

# Taking Water and Sanitation Services to the Urban Poor

Utility and city managers, civil society organizations, and communities should be given the skills, confidence, and capacity to bring about effective change. There are many examples in India of agencies that have demonstrated imagination, resourcefulness, and commitment in their approach to serving the poor, with excellent results both for the people and the service provider. Some good practices from water and sanitation utilities and other sectors such as electricity are summarized in these notes.





## The Slum Networking Project in Ahmedabad

# Partnering for Change

An integrated approach to development is steadily reaping results in Ahmedabad, Gujarat's largest city. Slum communities, as target beneficiaries, have joined hands with government agencies, non-governmental organizations, and the private sector to improve the slums and mainstream them with the city. *Parivartan* (Change), as the project has been christened, is changing the lives of slum dwellers, who now have better access to water, sanitation, education, health, and livelihood opportunities. Thirty-four slum areas covering approximately 11,500 households have already benefited from the initiative, which is currently under way in another 13 areas.



Given the partnership framework of the project, the roles and responsibilities of all stakeholders were chalked out in accordance with their strengths and ability to deliver.



## The Challenge

Almost 40 percent of Ahmadabad's 3.51 million population resides in slums and *chawls* (informal settlements), most of which exist without basic facilities such as water, sanitation, and electricity. The situation has been exacerbated by a burgeoning increase in the labor migration to this industrial city and a corresponding mushrooming of a large number of slums. The Municipal Corporation has made several attempts to improve the lives of slum dwellers by providing basic services, but without any sustainable outcome.

## The Way Forward

To address this situation, the Ahmedabad Municipal Corporation (AMC) launched the Slum Networking Project, *Parivartan*, in 1995, in partnership with two city-based non-governmental organizations (NGOs) and the private sector. The project started off as a pilot project and is now being upscaled.

## Project Design

The project was designed to upgrade and integrate the slums into the

mainstream of the city by actively partnering with slum dwellers, industrial houses, NGOs, and the AMC. A combination of services was to be provided to slum dwellers over 10 years. These included services linked to:

**Physical development**, consisting of individual water supply; underground sewerage; individual toilets or pay-and-use facilities; solid waste disposal service; storm water drains; internal roads and good paving; street lighting and landscaping.

**Community development**, including establishment of neighborhood groups,

## Role Delineation

### *Ahmedabad Municipal Corporation*

- Identify the slums that are to be upgraded keeping in view the land use policy.
- Facilitate the partnership by bringing the partners together and coordinate the activities.
- Execute or facilitate the execution of the project through private sector companies.
- Provide its one-third share of internal infrastructure and full cost of individual toilet and linkages of external services with the slums.
- Document and disseminate the knowledge gained through implementation.
- Integrate community-level infrastructure with city-level systems.
- Provide solid waste management services and strengthen sewage network.
- Extend city storm water drains to reach slums and low-lying areas.
- Improve water supply pressure around slum localities.
- Undertake landscaping within slums and develop gardens in open spaces around slums.
- Improve city roads on the periphery of the slums.

### *Community*

- Form neighborhood committees and special interest groups, such as women and youth, with the assistance of NGOs.
- Work closely with the executing agency to ensure good quality construction and services.
- Maintain community-level services provided under this project.
- Participate in health and socio-economic programs.
- Create the environment for the sustainability of the initiative and partnership.

### *Private Sector Companies*

- Execute the project, if required, and as agreed to by the AMC.
- Assist the community in upgrading skills.
- Help the community to set up and operate viable businesses and other means of income generation.

### *NGOs*

- Assist the community in the formation of neighborhood committees or associations.
- Motivate slum dwellers to participate in the project as partners and link the community with other partners.
- Mobilize financial resources within the community and facilitate access to assistance from micro-financial institutions, such as SEWA Bank.
- Initiate health, education, and income-generation activities within the community.

women's groups, and youth groups; mobilizing community savings for undertaking physical works; educational activities for children and illiterate adults; undertaking community health education and other interventions related to mother and child care; supporting income-generating activities by providing vocational training and job access to unemployed persons and developing linkages for formal sector finance to help people start small business and trades.

### **Institutional Arrangements**

Given the partnership framework of the project, the roles and responsibilities of all stakeholders were chalked out in accordance with their strengths and ability to deliver. The Municipal Corporation, for instance, was entrusted with infrastructure and land use tasks, given its legal mandate and role.

Similarly, NGOs took up the role of mobilizing the people and ensuring their participation in the project, while the community chipped in with a monitoring role and the private sector with management and business aspects.

### **Mobilization and Communication**

The role of mobilizing and communications with the community was taken up by the NGOs—SEWA or SAATH. In each targeted slum area, one NGO staff member was responsible for the communication campaign. Their role was to convince the communities about the benefits of the program. Where necessary, the NGOs also facilitated and provided training to the people for relevant activities such as basic skills training, supervision, and monitoring roles in the development works.

## Highlights

- The partnership model, between wide and varied stakeholders—from slum dweller to municipal authorities—is working well.
- Land tenure for 10 years has given adequate security and comfort to slum dwellers to invest money for shelter upgrading.
- Slum dwellers, who have received the services provided under the project, are more willing to pay property tax.
- Investment in the provision of basic infrastructure automatically attracts shelter upgrading by the slum residents.

## Project Cost and Contribution

<b>Physical development cost</b>	<b>Rs. 6,000 (US\$135) per household</b>
Contributions	Rs. 2,000 (US\$45) from slum dwellers Rs. 2,000 (US\$45) from industry, social institutions, etc Rs. 2,000 (US\$45) from the AMC
<b>Community development cost</b>	<b>Rs. 1,000 (US\$22) per household</b>
Contributions	Rs. 300 (US\$6.7) from NGOs Rs. 700 (US\$16) from the AMC
<b>Linkage with basic city infrastructure cost</b>	<b>Rs. 3,000 (US\$67) per household</b>
Contribution	Rs. 3,000 (US\$67) from the AMC
<b>Individual toilet cost</b>	<b>Rs. 4,500 (US\$101) per household</b>
Contribution	Rs. 4,500 (US\$101) from the AMC
<b>Community corpus for maintenance</b>	<b>Rs. 100 (US\$2.24)</b>
Contribution	Rs. 100 (US\$2.24) from slum dwellers

## References

- Meetings and e-mail contact with Gujarat Mahila Housing SEWA Trust.
- Meetings with Ahmedabad Municipal Corporation representatives.
- Meetings with SEWA Bank representatives.
- Shukla, S. 2005. 'Ensuring Access of Urban Poor Communities to Basic Services.' Water and Sanitation Program. New Delhi.
- Sewa Bank-Shri Mahila Sewa Sahakari Bank Ltd. 'Ahmedabad Parivartan Slum Upgrading.' Ahmedabad. [www.sewabank.org/activities/parivartan.htm](http://www.sewabank.org/activities/parivartan.htm)



The slum dwellers, specifically the women, are also encouraged to open an account in SEWA Bank to save money for the deposit required in the program.

## Project Costs and Sources of Finance

When fully implemented, the estimated cost of the project would be Rs. 4,350 million (US\$97 million).<sup>1</sup> Of this, Rs. 600 million (US\$13 million) is expected in the form of community contributions, another Rs. 600 million (US\$13 million) from the private sector; Rs. 90 million (US\$2 million) from the NGOs, and the remaining amount from the AMC.

## Progress So Far

The project has been completed in 34 slum areas covering approximately 11,500 households. It is currently under way in another 13 areas.

<sup>1</sup>US\$1 = Rs. 44.54 (as of December 15, 2006). Conversion rates from [www.xe.com](http://www.xe.com). All conversions from Rs. to US\$ are approximate.

## Ahmedabad Slum Electrification Program

# Electrifying Change

Municipal authorities in Ahmedabad, Gujarat's largest city, had initiated a trust- and confidence-building exercise with people in informal settlements and slums to address the menace of illegal electricity connections. The effort, involving a local non-governmental organization, has helped convert a large number of unsafe and illegal connections into safe ones and reduce the losses incurred by the utility. Enthused by the success of the pilot, the Ahmedabad Electricity Corporation scaled-up the initiative and more than 200,000 slum households now have legal connections. The initiative has been integrated into a larger development program for slums and informal settlements, called *Parivartan* (Change).



Given the scale of the challenge, a slum electrification program that would extend safe, reliable, and legal electricity connections to the informal settlements in the city in a collaborative approach was taken up.





## The Challenge

Till as recently as 2002, the majority of the slums and informal settlements in Ahmedabad—where 40 per cent of the city's 3.51 million population resides—were without critical infrastructure such as water, sanitation or electricity.

A very small proportion of households in the informal settlements in Ahmedabad had legal electricity connections. An informal, illegal system of electricity distribution had thus developed over the years, leading to high losses for the Ahmedabad Electricity Company Limited (AEC).

## The Way Forward

Given the scale of the challenge, a slum electrification program that would extend safe, reliable, and legal electricity connections to the informal settlements in the city in a collaborative approach was taken up. A viable option of connecting informal settlements to the electricity network was worked out for the AEC after discussions with a local NGO and project partner, the Self-Employed Women's Association (SEWA). A pilot project was initiated in 2002 by the AEC with financial support from USAID. The project has since become part of a wide-ranging slum upgrading program, *Parivartan*, which was already under way.

The role of the NGO, which had strong inroads in the informal settlements, was to help build trust and willingness among the people *vis-a-vis* the AEC. More significantly, its role was to convince the people, who were hitherto used to illegal providers and power thefts, to opt for legal connections.

## Roles of the Stakeholders

Stakeholder roles were defined on the basis of the strengths that each stakeholder brought to the project.

### *Responsibilities of the Ahmedabad Electricity Company Limited*

- Appoint lead project coordinator.
- Prepare technical layouts.
- Release legal supply after obtaining legal documents and receipt of necessary fees.
- Provide check meter at source point.
- Monitor consumption patterns and identify pilferage.
- Establish metering and bill recovery system.
- Coordinate Slum Awareness Campaign.
- Impart training to NGOs.
- Take the lead on relevant documentation, metering, billing, pilferage management, and training and awareness.

### *Responsibilities of non-governmental organizations*

- Obtain legal documents from the Ahmedabad Municipal Corporation.
- Submit application to Ahmedabad Electricity Company Limited (AEC) in the slum dwellers' name.
- Collect dues from slum dwellers on behalf of the AEC.
- Identify community-based organizations (CBOs) or groups and provide necessary support.
- Establish metering and bill recovery system.
- Train CBO in the bill collection system.
- Educate CBO and slum dwellers.
- Influence policies within the AEC for upscaling the program on the basis of the lessons learned from the pilot.

### *Responsibilities of CBOs*

- Create awareness and motivate slum dwellers to access legal electrification.
- Check the billing system once in a month.
- Collect dues from slum dwellers on behalf of the AEC and the NGO.
- Submit applications to the AEC on behalf of the slum dwellers.
- Act as a watchdog against pilferage of electricity.

## Institutional Arrangements

The electricity corporation tied up with SEWA to work in areas where the latter already had strong inroads and acceptability. In addition to its role of convincing people to opt for regular connections, SEWA was also entrusted

with the task of setting up community-based organizations (CBOs) in the settlements. Individuals identified from each CBO were trained by the NGO to read individual household meters. The AEC prepared the bills and handed these over to the NGO. The CBO then stepped in

## Highlights

- The project demonstrated that slum households are willing to and able to pay connection fee and their utility bills.
- Trust- and confidence-building between people and the municipal authority is an important focus of the initiative. Non-governmental organizations had an important role in facilitating this mutual trust.
- The project was undertaken in a spirit of partnership; spirit giving space to all partners to pool in with their strengths.
- Timely measures, such as bank loans for poor households, facilitated the change from illegal to legal connections.
- A monthly billing was introduced for slum households to make the payment of user charges easier.
- The project turned out to be a *win-win situation for all partners*.
- The project demonstrated that the losses due to thefts in slum areas could be substantially reduced.

to collect the dues from the slum dwellers on behalf of the NGO and the AEC.

SEWA also facilitated the process of households converting to regular electricity connections. Its credit organization, known as SEWA Bank, provided facilities for residents to finance their electrical connections.

The government, on its part, provided 'no objection certificates' (NOCs) necessary to avoid land tenure barriers for regular connections.

The Ahmedabad Municipal Corporation (AMC) also provided a permanent road opening permission especially

for electrification in slums (for the mainstream areas this permission has to be taken for every road opening by the AEC). Since another scheme, called *Parivartan*, had been carried out in partnership with the AMC, it decided to give an NOC for those areas where that scheme had been undertaken.

### Project Costs and Finances

In the pilot project, the cost for connecting the customer and installing internal wiring were split between the household, the AEC, and USAID. The household paid

Rs. 3.35 (US\$0.07);<sup>1</sup> the AEC and USAID each contributed Rs. 2.20 (US\$0.04) per household.

In the scaling-up phase, the slum households bore the cost of connections and usage charges, and the AEC used its own funds for network expansion. The connection charges were initially Rs. 5,000 (US\$112) for permanent structures and Rs. 3,500 (US\$78) for temporary structures, plus Rs. 200 (US\$4) as a security deposit. The connection charge was later reduced to Rs. 2,300 (US\$52) per household. A majority of the slum households paid a monthly user charge of approximately Rs. 150-300 (US\$3-6.7) per month.

## Progress So Far

In the pilot phase, 820 households in seven slums were covered. Enthused by this success, the AEC scaled-up the slum electrification program and planned to provide services to 200,000 households by March 2007. Today, the partners have been working proactively to ensure that the maximum number of legal electric connections are provided in the slums of Ahmedabad. More than 200,000 households have already been electrified.

<sup>1</sup>US\$1 = Rs. 44.54 (as of December 15, 2006). Conversion rates from www.xe.com. All conversions from Rs. to US\$ are approximate.

## References

- Meetings with Self-Employed Women's Association (SEWA). 2005.
- E-mail contact with SEWA. 2006.
- Bureau for Economic Growth, Agriculture, and Trade. 2004. 'Innovative Approaches to Slum Electrification.' USAID. Washington, D.C.
- Gujarat Mahila Housing SEWA Trust. 2005. 'Managing Electric Supply to the Disadvantaged Groups of the Society: An Overview by the Ahmedabad Team.' Power Point presentation.
- Shukla, S. 2005. 'Ensuring Access of Urban Poor Communities to Basic Services.' WSP. New Delhi.
- E-mail contact with Torrent Power Ltd. Chirag Desai. 2006.

## Sanitation in Alandur

# Community Response Energizes Work

Alandur Municipality in Tamil Nadu is improving sanitation services to slum dwellers through an inclusive approach that benefits all segments of the township. The effort demonstrates how services can be improved where there is strong political commitment coupled with effective communications, transparency, and partnership with community-based organizations. Nearly 8,350 of the 23,000 households that paid for the service are now connected to a sewerage network (2005). These include 500 slum households from a total of 7,000. A large number (43 percent) of slum dwellers have opted and paid for individual sewerage connections.



At the heart of the project's success so far lies a well-planned communications strategy that has evoked a strong and positive community response.

## The Challenge

Till 2000, Alandur, a municipality in a residential suburb of Chennai, had no sewerage system—a majority of its households had septic tanks. The sewage, disposed outside the municipal limits, posed immense health hazards as a breeding ground for mosquitoes and diseases, besides affecting groundwater sources.

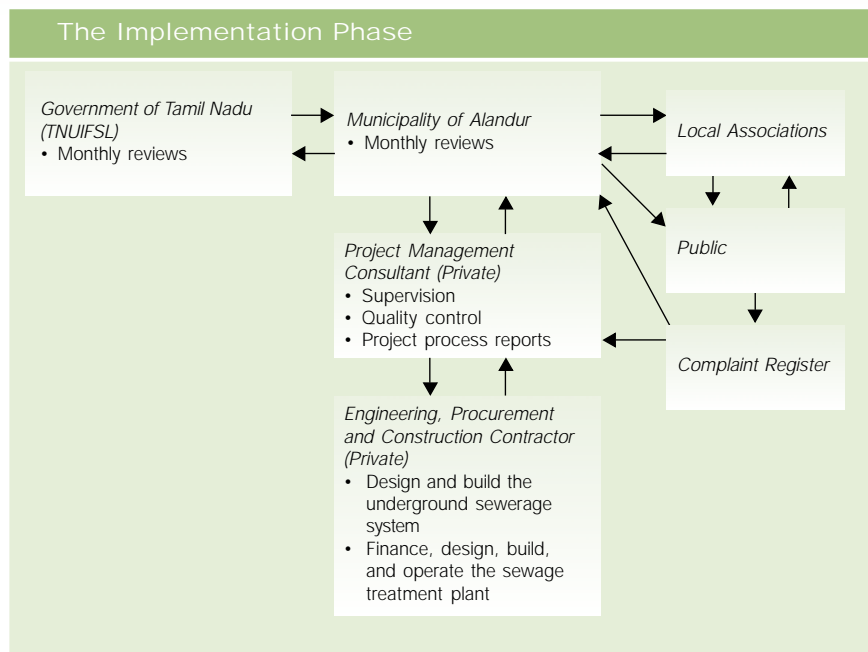
The risks for the town—with a population of 147,000, of which slum dwellers constituted nearly 23 percent—were high. The situation was even worse in the 33 slum areas where almost 7,000 families resided.

## The Way Forward

To address these problems, a project to build an underground sewerage system was initiated by the chairman of Alandur Municipality.

At the heart of the project's success so far lies a well-planned communications strategy that has evoked a strong and positive community response. Willingness to pay among almost 97 percent of the people surveyed was another factor that helped it become a multi-stakeholder project involving the municipal authorities, the private sector, community-based organizations and, most significantly, the people themselves. These partnerships manifested themselves in various aspects and stages of the project.

As part of another initiative, care was also taken to ensure that the poorest people, who could not afford private sewerage facilities, were not left out. Provision had been made for community toilets for these segments.



## Project Approach and Design

The project, designed to provide essential and basic facilities to all the residents, included:

- Sewerage network consisting of the main sewer line, branch sewer line, and manholes.
- Construction of a sewerage pumping station.
- Laying of pumping mains.
- A sewage treatment plant.
- Low-cost sanitation.

### Institutional Arrangements

Private sector participation was considered important for the project. Accordingly, a private partner, the Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL), was nominated to coordinate the investigation and to structure the finances for the project.

The project was structured such that an engineering, procurement, and construction contractor not only designed and built the underground sewerage system, but also financed, designed, built, and operated the sewage treatment plant. An independent project management consultant controlled, supervised, and reported on the project; Alandur Municipality organized the public mobilization and frequently reviewed the project. The Government of Tamil Nadu and TNUIFSL also reviewed the project regularly.

A special committee, which was formed to monitor the operation of the accounts, brought transparency to financial transactions.

### Mobilization and Communication

Effective and timely communications to involve key partners and, importantly, the people themselves in the initiative, formed a key part of the project,



especially in the initial phase. Alandur Municipality made a strong and concerted effort in spreading awareness about the project. An election-style campaign was launched—officials and councilors traveled about in auto rickshaws to inform people about the project; local cable TV networks were roped in; pamphlets in English and Tamil were distributed; door-to-door canvassing was done with municipal sanitary workers joining hands with senior municipal staff to spread the message. Active use was made of the local press. In addition, on-site meetings were held with residence associations and the public to explain the scope and benefits of the project. The concerted awareness and mobilization campaign led to formation of associations from which two persons were chosen to work part-time to collect deposits and connection fees from the residents. The money was deposited into an account, and status updates were communicated to the public every month. There was thus full transparency regarding the financial aspects.

## Community Toilets: Reaching the Unreached

Even as the underground sewerage project of Alandur rolled on to provide sewerage connections to slum households, many poor households that could not afford to pay for these services were left out of this program.

### *The Inclusive Approach*

To ensure that the poor or the unreached are not excluded from the benefits of this sanitation project, Alandur Municipality has made provision for community toilets.

Where a need is identified, either by slum dwellers or by Alandur Municipality, public toilets are provided by the Municipality on municipal land. When located relatively close to the sewerage network, the toilets are connected to it, otherwise septic tanks are used. The facilities are also provided with water and electricity.

### *Partnership for the Poor*

This initiative involves civic authorities, community-based organizations (CBOs), and the final beneficiaries or slum residents. To manage the public toilets, women's groups have been formed with support from Alandur Municipality. The Municipality trains the CBOs on managing the facility. The CBO establishes a member register, fixes and collects the monthly fees from the households, and maintains the toilets.

Alandur Municipality finances the construction and connection, while the CBO finances the maintenance and repairs. There is no connection fee, but a repair fee of Rs. 200 (US\$4) per connection is collected from each member household. The monthly fees are fixed by the local CBO and the charges range from Rs. 20 (US\$0.44) to Rs. 50 (US\$1.12) per family. Non-members also pay a charge fixed by the CBO, in most cases around Re. 1 (US\$0.02) per visit.

### *Progress So Far*

In 2005, 14 toilets had been constructed to serve poor clusters in the Municipality based on demand articulation by the people.

The communication has continued during the implementation phase as well, in the form of a feedback and grievance redressal system. Members of the public can voice their concerns through a complaint register which is reviewed daily by the project management team and twice a week by the municipal commissioner. People can also contact the Municipality directly if problems arise. This two-way communication seeks to ensure the

project's transparency, accountability, and effectiveness.

## Project Costs and Sources of Finance

The total project cost is estimated at Rs. 340 million (US\$8 million).<sup>1</sup> Alandur Municipality has raised funds from the TNUIFSL and the Tamil Nadu Urban Finance Infrastructure Development

<sup>1</sup> US\$1 = Rs. 44.54 (as of December 15, 2006). Conversion rates from www.xe.com. All conversions from Rs. to US\$ are approximate.

Table 1: Means of Finance

Category	Amount in Rs. million (US\$)	% of total
<b>Grants</b>		
TNUIFSL/Gap funding by GoTN	30 (673,552)	9
TUFIDCO	10 (224,517)	3
<b>Loans</b>		
TNUIFSL	40 (898,069)	12
TUFIDCO	160 (3,592,277)	47
<b>User contribution</b>		
Deposits (estimated*)	80 (1,796,138)	23
Interest from deposits	20 (449,035)	6
<b>TOTAL</b>	<b>340 (8 million)</b>	

\* User contribution so far: Rs. 150 million  
Source: Alandur Municipality

Table 2: Fees and Charges

Connection charges (non-refundable deposits)	Amount per connection in Rs. (US\$)
Domestic (before 01.02.2000)	5,000 (112)
Domestic (after 01.02.2000)	6,000 (135)
Commercial	10,000 (224)
Industrial	10,000 (224)

Corporation (TUFIDCO), an agency channelizing the funds from the Government of India and Government of Tamil Nadu for infrastructure projects. The project also received deposits from the town's residents.

## Progress So Far

The ongoing project that began in 2000 had in 2005 connected, in its first phase, nearly 8,350 of the 23,000 households that paid for

## Highlights

- A well-planned communications strategy has led to good community response to the project.
- A 'Willingness to Pay' survey showed that about 97 percent of the people wished to have the sewer connection and would like to pay for it.
- People who were unable to pay the deposits on their own were given the option of loans from local banks on nominal interest rates.
- People were also given the choice to pay in two installments over a year.
- The construction of community toilets was taken up after need assessments by Alandur Municipality or on demand from slum dwellers. This option helped extend sanitation services to the poorest segment of the population which could not afford the non-refundable deposit and could not connect to the system.

the service. Nearly 500 slum households of the 7,000 had a sewerage connection. A large number (43 percent) of slum dwellers have opted and paid for individual sewerage connections.

## References

- Meetings with Alandur Municipality Corporation officials.
- 'State of Tamil Nadu, India: The Alandur Underground Sewerage Project', Tamil Nadu Urban Development Project and Kampsax India Limited. 2005.
- Mathur, Mukesh P. 2002. 'Alandur Sewerage Project—A Success Story of Public-Private Partnership Arrangements.' National Institute of Urban Affairs. New Delhi.
- Mehta, A. 2005. 'We Ourselves...for Us—Case Study on User Contributions in Infrastructure Development Costs, Tamil Nadu.' Water and Sanitation Program. New Delhi.

## Bangalore Water Service Delivery

# Indigenous Model Shows the Way

From 2000 to 2005, the Bangalore Water Supply and Sewerage Board (BWSSB) experimented with service delivery in slums, first through three pilot projects under a donor-funded program, and then through a newly-created Social Development Unit (SDU). By early 2005, the SDU had mobilized 46 communities, approximately 10 percent of the city's slums, of which more than half have successfully connected to the BWSSB network and continue to be served with water, receive bills, and make payments. The program has had significant impact despite many hurdles; it has provided an important indigenous model, and is slowly but surely being scaled-up.



Since the completion of the Package Program in late 2004, almost all of the 46 slums now have water lines, although many of these lines are not being serviced regularly.



## The Challenge

Until recently, most slum dwellers in Bangalore obtained their water from a combination of private boreholes, water vendors, government tankers, public taps, and illegal tapping of Bangalore Water Supply and Sewerage Board lines. Legal household connections were rare in the slums, and BWSSB policy stated that a connection would not be approved unless the resident could provide proof of tenure. Most slum dwellers were unable to do this, either because they did not have legal land tenure or had no documentation to prove it.

## The Way Forward

To address this situation, the BWSSB has made concerted efforts to become

more accountable to its customers in recent years. It remains a state-owned public utility, but the progress made in engaging with consumers, sharing information, and addressing grievances has been both significant and substantive. The Board's work in slums achieved important objectives by increasing the number of slum households connected to a metered network, decreasing residents' dependence on 'free' water through public taps or illegal connections, and reducing non-revenue water.

## The Change

Three pilot projects implemented under an AusAID master planning project, designed to demonstrate how water and sanitation services could be delivered by a utility to

slum households, set an important precedent.

The highlight of these projects was that AusAID succeeded in persuading the BWSSB to waive its long-standing requirement that only slum residents presenting both land title documents and recent property tax receipts could qualify for individual water and sanitation connections. The BWSSB decided to permit lease documents and other 'proof of occupation' (such as ration cards, identity cards, election cards or electricity bills) to be submitted instead. Implemented in three slums, the pilots reached over 1,000 households, impacting almost 6,000 people. A local water and sanitation committee was established in all three slums as the institutional focal point for community participation.



## Withdrawal of Funds Precipitates Action

In 2002, the Bangalore Mahanagar Pallika (BMP, or the Bangalore Municipal Corporation) announced that it would stop paying for public taps, since the BWSSB had the social responsibility to provide for slum dwellers and should fund public taps through its own cross-subsidies. The BWSSB was faced with an immense dilemma. Even though the BWSSB did not have the financial depth to underwrite this loss over the longer term, it feared that large-scale disconnection might incite large-scale community protests. It was, thus, compelled to implement innovative measures to curb this loss of water and revenue, ideally transferring all users of public taps to paid domestic connections in the long term.

## The 'Package Program'

Acceding to its responsibility to fund basic infrastructure within municipal boundaries, the BMP decided to pay for the full extension of the BWSSB's piped network to the new and partially-served wards. The Corporation agreed with the BWSSB's capital works division to divide the work into three major contracts—nine wards at a time—instead of through the usual proliferation of small contracts. This 'Package Program', as it came to be known, was completed in 2005. The effect of the decision was significant in terms of potential future access for the urban poor population.

### Connection Cost and Tariff Adjustments: Making Water Affordable

#### *Connection costs: Domestic*

Normal rate for a new connection: Rs. 1,800 (US\$40).<sup>1</sup>

#### *Connection costs: Slums*

- For plots less than 150 square feet only the water meter cost is covered: Rs. 550 (US\$12).
- For plots between 150-600 square feet a sanitary charge is added: Rs. 800 (US\$18).
- Additional cost per household if slum dwellers coordinate and have their additional piping and taps installed by the same plumber: Rs. 800-1,000 (US\$18-22).

#### *Tariffs*

The old tariff structure required all customers to pay a minimum charge equivalent to 15 m<sup>3</sup> of water a month. Most slum dwellers consumed around half this amount, so essentially paid for water they did not use.

The new tariff reduced the minimum charge to 8 m<sup>3</sup>. A family using this amount or less now pays Rs. 73 (US\$1.6) a month, compared to Rs. 115 (US\$2.5) under the old structure.

Policy changes that supported and provided impetus to the initiative were:

- **Relaxed procedure for slum connection.** Ration cards, electricity bills, and election cards are deemed sufficient proof to sanction a connection.
- **Service-level innovation.** Rather than demand individual connections from all customers, it agreed to allow shared connections for 8 to 12 households as an alternative option, particularly for very poor or congested slums.
- **Specific pricing policy for slums.** Connection fees were significantly lowered for all slums. In early 2005, approval was finally granted by the state-level Urban Development

Department (to whom the BWSSB reports) for a new tariff structure, which considerably lowered the minimum monthly bills.

- **Slum focus.** Proving the Board's increasing commitment to extending services to slums, the Chairman began to circulate a proposal for citywide slum connections to international donors.

## Mobilizing Communities

The BWSSB also created a Social Development Unit, headed by a senior development specialist, with the broad mandate of continuing the work started in the slums. By early 2005, the

<sup>1</sup> US\$1 = Rs. 44.54 (as of December 15, 2006). Conversion rates from www.xe.com. All conversions from Rs. to US\$ are approximate.

SDU had begun work in an additional 46 slums, approximately 30 of which are receiving regular water supply. After the community makes its decision, the SDU conducts site visits with local non-governmental organizations (NGOs) and residents, usually represented by community leaders. It then repeats the site visit with engineers from the BWSSB's local service station. After this it ensures that the entire necessary street-level infrastructure is in place and issues application forms to the community, either directly or through the NGO. Slum dwellers must submit completed application forms and payment for connection fees to the NGO or directly to the concerned engineer, usually in batches of 50 applications at a time. Engineers issue meters and sanction plumbing work to connect slums directly to the street-level pipes, usually only after at least 50 percent of the slum population has paid. Finally, a trial run of water is conducted. Subject to satisfactory

completion of the supply chain, the engineers begin distributing water to the slum and start the process of monthly billing and collection.

## Financing

The financial and budgeting implications of the program to date have been minimal, since the BWSSB has been able to connect slum dwellers to piped water supply with very little investment or financial risk. Individual slums are expected to bear the costs of individual meters through the connection charge as well as the cost of plumbing and piping to the house on their own. Since starting in 2000, the BWSSB has gradually upped its revenue collection targets to improve its financial position.

## The Progress

From the BWSSB's perspective, these initiatives have increased both its consumer and its revenue base, regularized illegal connections, and reduced the consumption of



non-revenue water through public taps. Since the completion of the Package Program in late 2004, almost all of the 46 slums now have water lines, although many of these lines are not being serviced regularly. The BWSSB has thus targeted approximately 10 percent of the slums in the BMP area, and rolled out the program successfully in over half of them. When the 1,000 households connected during the AusAID project are included, the BWSSB would have brought over five percent of the slum households in the city onto its customer base. Although it still has a long way to go to roll out the program to every one of the nearly 400 slums in the city, the BWSSB's progress is real and many lessons have been learnt.

### Highlights

- A well-documented, explicit policy on slums and a publicized roll-out strategy are crucial.
- An adequately funded, suitably staffed and respected Social Development Unit is a powerful way to operationalize pro-poor reform.
- A source of funding must be identified.
- Reputable non-governmental organizations or community groups are vital partners.

### References

- Connecting the Slums: A Utility's Pro-Poor Approach in Bangalore. Field Note. Water and Sanitation Program-South Asia. February 2006.
- Client Power and the Poor: The Case of the Bangalore Water Board's Services to Slums (abridged from a study by Genevieve Connors).

## Slum Sanitation Program in Mumbai

# Stakeholder Participation Paves Way for Sustainability

A novel initiative that gives slum dwellers and non-governmental organizations a role in the design, implementation, and care of basic urban sanitation facilities is under way in Greater Mumbai's densely-populated slum areas. The initiative is already showing signs of success and sustainability. What is more, it is engendering development beyond basic sanitation in hygiene. Here are some highlights from the case study.



An important outcome of the project has been the coming together of stakeholders in a partnership that enables each of them to play the role that best suits them.



## The Challenge

In Greater Mumbai's densely-populated slum areas, which account for more than 50 percent of the city's 16 million-plus population, toilets are generally not available. Where they are, the toilets are in deplorable conditions, forcing the people to use open, public spaces for defecation that expose the city to major health and environment hazards.

## The Way Forward

Recognizing the need to ensure basic sanitation services for the urban poor in Mumbai, a project aimed at providing community toilets in the slums was initiated in the city in 1995 as part of the Bombay Sewage Disposal Project (BSDP).

## Project Design and Approach

The project is designed to improve the health and environmental conditions of about one million slum dwellers in Greater Mumbai, aided by the keen involvement of non-governmental organizations (NGOs) and community-based organizations (CBOs).

The Slum and Sanitation Project (SSP) package comprises both 'hardware' (physical work, for example, construction of toilets and provision of water and electricity to the facilities) and 'software' (for instance, creation of management and information channels and information packages to the users) components. The program

includes the creation of competent CBOs and Small Local Business Enterprises (SLBEs) capable of taking over the management of the service, including payment of utility bills; the delivery of an information package for users on hygiene, program implementation and management; construction of the community toilet block and the provision of complementary utility services such as water and electricity. The toilets can be built in notified and non-notified slums. If the slums are on private land, the owner's permission is required for the construction of the toilets.

### Institutional Arrangements

Participation of NGOs in key aspects of the project was built into the institutional arrangements worked

out for implementation. The Municipal Corporation of Greater Mumbai (MCGM) carries out the bidding process, which enables NGO participation. The contracts include a range of activities based on certain checklists and minimum specifications.

The steps include initiating program information campaigns and assessments of willingness to participate; creating CBOs or SLBEs; collecting user deposits of at least 50 percent of the expected funds; drawing up a plan for the toilet block; getting a building permit from the MCGM; constructing toilet blocks; signing a Memorandum of Understanding (MoU) between the

MCGM and CBO or SLBE and helping the CBO or SLBE to take over as service providers.

#### Mobilization and Communication

Spreading awareness about the initiative, creating willingness to participate and, importantly, to raise the necessary contributions from the people was part of a comprehensive communications strategy in the project. The contracted NGOs were given the charge of undertaking the communications exercise and to raise the upfront contributions for the construction of the toilets. The NGOs roped in experts, retired state

government officials, and advertising professionals for the communications exercise. Institutes such as The Tata Institute of Social Sciences also assisted the NGOs.

#### Project Costs and Sources of Finance

The total project cost is estimated at Rs. 1,260 million (US\$28 million),<sup>1</sup> which is borne by the MCGM with a World Bank loan covering 60 percent of the costs. The approximate cost of construction per seat is Rs. 70,000 (US\$1,500), including the cost of water supply and electricity connections. The

<sup>1</sup>US\$1 = Rs. 44.54 (as of December 15, 2006). Conversion rates from www.xe.com. All conversions from Rs. to US\$ are approximate.





community bears the operation and maintenance costs. Before a community toilet can be built in a slum, the residents must pay an upfront contribution of Rs. 100 (US\$2.24) per adult (with a maximum of Rs. 500, or US\$11, per family). This money is put into a joint account with the CBO and the Municipality; it is used for major repairs or expansion of the toilets once their use has begun.

Once the toilet complex has been constructed and handed over to the CBO, it is free for the CBO to set a monthly charge per family. This charge is usually between Rs. 10 to Rs. 30 (US\$0.22 to 0.67) per family per month. For people who do not live in the area

and do not have monthly passes, there is a charge of Rs. 1 (US\$0.02) per use. The money brought in by this floating population is a major source of income for the community toilets.

## Progress So Far

By mid-2005, over 328 toilet blocks and more than 5,100 toilet seats had been constructed in slums across Mumbai under the Slum and Sanitation Project. It is being implemented under a larger initiative—the Bombay Sewage Disposal Project. Each toilet seat is estimated to cover 50 users, which means more than 250,000 people in the slums have been provided safe sanitation services.

An important outcome of the project has been the coming together of stakeholders in a partnership that enables each of them to play the role that best suits them. The slum dwellers themselves are involved in the maintenance and upkeep of these toilets through community-based organizations or Small Local Business Enterprises. The community bears the cost of the operation and maintenance of these facilities. Interestingly, the community toilets have become community 'spaces' to also foster other development activities such as schools and libraries.

### Highlights

- The slum dwellers maintain the facilities themselves through CBOs or SLBEs.
- The operation and maintenance costs are borne by the community.
- The bidding qualifications and mechanisms are flexible enough to facilitate NGO participation, either in association with construction firms or alone.
- Lack of availability of land sometimes causes major hindrance to the process.
- Various stakeholders work together in a partnership that enables them to play the role that best suits them.
- The community toilets have come to serve as a 'center' for the community, where additional activities have arisen, such as schools and libraries.
- The family responsible for keeping the place clean lives on the first floor of the facility, thus encouraging them to perform their duties better.

### References

- 'General Statistics', Bombay First, [www.bombayfirst.org/g-statistics.htm](http://www.bombayfirst.org/g-statistics.htm). Mumbai. 2005.
- Chinai, R. 2002. 'Mumbai slum dwellers' sewage project goes nationwide.' Bulletin of the World Health Organization. Mumbai.
- Risbud, N. Urban Slum Reports: The case of Mumbai, India. School of Planning and Architecture. New Delhi.
- Nitti, R., and Sarkar, S. 2003. Reaching the Poor through Sustainable Partnerships: The Slum Sanitation Program in Mumbai, India. The World Bank. Urban Notes No 7. Washington, D.C.
- SPARC (Society for the Promotion of Area Resource Centers).
- The Municipal Corporation of Greater Mumbai.

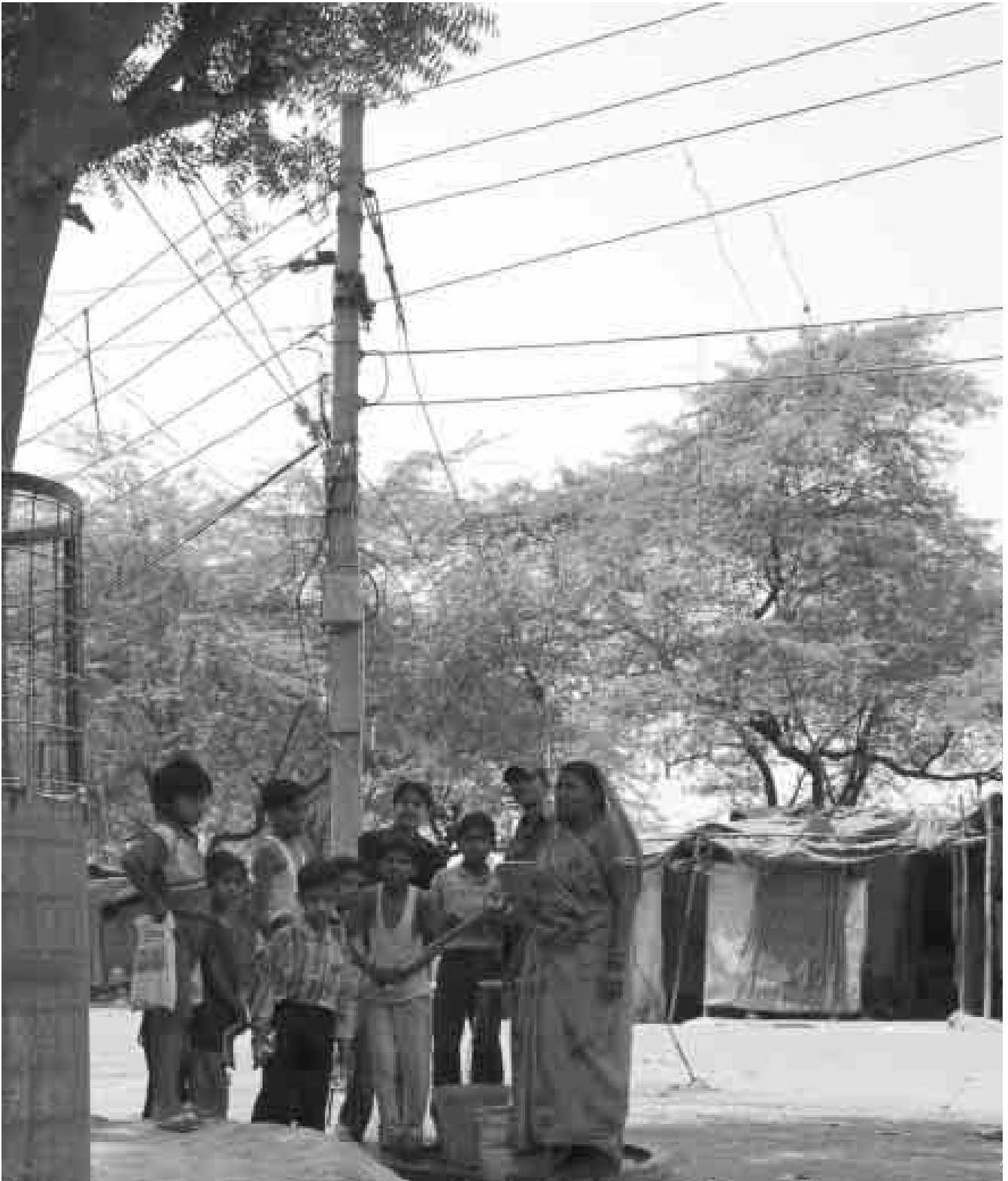
## New Delhi Power Limited

# Partnering for Power

A public-private partnership initiative to rationalize the distribution of power in Delhi has proved to be a success. From a situation where losses were humongous and power thefts were a norm, the privatization of power distribution has helped turn the situation around, especially in the city's slum and informal settlements. Approximately 11,000 slum cluster customers have been connected so far; 70 to 80 percent of these customers pay bills. The New Delhi Power Limited (NDPL), a joint venture between Tata Power and the Delhi Government to distribute power in the northern areas of Delhi, has already reached its five-year goal of reducing its losses from 51 percent to 31 percent in three years.



Customers already connected can, apart from the possibility of sending e-mails and letters, make complaints and receive other services through a 24-hour call center, a commercial call center, and a consumer care center.





## The Challenge

Till 2002, in the pre-New Delhi Power Limited (NDPL) scenario, the power distribution and management in Delhi was in a shambles, having to cope with a burgeoning population of 14 million plus, a sixth part of which lived in slums and informal settlements.

At the time when the NDPL took over the management, losses from electricity distribution had touched nearly 51 percent. This was apparently due to illegal connections in the network. Slum areas were being provided with electricity through a Single Point Delivery (SPD) contractor model. In the pre-NDPL scenario, many customers were not satisfied with the service and claimed they were not billed properly. Therefore, the company developed the franchising model and implemented it in new areas. It is now also trying to transfer areas with SPD contractors to this new model.

## Project Design

The NDPL—a joint venture between Tata Power and the Government of the National Capital Territory (NCT) of Delhi—was formed as a result of the privatization of electricity distribution in Delhi. It was designated to distribute power in the northern areas of Delhi. Tata Power Company Limited acquired 51 percent stake in the NDPL and took control of the management effective July 1, 2002.

The NDPL set for itself a target of reducing its energy losses from 51 percent to 31 percent within five years. This was to be achieved partly by building up the customers' trust and convincing them that good, reliable, and affordable electricity is available if they



connect legally to the network, and partly by other means, such as technical upgrading.

The company adopted a three-step strategy to reach its objective. In the first year, it created confidence among the consumers by ensuring technical improvements in the network. The second year saw work initiated in areas where many illegal connections existed and a need had been identified for connecting to the electricity network. In the third year, the NDPL focused on consumer satisfaction in the areas where the strategy had already been implemented.

### Institutional Arrangements

The NDPL applies two models for connecting slum areas to the electricity network:

**SPD Contractor Model.** The NDPL provides a distribution transformer from which a number of customers are connected. A meter is placed at the distribution transformer but each household is also individually

metered. The responsibility of reading the individual meters, billing the customers and collecting the money is with an SPD contractor, who makes payments to the NDPL as per agreement.

**Franchising Model.** The responsibility for billing is with NDPL. A contractor is responsible for reading the meters and distributing the bills. The customer can make the payment at NDPL's consumer collection center. There the customer can also make complaints and collect information. The three types of contracts within the franchising model are with operation and maintenance; without operation and maintenance; and *jhuggi jhopdi* (or JJ) clusters (illegal squatters on public land) that are not metered.

The NDPL has preferred to have NGOs as contractors in slum areas.

### Mobilization and Communication

The NDPL organizes campaigns in identified areas, informing households of



various possibilities and encouraging them to get legal connections. The company also advertises in newspapers, especially emphasizing the legal issue as

### Highlights

- No proof of ownership for land property is asked for.
- The contractor will also watch out for illegal actors.
- No bidding process is necessary.
- Limited political interference helps in speeding up the actions.

well as describing the simplicity of payments and other practical issues.

Customers already connected can, apart from the possibility of sending e-mails and letters, make complaints and receive other services through the following options:

- A 24-hour call center. As soon as a complaint is received, an SMS is sent to a person in the field at the specific location.
- A commercial call center open from 9 a.m. to 9 p.m.
- A consumer care center.

## Project Costs and Finance

The NDPL estimates a Rs. 5,700 million (US\$127 million)<sup>1</sup> capital investment in the first three years. Nearly Rs. 3,360 million (US\$75 million) has been spent in the last two years towards improving system reliability and reducing losses.

### Connection Fees

#### Normal customers:

- Deposit: Rs. 600 (US\$13).
- Development charge: Rs. 4,000 (US\$90).
- Service charge: Rs. 2,000 (US\$45).

#### Slums (not JJ clusters):

- Deposit (refundable): Rs. 600 (US\$13).
- Connection charge: Rs. 2,000 (US\$45).

#### JJ cluster customers:

- Deposit: Rs. 600 (US\$13).
- Connection charge: Rs. 1,250 (US\$28). Can be paid in installments of Rs. 25 (US\$0.56).
- No metering.

## Progress So Far

Approximately 11,000 JJ cluster customers had been connected till September 2005. Of these, 70 to 80 percent customers pay bills. The NDPL has already reached its five-year goal of reducing its losses from 51 percent to 31 percent.

<sup>1</sup>US\$1 = Rs. 44.54 (as of December 15, 2006). Conversion rates from www.xe.com. All conversions from Rs. to US\$ are approximate.

### References

- Meeting with New Delhi Power Limited. 2005. www.ndplonline.co
- Tata Power Company Limited. www.tatapower.com