congestion and environmental degradation.

The second kind of unauthorized colonies are those, which came into existence after the enforcement of Master Plan for Delhi. In the year 1993, the MCD reported the number of unauthorized colonies being 1071. These colonies, which continued to grow in number, represented the growth of informal housing market even in the face of monopoly powers of DDA over land ownership. The unauthorized colonies, which came into being after the enforcement of the Master Plan, their number being about 961, do not conform to the plan. The residents of these colonies are occupying legally owned land. However, according to the Master Plan, the land in most of these

colonies has been given to non-conforming uses. The land in most cases was earmarked for non-residential purposes, which have been used for residential purpose. Also the codes of construction have been violated in many of these colonies. The urban basic services and living environment in these colonies is not better than that of pre-master plan unauthorized colonies. It is reported by the residents of these colonies that they do not require to seek any permission for taking up construction activities, the house can be put in for any use. None of the building by-laws or construction codes applies to these colonies.

From the above discussion it is clear that the number of unauthorized colonies have experienced rapid growth. In fact, Delhi Administration notified land for acquisition to check the growth of unauthorized colonies and unapproved construction but the process of land acquisition was quite complicated and slow. As a result, demand for land of a large section of population remained unsatisfied. On the other hand, the owners of land noted a lot of variation in land prices and they sold out their land to the private colonizers. The private land developers divided such land into pieces according to the profitable layout and sold out to individuals to construct houses. The colonizer did not reserve land for augmenting infrastructure to satisfy the need of population as pressure increased over the period of time. Thus, the environmental conditions of these colonies have been deteriorating with passage of time. Despite DDA's efforts to make planning for extending basic infrastructure to unauthorized regularized colonies, the improvement has not been very satisfactory. The mere infrastructure without physical planning which is not possible in the existing built forms cannot achieve physical and environmental standards. Besides, whatever improvement has been done in such areas, residents have not paid improvement charges to concerned development agency.

Urban Villages

The urban villages which by virtue of growth of city and land acquisition became urban by definition but for all practical purposes, especially from the viewpoint of urban settlement planning, remained worst of the rural form of settlements. All villages in the countryside and also in urban areas do have well demarcated boundary called Lal Dorra. All the planning authorities have permitted to undertake the kind of construction the owners of plot desires and use for the purpose within the village boundary. The owners of the plot hold legal title of land, however, none of building by-laws, norms and standards fixed for urban settlements, applies to urban villages. Before 1931, 25 villages came in the fold of urban area while 22 during the period of 1931-51 and number of urban villages stood at 135 in 2000. There are 15 more villages to be designated as urban villages

The growing housing demand due to fast growth of city population has put pressures on urban villagers to build multi-storied and congested buildings. Because of increasing degree of congestion and lack of needful physical infrastructure, many of urban villages are declared as slum areas under the Slum (Improvements and Clearance) Act, 1956. In Delhi, in urban villages, low-income households rent in significant percentage of houses. It is interesting to note that the outlets of MNCs and business houses occupy road-facing houses of urban villages having commercial orientation.

The municipal authorities do little to improve the sanitation of these settlements and most of them can be seen with inadequate civic facilities and poor sanitation.

Squatter Settlements

This is lowest rung of informal settlements where its residents, which further mean absence of tenure, in every sense, claim no legal title over land it is considered to be a forced occupation of land by squatters. Such

settlements are grossly lacking in terms of infrastructure, quality of shelter structure and give an appearance of temporary

Figure 3: Toilets is sums are non-existent or in poor condition



shelter arrangement, though the residents have claimed that they have been staying there for over a decade. The location of these settlements is beneficial to majority of residents as distance between work place and residence is comparatively short. It is found that ownership of land for almost all sites belongs to the government. These locations are poorly endowed with physical conditions like topography, site and services as most of encroached places face problem of water logging due to marshy situation around them. In fact, land occupied by squatters is meant for parks, playground, and extension of other infrastructure to cater to the needs of already developed residential areas. Railways own some of the land pockets. Many of these sites are recognized by DDA to execute some important projects. The Delhi Administration, in 1997, reported total number of squatter families 3 lakh and out of these, 80,000 households are occupying project sites, which may have implications for displacement.

From above discussion of three informal housing markets, following important points have emerged. One, the housing sub-markets are quasi-legal (unauthorized colonies), legal (urban villager) and illegal (squatter settlements) respectively. For first and third categories, building by-laws are being violated and most of the settlements are non-conforming according to master plan. The second one does not violate any building by-laws because these do no apply to urban villagers, even then such settlements are undesirable as per planning norms of

urban settlements. Two, the informal housing market provide a solution to housing problem of those who are pushed out by the formal housing market. This helps us to understand the dynamics of housing market and also gives insight to formulate an appropriate housing policy for the urban poor. Three, the magnitude of informal housing market gives a reflection on failure of government programmes to provide solution to the problem of the urban poor.

Informal Sector

The first ever nation-wide survey on informal sector covering non-agricultural enterprises was conducted by the National Sample Survey Organisation (NSSO) along with the survey of households on employment, unemployment and consumer expenditure in the 55th round during July 1999 to June 2000. The survey covered the non-agricultural enterprises engaged in activities like, (i) manufacturing, (ii) construction, (iii) trading and repair services, (iv) hotels and restaurants, (v) transport, storage and communication, (vi) financial intermediation, (vii) real estate, renting and business activities, (viii) education, (ix) health and social work, and (x) other



Figure 4 Informal Sector in action

community, social and personal service activities (excluding domestic services).

Delhi has a large number of population dependent of the informal sector and they are those who could not afford their own toilets at the work place thus it is the pressing need



Figure 5 Strret Vendor

of the time to make provisions for the construction and maintenance of the public toilets to meet their demands too. The

number of the public toilets in Delhi is grossly inadequate to meet their need and demand. Though Delhi's civic agencies have built public toilets in these areas, most of them either do not function or are unsafe and badly lit, or locked up.

Open Air Toilets

Crowded markets and streets across Delhi are being dirtied due to lack of public toilets, while the local civic body is in the process of making new facilities at spots that already have toilets.
Locals believe that the enclosed space of a toilet or washroom equals to enslavement and open air easing when nature calls is the ultimatum expression of freedom. More than half the population defecates under the blue sky, in open fields, along railway tracks, behind bushes or literally wherever they can squat and find relief.

If you are travelling general class or sleeper class on the Indian railways on your way to Delhi, the city announces itself by the stink that greets your nose as the train pulls into the Old Delhi station. All along the track, men, women and children trudge out of their shanties at the break of dawn and squat parallel to the track for several kilometers.

People looking out the windows turn their noses up in disgust, while the squatters look back with dead pan faces and stony eyes. The collective defecation raises a stink so bad that it can turn a corpse in its grave.

City Toilets

Firstly, you can never spot one when required. So what do most people do? What else but to face a wall and hose down all the dirt and grime, reading obscene graffities,



Figure 6: Open Air Toilet

adding to an already existing cesspool of urine, evidence of the spot's popularity. If you are lucky enough to find a public toilet, usually at Bus terminals, near railway stations or some marketplace, it takes extraordinary courage and resilience to enter and exit with all senses intact due to the stench. You can't expect women to ease themselves against the wall, so what can they do? Nothing, except to hold out till she makes it to a place with a toilet. India spends millions on tourist promotions and infrastructure, but decent clean toilets are at the bottom of their priority list.

Suggestions and Recommendations

Re-inventing Toilets

Diversion for safe sanitation
A functional model of a urine-diverting toilet that recovers water for flushing. The urine and feces will be safely transported to a decentralized processing center. The water used for cleaning will be recycled by a gravity-driven biological membrane.

A community bathroom block that recovers clean water, nutrients, and energy
A toilet system that can safely dispose of pollutants and recover materials such as water and carbon dioxide from urine in community bathroom blocks. The system can be integrated with biogas generation.

Self-Financing Model

The public toilets can generate enough review for operation and maintenance of the toilet complex. It can generate employment for the sanitary workers. The display of advertisements on the toilets complex will serve two purposes. One they will generate revenue and the other they will increase the aesthetic appeal of the space.

Mobile Toilets

Some places don't have enough space for the construction of the public toilets then in such locations the mobile toilets can be used efficiently.

Awareness Campaign for Sanitation

There should be weekly or monthly awareness campaign in the squatters' settlements and slums. The public should be encourage to adopt individual toilets in their homes so that the dependence on the public toilets decreases over a period of time.

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