



WATER SUPPLY FOR URBAN POOR IN INDIA

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WATER SUPPLY FOR URBAN POOR IN INDIA

Written by

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Cover Photo: A woman and children fetching water from a hand pump in a slum in Kanpur.
WaterAid/ Puneet Srivastava

All other photos: WaterAid/ Priyanjali Bose

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MESSAGE

India has 17 percent of the world's population and 15 percent of livestock, whereas it occupies 2.45 percent of the world's land mass with a scarce 4 percent of the world's water resources.

Abjectly, India ranks 133rd (out of 180 nations) for its water availability, and 120th (out of 122 nations) for its water quality. It is estimated that 80 percent of India's surface water is polluted, resulting in India losing US\$ 6 billion annually due to water-borne diseases. Apart from this, other challenges faced by India are increasing water consumption and wastage in urban areas, growing industrial and agricultural demand, lack of technology, water cycle imbalances, political and regulatory disputes, etc. According to estimates, India's water sector requires immediate investments in excess of US\$ 13 billion.

WaterAid India, **Knowledge Partner** for the **4th Water India 2017 expo**, is committed to help rural and urban poor gain access to safe water supplies by developing practical solutions that work on the ground. In collaboration with Tata Institute of Social Sciences, WaterAid India has prepared a valuable report capturing the challenges and success stories that have helped people at the bottom of the pyramid gain access to safe and affordable water supply.

I am happy to present this report on: **Water Supply in India for Urban Poor**, and hope it will provide insights to governments, civil society and the industry to provide much-needed clean water to the urban poor.

Our motivation to organise the **Water India series of expos** is to act as a catalyst (by creating this platform) for the Indian and global water industry to showcase products, services and solutions **for the most undervalued resource on earth**. The expo is designed to provide insights into industry-best practices, the latest technologies, alternative solutions, and opportunities for businesses.

Prem Behl
Chairman
Exhibitions India Group

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India Trade Promotion Organisation (ITPO)
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With a population of over a billion people, India is home to 17 per cent of the world's population. As per the 2011 census, 31.16 per cent (377.10 million) of India's population lives in urban areas and nearly 17 per cent of that in slums. The divide between the rich and poor is huge and over a quarter of the country's urban population lives in poverty. The long queues and hours of wait for free water tankers adds on to the prominent challenge of inadequate and unsafe supply of potable water. People then have no other option but to purchase water at greater costs yet of lower quality.

WaterAid India recognizes that to ensure universal access to basic water, sanitation and hygiene services in urban areas, we need to be innovative and find new ways of engaging the local government and service providers.

I wish to thank Exhibitions India Group for choosing WaterAid India as a knowledge partner for 4th Water India 2017 Expo. On this occasion, WaterAid India in collaboration with Tata Institute of Social Sciences is happy to present to you the report "**Water Supply in India for Urban Poor**" and hope that it will provide some insights into how the urban water supply services can reach the urban poor.

I wish 4th India Water Expo all the success.



Avinash Kumar
Director-Programmes & Policy
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WATER SUPPLY FOR URBAN POOR IN INDIA

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INTRODUCTION

1. URBANISATION OF POVERTY: EMERGENCE OF SLUMS

1.1.

In the 21st century, globalisation era has witnessed urbanisation as a growing phenomenon even in the remotest areas of the world. Urbanisation provides South Asian countries with the potential to transform their economies to join the ranks of richer nations in both prosperity and liveability (World Bank, 2015). It is the gradual increase in the proportion of people living in urban areas and the ways in which each society adapts to the change (Barney Cohen, 2015). It is predominantly the process by which towns and cities are formed and become larger as more people begin living and working in central areas (Demographic Partitions, 2013). It is expected that by 2025, over 60 per cent of the world population would live in urban areas (Meinzen-Dick and Appasamy 2002). According to Rees, 2006 over 95 per cent of this is likely to happen in developing countries like India, Bangladesh and China.

1.2.

As per census 2011, 31.16 per cent (377.10 millions) of the total population of India is living in urban areas. If we take larger villages into account, half of India's population is already living in urban areas or in areas with similar conditions. The last decade 2001-11 saw for the first time since independence, the absolute increase of population in urban areas (91 million) more than in rural areas (90 million). This clearly indicates that India is urbanising. This transition, which will see India's urban population reach a figure close to 600 million by 2031, is not simply a shift of demographics. It places cities and towns at the centre of India's development trajectory¹. Already, the number of metropolitan cities with population of 1 million and above has increased from 35 per cent in 2001 to 50 per cent in 2011 and is expected to increase further to 87 per cent by 2031.

1.3.

While both the United Nations (UN) and the Government of India have official slum

¹ Report on Indian Urban infrastructure and services, HPEC, 2011



definitions, these definitions conceal substantial differences in deprivation both between settlements (inter-slum variation) and within settlements (intra-slum variation). One of the major causes of inter-slum variation is a legal divide between notified (government-recognized) slums and non-notified (unrecognized) slums. 37 per cent of slum households in India are non-notified (Ministry of Statistics and Programme Implementation, 2013). Across India, non-notified slums suffer from substantially poorer access to latrines, piped water supply, electricity, and housing materials, as compared to notified slums; they also receive much less assistance from government slum improvement schemes (Ministry of Statistics and Programme Implementation, 2013). As per NSS 69th Round 2012, it is observed that at an all India level, 8.5 per cent households living in notified slums had tried to move out of the slum. The proportion was estimated at 4.9 per cent and 6.9 per cent of households living in non-notified slums and squatter settlements respectively.

1.4.

Three types of slums have been defined in Census of India, namely, Notified, Recognized, and Identified. All states in India report presence of slums in its cities and towns except Manipur, Dadra and Nagar Haveli, Daman and Diu and Lakshadweep. Total number of 2613 towns have reported slums as per census 2011 in India. A total of 65.49 million people live in slum areas (which is about 17.36 per cent of total urban population) with 22.53 million in notified slums, 20.13 million in recognised slums and 22.82 million in identified slums in India.

1.5.

Non-wage, informal employment is a dominant characteristic of the urban poor households. In 2004-05 between 72 and 82 per cent of the usually employed male urban poor and between 78 and 80 per cent of the usually employed female urban poor were reported to be either self-employed or casually employed. It is this fact that imparts a high degree of instability to the income profile of the urban poor, and restricts their access to any form of institutional and market finance. The socio-economic implications of a large slum population -- which includes the cost of civic services, housing and health care, and increased crime and social tensions -- saw the Government of India frame the Rajiv Awas Yojana/Pradhan Mantri Awas Yojna as a policy response in the last decade. The scheme is intended to provide affordable housing to the poor and make urban areas slum free.

2. CHALLENGES IN WATER SUPPLY FOR URBAN POOR

2.1.

Most of the slum settlements lack water and sanitation systems and are often located in high-risk areas of cities. In many cases, entire townships have emerged in slum developments operating within the framework of an informal economy. However, not all slum dwellers are poor. Some non-poor people also live in slums because rent control laws have created extreme scarcity of housing for low income groups. All this has profound implications not only for environmental degradation but also for the



productivity of those who live in slums with huge under provision of basic urban services.

2.2.

As per NSS, 69th Round, it is observed that in 2012, at an all India level, 94.1 per cent households living in slum areas had improved source of drinking water. The proportion was more than 75 per cent in almost all the states, with some notable exceptions like Delhi (53.4 per cent) and Jharkhand (67.6 per cent). At an all India level, 95.4 per cent households living in non-slum areas had improved source of drinking water. It is interesting to note that in Delhi, while 53.4 per cent households living in slum areas had improved source of drinking water, the proportion was 99.3 per cent for households living in non-slum areas. This pattern was also observed in bigger states like Gujarat, Jharkhand, Karnataka, and West Bengal. But in case of states like Kerala and Rajasthan, a reverse pattern was observed. Improved source of drinking water includes: 'bottled water', 'piped water into dwelling', 'piped water to yard/plot', 'public tap/standpipe', 'tube well/borehole', 'protected well', 'protected spring', and 'rainwater collection'. However, as per WHO-UNICEF JMP data, 2012, the total urban population using improved drinking water facilities is 97 per cent.

2.3.

Access to safe water remains a vexed issue for the urban poor living at the bottom of the pyramid. In absence of public services, households depend on multiple sources of water. This ranges from procuring water from private players or some form of provisioning which is difficult to access such as water tankers by public utilities. In addition, nearly one-third of urban households do not have any water source within their premises, and nearly a third depend on shared facilities. Water quality is emerging as a major concern due to ground water dependency of urban poor and its rapid depletion. High levels of Non-Revenue Water and Unaccounted for Water remains a great challenge for most of the cities and towns in India.

2.4.

Most of the urban poor, particularly in non-formal slums are forced to participate in bringing some sort of ground water supplies, such as hand-pumps or borewells with submersible pumps, through use of often unauthorised power connections.

POLICY AND GOVERNANCE FRAMEWORK

for Urban Water

1. GOVERNANCE FRAMEWORK

1.1

Governance is the weakest and most crucial link that needs to be repaired to bring about the urban WASH transformation needed in India. Financing the large sums required to meet the investment needs of urban infrastructure is crucially dependent on the reform of institutions and the capacity of those who run the institutions for service delivery and revenue generation. Large expenditures in Indian cities and towns have to be combined with better governance structures, strong political and administrative will to collect taxes and user charges, and improved capacity to deliver.

1.2

Cities must be empowered, financially strengthened, and efficiently governed to

respond to the needs of the citizens and to contribute to the growth momentum².

1.3

Government of India has taken vital decisions in the recent past to bring about changes in terms of reform agendas in urban WASH sector. Swachh Bharat Mission (Urban), followed by Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and Smart Cities Initiative of Government of India set the agenda for these reforms. This shift, when seen with the vibrant private sector in India too is a strength, with potential (along with NGOs and civil society groups) for increased involvement in supply of water and sanitation services, potential for substantially increased investments, increased involvement in planning, implementation and O & M, potential for institutional strengthening and training support, etc. Signs of change are already

² Report on Indian Urban Infrastructure and Services, March 2011

evident in few cases such as Hyderabad, Chennai, etc. With the initiatives underway to make the sector more viable and credit worthy, more and more urban centres are likely to adopt similar reform initiatives.

1.4

Given below is a list of ministries and institutions responsible for Urban Water Supply and Sanitation (UWSS) sector at the central and state levels.

Ministry	Institution	Responsibility
Planning Commission	Planning Commission	Planning and allocation of central government funds through five year plans
Ministry of Water Resources (MoWR)	Central Water Commission (CWC)	Concerning quality and overexploitation
	Central Ground Water Board (CGWB)	Regulatory activities of ground water
Ministry of Environment and Forests (MoEF)	National Rivers Conservation Directorate (NRCD)	Responsible for conservation of forests & river bodies
	Central Pollution Control Board (CPCB)	Pollution watch
Ministry of Urban Development (MoUD)	Central Public Health Environmental and Engineering Organization (CPHEEO)	Standards setting and harmonization between states
Ministry of Health and Family Welfare (MoHFW)	National Institute of Communicable Diseases (NICD)	Research and advocacy, particularly with civil society
Others	Housing and Urban Development Corporation (HUDCO)	Funding for housing and other infrastructure sectors
	Life Insurance Corporation (LIC)	Development funding

Table 1 Central Government Institutions responsible for UWSS sector

Source The World Bank, 2006



Agency type	Jurisdiction	Responsibility	
		O&M	Capital Works
State-level Specialist Agency (SSA)	Entire state	City-level specialist Agency	SSA
	Large Cities	City-level specialist Agency	SSA
	Small Cities	Local Government	SSA
Public Health and Engineering Departments (PHED) Municipal Departments	Entire state Small Cities	Local Government	PHED
	Large municipal corporations	Municipal Departments	Municipal Department
Metropolitan-level Specialist Agency (MSA)	Metropolitan centres	MSA	MSA
Specialist Municipal Undertaking (SMU)	Metropolitan centres	SMU	SMU

Table 2 State-level institutional arrangements in the UWSS Sector

Source Urban Water Supply and Sanitation - World Bank Group Strategy, May 2000

2. POLICY FRAMEWORK

2.1

The policy framework in urban water sector is diffused at multiple levels from centre to state and from state to cities and towns. The policy framework is defined by National Water Policy of India, Water Framework law, Model Ground Water Bill and Rules and its subsequent state versions, River Basin Management Plans, Central Public Health Engineering Organization Manual

on Water Supply, guidelines and policy directions issued from time to time by Ministry of Urban Development, Ministry of Housing and Urban Poverty Alleviations, and their state counterparts in different states.



2.2

Drinking Water is the first charge on all usages as a matter of policy, for water security itself is dependent largely on other usages (or rather poor management in other sectors such as agriculture and industrial). Water remains in state subject list as per Indian constitution but transboundary water has also been a subject matter for concurrent list. Although India has recently ratified the UN resolution on acknowledging right to water, no such right exists within the Indian policy framework and government programmes continue to work on vaguely described entitlement standards defined by urban administrators and planners.

2.3

The absence of policy framework for slums in general and for water supply in non-notified slums and migrant labourer colonies in particular, has impeded the equitable access to safe water to citizens living in lowest quartile of incomes in urban areas. Separation of drinking water from quality standards by using reverse osmosis based treatment to ground water, and supplying it at a cost to urban poor has hardly resulted in reducing the overall water burden and economic burden for accessing safe water by urban poor.

URBAN WATER SUPPLY

Case Studies for Situational Analysis

1. DIMENSIONS OF WATER SUPPLY SERVICE TO URBAN POOR

There are various dimensions of service delivery in water supply to urban poor that determine the effectiveness of the services and ensure that everyone everywhere is able to access sufficient water of safe quality for domestic purposes. The authors in this section have tried to examine these aspects using case studies from various urban sites within WaterAid India urban programme, and from other areas both nationally and internationally. The serviceability dimensions looked at in this section through case studies are—accessibility, equity, equality, efficiency, reliability and willingness to pay.

1.1. Accessibility

Accessibility is understood as anything with a standard quality, and has the capability to reach all the sections of the society. In this report, accessibility to water supply for the marginalized and poor plays a very important role. The following case study will further help in understanding the significance of the criteria: The Tubic Para sa Barangay or the TPSB³ or Water For The Poor Communities Program was implemented in the East Zone of Metro Manila, Philippines. Manila Water Company was primarily responsible for introduction of the TPSB program. The program was implemented during 1988 with a span of 25 years of the project implementation. The effort was mainly taken to include the areas falling under the non-notified slum areas, making piped water supply available for the marginalised section of the society for 20 to 24 hours a day. About 483 TPSB programs were implemented

¹ <http://www.unescap.org/resources/water-poor-communities-manila-philippines>



across the East Zone of Manila whereby about 6,80,000 urban poor residents got access to clean, potable and reasonably priced water. The program was formulated with the whole process of demarcating the area, organizing and coordinating with the recipient community, with the supervising of the pipe-laying and water meter installations and ensuring and monitoring daily TPSB operations. Proper mobilization of the Urban Local Bodies increased community participation, permits to facilitate constructions of the project, and providing the support to the Manila Water Company Inc. The slum areas were provided with improved quality of service provision to improve services and increase the coverage charges for the poor population.

The outcomes of the program show that the marginalized sections of the society, that is the poor people living in the slums, can also have access to piped water supply system. The introduction of the program has made the poor people realize their responsibilities and ownership of the capital costs, operation and maintenance costs. Accessibility to the piped water system has made a greater impact on the policy changes in the connection application requirements such as waiving-off of the land title requirements and introduction of flexible payment schemes with respect to the active people's participation. Here the poor were responsible for choosing the scheme type and were also lead directors in the collection arrangement for their community. It is to be noted that the residents also played a very crucial role in the management, monitoring and maintenance of TPSB facilities. Water bills were

collected by the respective representatives and the leaders, in the case of a community managed water connection. Therefore, a successful participation of private sector can be concluded from this kind of case study. This model provides a solution where we can build access to safe water to the urban poor at an affordable price from same piped water supply scheme which supplies water to well off people living in the city. This is even possible if we are designing the water supply infrastructure and services in Public Private Partnership (PPP) mode. However, in the long run the benefits from the program are questionable as slum situations are dynamic in nature. Also, the water pricing policy (rising block tariff structure) adversely affects the poor, especially those connected through communal or shared water meters. The regulatory functions of the MWSS Regulatory Office should be expanded to cover the regulation of water pricing by community leaders or agents in TPSB areas so that the poor customers will be protected from price monopolies. Thus, fair and equitable distribution of water for all in an urban set up, can be achieved through constantly improved policy adaptation. Therefore, the example from Manila, Philippines is the success story of a PPP model which is pro poor, sustainable and inclusive.

1.2. Equity

Equitable distribution forms an absolute parameter to define the allocation of the water among the marginalized section of the society. The following success story of the mini piped water supply in the non-notified slum of Purvidin Khera, in Lucknow explains the significance of the criteria.



Profile of Purvidin Kheda	
City	Lucknow
Distance from the Head Quarter	30 kms from WaterAid India North Office
WaterAid India's intervention	Since 2012
Total number of households	341
Total population	1780
Percentage Dalit population	73 per cent
Ward and Ward Number	Haider Ganj-2nd (16)
Elected Parshad	Palak Rawat
Basic services & facilities in the slum	Details in Table A,B,C
Community institutions promoted	Shahari Garib Sangharsh Morcha

Case Study of Non-Notified Slum Purvidin Khera in Lucknow

Source Vigyan Foundation, Lucknow

The slum of Purvidin Khera is situated about 15 kilometers away on the outskirts of the city of Lucknow in Uttar Pradesh, along the Hyder Canal with 210 households and a population of 1100 on the right side of the canal and about 131 households and a population of 680 people on the left of the canal. It is one of the few examples of non-notified slums where, through intervention of the non-government organization and the governmental aid, the mini piped water supply scheme has been successfully implemented. Looking back at the history of the scheme, it is to be noted that with constant community participation and the efforts of Vigyan Foundation, the implementation process for providing water was only limited to seven hand pumps covering the 1st and the 2nd part of the water supply model. Also, a storage tank was built later to benefit the community who had participated in the work. However, due to technical challenges the model of hand-pump

based water supply was failing. Therefore, with the active community involvement there was a gradual progress to get a submersible pump. This kind of new model required water storage capacity and electricity which was only possible through the consultation and meeting of the Slum Development Organisation under the umbrella of Shahari Gareeb Vikash Morcha in the year 2014. The participants successfully got their first 1000 liters' water tank for storage of water. However, it did only benefit exclusively 35 households. The scheme was therefore expanded for the rest of the people of the village and later mini piped water scheme was introduced. According to the secondary data collection through Vigyan Foundation, till date, in the first functional water source details the total number of households which benefitted through submersible and mini water pipe lines in the year 2015 was 45 and in 2016 was 40. In the second functional water source details the total number



of households which have benefitted through submersible and mini pipe lines in the year 2015 was 24 and through hand pumps and mini water pipelines in the year 2016 was 22. The

total amount of expense in the first phase of the operation was for Rupees 1,63,500 whereas in the second phase the operational expenses were Rupees 72,500.

S.No.	Year	Water Source	Total Covered HH	Capital Cost				Supported by
				Com- munity	Govt./ Others	VF	Total	
1.	Pre Project	3 India Mark Hand Pumps	90	-	-	-	-	Pre existed
2.	2014	Borewell with Submersible Pump	35	-	25000	15000	40000	Submersible Pump through advocacy and water tank supported by Vigyan Foundation (VF) & WaterAid India (WAI)
3.	2015	Borewell with Submersible Pump & Mini Piped Water Supply	45	40000	-	36000	76000	Community Participation and VF & WAI
4.	2016	Bore well with Submersible Pump & Mini Piped water Supply	40	20000	27500	-	47500	Submersible through advocacy and Mini Water Pipe Line by community contribution

Table A Capital incremental costs for getting access to water supply in 1st Scheme in Purvidin Khera

Source Vigyan Foundation, Lucknow

The above case study reveals how a mini piped water supply scheme constructed by people and managed by urban poor has ensured equitable supply to households, without any metering and through community based monitoring. However, the community currently is not paying any power charges for running these small water supply service and therefore financially this model is able to provide services to the satisfaction

of the people. Considering the geographical location of the slum area along the Hyder Canal, which majorly drains black and grey water, the possibility of contamination of water sources cannot be ignored. One of the biggest challenge will be to come up with sustainable water sources which will maintain not only the quantity but also the quality standards as per technical standards of drinking water.



S. No.	Year	Water Source	Total Covered HH	Capital Cost				Supported by
				Com- munity	Govt./ Others	VF	Total	
1.	Before Intervention	2 Hand Pumps	25	-	-	-	-	Pre existed
2.	2013	Restoration of two Hand Pumps	60	2000		3000	5000	Community contribution and by Vigyan Foundation & WaterAid India
3.	2015	Submersible & Mini Water Pipe line	24	20000	27500		47000	Community Participation (Model adopted from VF & WAI)
4.	2016	Hand Pump and Mini water Pipe Line	22	20000		8400	28400	Through advocacy and Mini Water Pipe Line BY community contribution and by VF & WAI

Table B Capital incremental costs for getting access to water supply in 2nd Scheme in Purvidin Khera

Source Vigyan Foundation, Lucknow



Figure 1 Submersible pump with Borewell in Purvidin Khrea



Figure 2 Hand Pump in Purvidin Khera



Figure 3 Along the Hyder Canal



Figure 4 Survey team in Purvidin Khera

1.3. Equality

Equality is about equal distribution of water for the urban poor, for same quality and quantity standards as well as the costs incurred. In real life, water supply scheme equality is missed out often by design and sometimes by default for the urban poor. The following case study will analyse the case of equitable water charges and payment for the same.

Manohar Nagar slum falls under ward no. 2 of Kanpur city and is situated on the left of the Ganga Bridge on Kanpur–Lucknow Highway. The community residing in this area was compelled to fetch water from the tanneries initially because the slum was located at a height of about 80 feet from the ground. With the intervention of Shramik Bharti and the community contribution, about seven submersible pumps were constructed and one submersible pump was repaired. In the year 2014, Water User group was formed keeping Sakina Lari as the head of the committee. According to Shramik Bharti, the community

has understood the importance of safe drinking water and so they themselves constructed eight submersibles in the slums for getting water. The water sources are being chlorinated by the community at regular intervals. The community is taking responsibility for operation and maintenance of water sources. About 70 per cent families are using ladles for water handling at the point of use thereby reducing possibilities of contamination. From the field visit, it is understandable that water, among the 350 families, is equally distributed. There are about two hand pumps, six submersible pumps and one submersible pump with borewell water supply that was constructed by the Madarssah that is distributing water equally among all the households. At present, under the umbrella of Shramik Bharti, there are seven federations and 250 self-help groups from which Boond Bachao Sangathan and Sukh Samridhhi Samuh are working in this area for supply of water among all the households. According to the slum, WASH



Figure 5 Community participation of women and water supply model

Source Shramik Bharti, Kanpur

Committee in Manohar Nagar plans to make this slum a model slum. The Committee has planned to provide water supply to all households so that all families can have safe drinking water. This rightly shows the eagerness of the community and the people to get access to water for all.

1.4. Efficiency

The efficiency of a service is related to how regularly we are able to deliver services ensuring quality, quantity within agreed timelines. The following case study talks about the efficiency of water supply service in its quest to provide water to the urban poor:

CASE STUDY OF JYORA SLUM, KANPUR

The hand-pumps of Jyora, a non-notified slum in Kanpur before the intervention of Shramik Bharti/WaterAid India, were providing yellow-coloured and foul smelling water to the local community. Also, the water, sanitation and hygiene (WASH) committee formed during the year 2013 had very weak capacity to start working towards improvement of Water Supply Service in Jyora. With intervention of Shramik Bharti, few people from the slum and the Mayor intervened in the situation that led to spreading of awareness among the people of the slum to fight for their rights to safe water. WASH



Figure 6 Interviewing Sakina Lari, the woman who led the water supply construction



Figure 7 Electricity meter and bill for power charges for water supply in Manohar Nagar

committee was reconstituted with seven core members and one team leader with the help of Shramik Bharti and they started dialogue with political stakeholders for their right to access water. Later, they were awarded with two new submersible pumps which were benefitting about 70 households. It is interesting to note that with the continuous efforts of the WASH committee, District Magistrate was informed about the quality of the water issues in the slum. Later in the year 2015, with the intervention of the World Vision Kanpur and selected Parshad led to the introduction of the Akshay Jal Water ATM in Jyora. Today the entire community of the Jyora slum has successfully achieved potable water from water ATM. Therefore, it can be understood from this example that WASH committee at present is effectively managing the Water ATM and has been able to provide drinking water of a certain quality and quantity to all the residents of the slums. The WASH committee in Jyora is now trying to move to

the issue of sanitation and make toilets accessible for everyone.

1.5. Willingness to pay

Willingness to pay is a proxy indicator of how people see the quality of a particular service and its costing and the service being duly subsidised by responsible public agencies, keeping affordability by poorest of the poor in mind.

THE CASE STUDY OF MAKKU SHAHID KAA BHATTA SLUM, KANPUR

During the year, 2014-15 Makku Shahid ka Bhatta notified slum in Kanpur, Gangapur, Jajmau was running out of water supply primarily because the topography of the slum was at a height of about 50 meters which was not feasible for constructing hand pumps. What is interesting to note is that, the people of the slum collected water from the private water suppliers of Tendri



at a rate of Rs. 150 per month per household. But with the dearth of electricity, the supply from Tendri gradually reduced to a minimal level. With the intervention of WaterAid India and Shramik Bharti, about 25 families participated actively to construct the submersible pumps with borewells and public taps whereby the organizations contributed for pipes for borewell and submersible pump and the community contributed about Rs. 2000. Thus, the water supply issues were mitigated at the basic level followed by the issue of how to ensure equal distribution of water. The issue of water collection was time consuming as approximately 450 households were using water from a single submersible pump based on a public stand post. This issue was discussed with the community and technical options for pipe line extension, with a tap connection in each household using the same borewell fitted with submersible pump, was worked out with its costing. It can be cited in this context that with the willingness of a few members of the beneficiaries to pay for pipelines from the pump were brought to respective individual households. This led to the additional contribution of about Rs. 3000 per household. Therefore, this example shows the eagerness and will power backed by financial capability to invest in the water supply infrastructure by the community. While examples like this show what community action can achieve, the drivers often for such cases are failures of civic services by responsible public institutions to reach the urban poor.

1.6. Reliability

Reliability of a public service such as water supply means that enough water as per need of

people is available at all the times and systems and resources are in place to respond quickly ensuring the minimum disruption of the services.

CASE STUDY OF SANWALDAS SLUM IN KANPUR

According to the secondary data analysis, the Sanwaldas Ghat Slum is situated at the bank of Ganges, with an approximate habitation of 105 families and with an approximate population of about 450 people. The community initially tried to fetch water from the wells and hand pumps which dried up later on. The pipeline following the Ganga Barrage was also considered as one of the main sources for collecting water. However, the household women workers found this way of collecting water very challenging and therefore started abandoning it. The wells gradually dried up. By water testing of both water sources with help from Shramik Bharti, it was discovered that diseases like diarrhea were frequently occurring due to the bacterial contamination in water. A temporary solution to this issue was that people collected drinking water from another government's piped water supply nearby. With the active participation of the 'Ward Committee' and after a constant struggle for a year and with the help of the KMC (Kanpur Municipal Corporation), the community, for the first time in thirty years, got connections to piped water supply system in the month of March, 2016. By participating through community contribution for both capital and O&M costs, the community showed how to achieve access through a government piped water supply scheme, through community participation to ensure reliable services. Now both men, women and children can devote their time to other productive work.

लड़े तो पाया अधिकार, हो गए 'पानीदार'

● 30 साल बाद दूर हुई नीर की पीर ● शुद्ध पेयजल को तरस रही थी सांवल घाट बस्ती

राहुल शुक्ल, कानपुर

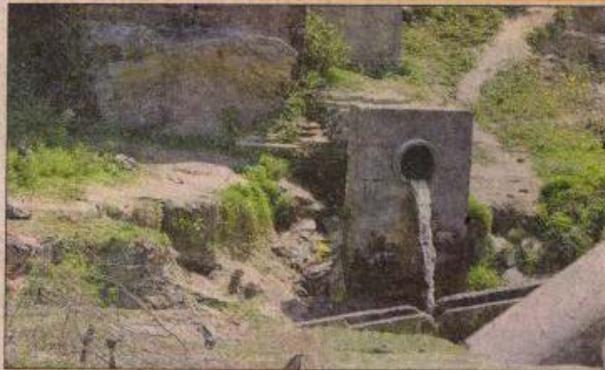
गंगा तट पर बसी सांवल घाट बस्ती के लोग बीते 30 साल से शुद्ध पेयजल के लिए तरस रहे थे। बस्ती के एक हजार से ज्यादा लोग हैंडपंप के दूधित और वाटर ट्रीटमेंट प्लांट के ओवरफ्लो होते पानी को छानकर पीने को मजबूर थे, लेकिन तीन दशक बाद श्रमिक भारती की पहल और जनता की जागरूकता से अब यहां के बाशिंदों को शुद्ध पेयजल मिलने लगा है।

ब्रिटिश काल में गंगा तट पर स्थित सांवल घाट से लगी बस्ती बसी थी। उस वक़्त घाट पर पानी था। धीरे-धीरे गंगा दूर हो गई और घाट सूख गए। 55 साल की ऊषा बताती है कि क्षेत्र में लगे हैंडपंपों के दूधित पानी से गुजारा करना पड़ा। पीने का पानी एक किलोमीटर दूर से लाना पड़ता था। 11 साल पहले गंगा बैरज में लगे वाटर ट्रीटमेंट प्लांट के लगे पाइप से ओवरफ्लो होते पानी को भरकर काम चलाते थे। श्रमिक भारती ने आठ माह पहले बस्ती के लोगों को जागरूक किया। लोग जब अपने अधिकार के लिए लड़ने को तैयार हुए बाशिंदों को साथ लेकर संस्था के कार्यकर्ता जनप्रतिनिधियों व अफसरों से मिले। जनता की जागरूकता व पहल देखकर तस्वीर बदलने लगी। जल निगम ने घरों में कनेक्शन देने शुरू कर दिए हैं। साथ ही सबमर्सिबल पंप व और पानी की टंकी लगने जा रही है। क्षेत्रीय पार्षद मदन बाबू ने बताया कि हैंडपंप लगवाया जाएगा।

मायावती ने रखी थी गंगा बैराज की नींव

पूर्व मुख्यमंत्री मायावती ने सांवल घाट से ही गंगा बैराज की नींव रखी थी। इसके बाद भी पीने के पानी के लिए बस्ती जूझती रही।

विश्व जल दिवस आज



बस्ती के लोग अभी तक ट्रीटमेंट प्लांट का ओवर फ्लो होने वाला पानी पीते थे। जागरण



घरों में दिए जा रहे पानी के कनेक्शन।



वाटर यूजर टीम बनी, करेगी स्रोत का रखरखाव

श्रमिक भारती संस्था की सीमा पांडेय ने बताया कि सबमर्सिबल पंप व हैंडपंपों के रखरखाव के लिए वाटर यूजर टीम बनाई गई है। जो पानी पीने वाले परिवारों से दस रुपये हर माह लेंगे और बैंक खाते में जमा करेगी। गड़बड़ी होने पर खाते से पैसा निकालकर ठीक कराएगी।

आठ माह पहले जब बस्ती में काम करने आए तो देखा कि लोग पीने के पानी के लिए जूझ रहे थे। लोगों को जागरूक किया और आज तस्वीर बदल गई।



- मंजू दुबे

दूधित हैंडपंप का पानी पीने को मजबूर थे। एक किलोमीटर दूर जाकर पीने का पानी लाना पड़ता था।



- संगीता अदवस्थी

संस्था के लोगों ने उनकी हिम्मत बढ़ाई और अपने अधिकारों की लड़ाई लड़ सके। इसी का नतीजा है कि शुद्ध पानी बस्ती में आने लगा।



- रेखा

अब हर घरों में पानी के कनेक्शन लग रहे हैं। कई घरों में लग गए हैं। अब पीने के पानी के लिए नहीं जूझना पड़ेगा।



- प्रम चौधरी

Figure 8 Water user committee fought for the right to water

Source Shramik Bharti, Kanpur

According to Shramik Bharti, this is an exemplary story of citizen leadership and organised efforts that changed the lives of hundreds of urban poor after suffering for more than three decades.

The case studies stated above try to present how the communities involving urban poor have struggled to achieve access to water supply and how the solutions that have been designed have been able to overcome their limitations regarding one or the other criteria of an inclusive water supply for urban poor.

4

WATER SUPPLY FOR URBAN POOR IN INDIA

ANALYSING THE ECONOMIC BURDEN On Urban Poor

1. POORLY TARGETED SUBSIDIES AND BURDENING URBAN POOR

This chapter describes how in urban water supply the subsidies are poorly targeted. Analysing the real-life experiences of urban poor in slums, it shows how the urban poor carry more burden than the well-off citizens in the city, to access water supply of inferior quality and quantity.



INDICATOR	PURVIDIN KHERA	RAKHI MANDI	CHOTTI JUGAULI	Higher Income group people living in urban areas of Lucknow
Type of Slum / Municipal area	Non-Notified Slum	Non-Notified Slum	Notified Slum	Municipal Area
Number of Households	45	70	14	-
Average cash income per month per household (In Rupees)	5000	3000	5000	40,000
Capital Expenditure (In Rupees)	76,000	40,000	42,993	Standards setting and harmonisation between states
Community Contribution	40,000	8,000	28,000	
Other Contribution	36,000 (Vigyan Foundation+ WaterAid India)	10,000 (Shramik Bharti + WaterAid India)	10,000 (Shramik Bharti+ WaterAid India)	
Capital community contribution per household	1689	571	3071	Rs. 6000 (average)
Capital household contribution as % of Annual Cash Income per household	2.8%	1.58%	5.11%	1.25%
O&M cost per household per month	150	100	150	100

Table C Situational analysis of capital and operation and maintenance costs incurred by different slums

Source Primary data collected from the field and secondary data from the respective organisation



O&M Cost as % of average annual cash income	3%	3.33%	3%	0.25%
Level of water supply per capita per day	72	74	74	135
Water use	Drinking, cooking, bathing, washing clothes, cleaning house and animals sometimes	Drinking, cooking, bathing, washing clothes and cleaning households	Drinking, cooking, bathing, washing clothes and cleaning households	Drinking, cooking, bathing, washing clothes cleaning households, washing vehicles, kitchen gardens and coolers
Perception About Water Quality	In the initial few minutes, water has sand particles which after some time settle down and water is improved for use	Water Quality sometimes is problematic	In the initial few minutes, water has sand particles which after some time settle down and water is improved for use	Safe Water
Types of Water Supply system	Borewells with submersible pumps, Hand-Pumps	Borewells with submersible pumps, Hand-Pumps, few wells	Borewells with submersible pumps, Hand Pumps	Piped water supply
Reliability	Medium	Low	Medium	Good
Support Organisation	Vigyan Foundation, WaterAid India and Government	Vigyan Foundation, WaterAid India	Vigyan Foundation, WaterAid India	Government/ Municipality
Regulation	Absent	Absent	Absent	Partially regulated
Scale on Sustainability	Medium	Low	Medium	Good

Table C Situational analysis of capital and operation and maintenance costs incurred by different slums

Source Primary data collected from the field and secondary data from the respective organisations



The following conclusions can be derived from an analysis presented in the table above:

1.1. The capital contribution by each household as percentage of their annual household income in slums ranges from 2.8 per cent to 5.11 per cent in urban slums for lower quality assurance and still lower levels of water supply as compared to only 1.25 per cent contribution by well-offs citizens living in the city in posh areas.

1.2. Operation and Maintenance charges for urban poor living in slums ranges between 3 per cent to 3.33 per cent of their annual household income as compared to well offs living in the city who are paying just 0.25 per cent of their annual household income.

1.3. The Water Quality of the water supplied in slums is of a far inferior quality than what is available from public water sources to well-offs living in the city.

1.4. The service levels of water supply in slums are much less than what the well-offs in the city are receiving. The urban poor living in different kind of slums are getting 72-74 liters water per Capita per day (LPCD) as compared to 135 LPCD or more by well-offs living in the city.

1.5. Overall reliability of water supply schemes is low or medium for water supply in slums as compared to the one available to the well-off residents in the city.



Figure 9 Water storage buckets used in slums, Choti Jugaouli, Lucknow City, 2017



5

WATER SUPPLY FOR URBAN POOR IN INDIA

REALISING RIGHT TO WATER for Urban Poor

In the Indian context, though the right to water is not explicitly mentioned in the Constitution, there is judicial support for it under Article 21, the right to life (a fundamental right), which has been reiterated in a number of court judgements. For instance, in December 2000, in the course of a case involving the government of Andhra Pradesh's permission to an oil company to set up a potentially polluting industry in the catchment area of two rivers which are the main sources of drinking water for Hyderabad and Secunderabad, the Supreme Court ruled that access to clean water is a fundamental human right of all citizens under Article 21 of the Indian Constitution, and that the state is duty bound to provide it (Ramachandraiah, 2001). However, the implications of judicial judgements for different dimensions of the right to water are not clear, and have to be derived from rules and norms of specific programs of different departments working on water (at the central, state and sub-

state level). What is problematic, though, is that many aspects of water policies and legislation (especially in the ongoing reforms) are also explicitly incompatible with the right to water for basic needs.

The recent experiment by Delhi government calling for free supply of up to 700 litres of water per family per day for the metered connection from public water supply schemes has been seen by some sections of society as articulation of drinking water rights albeit through entitlement based approach .

Realising right to water for people living in slums for their basic water needs for dignified life is fraught with multiple complex challenges and till the government recognises this right or finds a way to implement it, the urban poor communities will continue to struggle to access the already scant resource in the thirsty cities of India.

6



WATER SUPPLY FOR URBAN POOR IN INDIA

FINDING OUR WAY FORWARD

1. The following points elaborate, based on experiences gained in different water programs for urban poor, our way forward to ensure improved access to basic water supply by urban poor.

1.1. Decentralising water supply governance models to lowest (Slum or Basti) levels in accordance with 74th Constitutional

Amendment Act: It is to be noted that the practise of the public responsibilities should be assigned at the lowest possible level with a clearly defined accountability framework. For example, in the case studies that authors have looked at, it was due to the keen efforts of the Slum or Basti level User Committee in Purvidin Khera, Lucknow that people were successful in achieving a piped water supply system.

1.2. Regulating the domestic water supply pricing both by government and private

sector/individuals: Both the government and community or private sector pricing of water/ water tariff for basic needs should be regulated and cross subsidised with higher end usages. The water for basic needs by public/private supplies should be regulated on the basis of consumption with a principle of – the more you use, more you pay.

1.3. Rain water harvesting, use of surface water and reducing ground water

dependency: Communities should look for rain water harvesting, protection of local water bodies such as tanks, ponds and lakes so as to reduce their dependency on rapidly depleting ground water tables to ensure long term source sustainability.



1.4. Information, Education and

Communication (IEC): The communities need to be informed and educated through appropriate communication messages to ensure that user behaviour practices are improved for conservation of water and its judicious use.

1.5. Reducing exclusion within exclusion: It is unfortunate for that section of the marginalised people who fall under the Below Poverty Line (BPL) and who fail to participate in the community activities to become beneficiaries. They are often forced to buy water from the people who have benefitted lately. For example, in case of Gyanvati of Choti Jugauli Slum, Lucknow, UP, she failed to participate in the 'Jal Samiti' and now she is forced to buy water from

the beneficiaries at a rate of Rupees 200 from the same water supply scheme for which the Samiti members are either not paying anything or paying nominally.

1.6. Review of slum improvement laws to provide for conferment of occupancy rights:

Access to water by public agencies should be delinked to land ownership issue. The Manila Water Case Study in the beginning of this report is a case which proves that public agencies can provide with safe water through piped water supply schemes to urban poor in a transparent and accountable way.



Figure 10 Gyanvati Devi, Choti Jugaoli, Lucknow city, UP

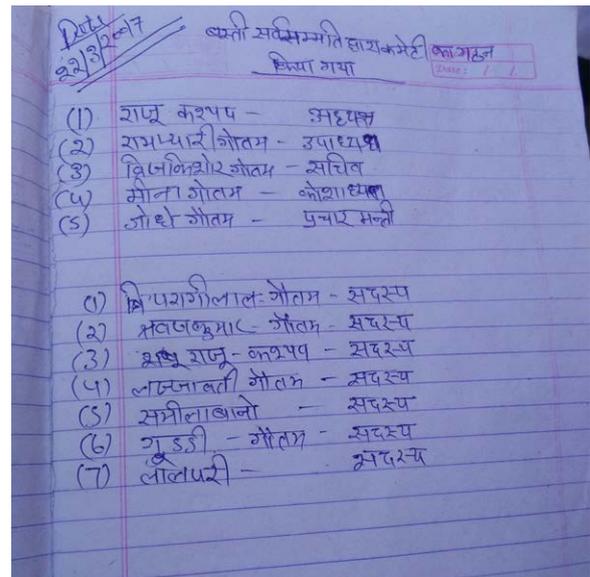


Figure 11 Accounting of number of members in the water user association, Purvidin Khera, UP



CASE STUDY OF JHAKARKATTI RAKHI MANDI SLUM

The Jhakarkatti Rakhi Mandi Slum is situated near Jhakarkatti over-bridge on railway land. It falls in ward 47 in zone 5 of Kanpur Municipal Corporation. It is about 65 years old, triangular in shape, with Delhi–Kolkata railway line on one side, railway colony on the other side and Indira Malin Basti on the third side. There are 500 households inhabited by 581 families in Jhakarkatti Rakhi Mandi with a population of 2790. Most of the people residing in this area are rickshaw pullers, domestic workers and unskilled labourers. Post intervention of the Shramik Bharti, the submersible pump which has been constructed to benefit 70 households is often defunct primarily because the pumps are used at irregular intervals. This behavior of the people has failed to mitigate the issue of the water supply primarily because of the lack of IEC within the community. Also there is a complete absence of Water User Committee in the area. This will again increase the burden of the costing for the water infrastructure in the long run. At present, it is only one particular political leader (Mohm Laddan) who looks after the operation and the maintenance of the hand pumps and the submersible pumps, and who accepted during an interview that the absence of proper IEC materials often causes the dis-functioning of the pumps and causes a dearth of water supply.

CASE STUDY OF MUMBAI SLUMS

It was during the year 2015, March 3rd that the right of water was recognised as an integral part of right to life of Article 21 of the Constitution of India. According to the daily newspaper DNA, the Bombay High Court (HC) directed the Brihan Mumbai Municipal Corporation (BMC) to come up with a policy to provide water to the non-notified areas settlement for slums which had come up post January, in the year 2000. It is highlighted here that small organisation called “Pani Haq Samity” actively fought for their rights for water and also filed Public Interest Litigation in the year 2011 demanding the right to water for all the inhabitants irrespective of the legality or the illegality of the land. Here, the water charges were declared by the Judges to be higher as due to shortages of the piped water network and suggestion of providing water through pre-paid cards. However, it was made clear that given objection by the land authorities the areas were deprived of water supply. Also, BMC mentioned that the water supply is only being done on humanitarian grounds and it will not assure their right to the property. It is noteworthy that the implementation of such policy is still pending.

Source DNA Newspaper



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