Gender and Essential Services in Low-income Communities

REPORT ON THE FINDINGS OF THE ACTION RESEARCH PROJECT
WOMEN'S RIGHTS AND ACCESS TO WATER AND SANITATION IN ASIAN CITIES
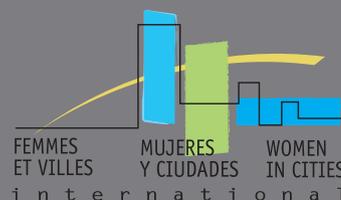
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Project carried out in Delhi, India
from 1 February 2009 to 31 July 2011

September 2011

IDRC Grant Number 105524-001

Participating Institutions and Research Team

Women in Cities International, Montréal, Canada
Kathryn Travers
Marisa Canuto
Prabha Khosla (consultant)
Adil Ali (evaluation consultant)

JAGORI, New Delhi, India
Suneeta Dhar
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List of abbreviations and acronyms used in this report

AAY - Antyodaya Anna Yojana

AFS - Annual financial statements

APL - Above poverty line

BPL - Below Poverty line

BSUP - Basic services for the urban poor

CAG - Comptroller and Auditor General of India

CBGA - Centre for Budget and Governance Accountability

CDP - City Development Plan

CEDAW - Convention on the Elimination of All forms of Discrimination against Women

CPHEEO - Central Public Health and Environmental Engineering Organization

CSS - Centrally Sponsored Scheme

CTC - Community Toilet Complex

CWG - Commonwealth Games

DCB - Delhi Cantonment Board

DCHFS - Delhi Co-operative Housing Finance Society

DDA - Delhi Development Authority

DEMS - Department of Environmental Management Services

DISCOMS - Distribution companies

DJB - Delhi Jal Board

DSIIDC - Delhi State Industrial and Infrastructure Development Corporation Limited

DUSIB - Delhi Urban Shelter Improvement Board

DVB - Delhi Vidyut Board

EWS - Economically weaker sections

FAR - Floor area ratio

FGD - Focus group discussion

FYP - Five-year plan

FY - Financial year

GBS - Gender budget statement

GIA - Grants-in-aid

GNCTD - Government of National Capital Territory of Delhi

GRB - Gender responsive budgeting

GRBI - Gender Responsive Budget Initiative

GRC - Gender Resource Centre

GSDP - Gross State Domestic Product

HUDCO - Housing and Urban Development Corporation

IDRC - International Development and Research Centre of Canada

IHSDP - Integrated Housing Slum Development Programme

JICA - Japan International Cooperation Agency

JJ - Jhuggi Jhopri

JJRC - Jhuggi Jhopri Re-location Colony

JSC - Jan Suvidha Complex

JNNURM - Jawaharlal Nehru National Urban Renewal Mission

LCPD - Litres per capita per day

M&E - Monitoring and evaluation

MCD - Municipal Corporation of Delhi

MDGs - Millennium Development Goals

METRAC - Metropolitan Action Committee on Violence against Women and Children

MLALAD - Member of Legislative Assembly Local Area Development

MLALADS - Member of Legislative Assembly Local Area Development Scheme

MoHUPA - Ministry of Housing and Urban Poverty Alleviation

MoUD - Ministry of Urban Development

MT - Metric tonnes

NBO - National Building Organization

NCR - National Capital Region

NCT - National Capital Territory

NDMC - New Delhi Municipal Corporation

NE - North-East

NGO - Non-governmental organisation

NSDP - National Slum Development Programme

NSS - National Sample Survey

OC - Opportunity cost

O&M - Operation and maintenance

PPP - Public-private partnership

PWD - Public Works Department

RAY - Rajiv Awas Yojana

RC - Resettlement colony

RE - Revised estimate

RLB - Rural Local Bodies

RRAY - Rajiv Rattan Awas Yojana

Rs - Rupees

RSA - Rapid situational assessment

RTI - Right To Information

SANGAT - South Asian Network of Gender Activists and Trainers

SHE - Sanitation and hygiene education

SLB - Service level benchmarking

UC - Utilisation Certificate

UIDSSMT - Urban Infrastructure Development Scheme for Small and Medium Towns

ULB - Urban Local Body

UNCA - United Nations Correspondents Association

UPA - United Progressive Alliance

WATSAN - Water and sanitation

WHO - World Health Organization

WFS - Women's Feature Service

WICI - Women in Cities International

WS - Water source

WSA - Women's safety audit

WSP - Water and Sanitation Program

1. Introduction

This document is the final publication resulting from the Action Research Project on Women's Rights and Access to Water and Sanitation in Asian Cities (2009-2011), developed by Women in Cities International (WICI), Montréal, Canada and Jagori in Delhi, India. The objective of this action research project was to test and adapt the women's safety audit methodology to generate a model for engaging poor women with their local governments, and other partners, in order to begin to address the gender service gap in water and sanitation (WATSAN). The action research considered related issues such as drainage and solid waste, in addition to WATSAN.

Specific objectives of the project include the following:

1) To identify how poverty, tenure, water access and sanitation, and lack of access to other services, impact women's lives, livelihoods and well-being in the target countries and cities using the women's safety audit, as well as other qualitative methodologies (i.e. focus groups);

2) To contribute to the methodological development of the women's safety audit, particularly with respect to its use in WATSAN research through a peer-reviewed paper in a major international journal;

3) To develop a set of gender appropriate WATSAN options for each of the test communities and to promote it through dissemination packages/activities for local governments and other relevant stakeholders; and,

4) To develop and implement individualized intervention projects in at least one of the selected communities in India to test research results.

This action research project took place from February 2009 to July 2011. It was implemented in Delhi, in two recent settlements of evicted slum dwellers: the Bawana Jhuggi Jhopri (JJ) re-location colony and the Bhalswa Jhuggi Jhopri (JJ) re-location colony.

The context to the action research project

The growth and development of modern cities has increasingly become the story of dispossession and the denial of rights and basic services to its poor residents. In 2007 for the first time, the majority of the world's population lives in cities and urban areas, and urban populations are projected to grow by 1.3 billion people between 2000 and 2020 (UN-HABITAT 2006 and 2007). It is estimated that 61% of the world's population will be living in urban centres by 2030 (UN-HABITAT, 2003, 2007; UNFPA, 2007). Approximately one billion urban dwellers do not have access to secure water and sanitation services (UN-HABITAT 2007) and over 1.6 million people die every year due to water-borne illnesses and other problems caused by poor sanitation and water (UN HABITAT, 2003).

It is estimated that over one billion people live in slums worldwide, and this population will double by 2030 (UN-HABITAT, 2007). Slums have traditionally been located in city centres and peri-urban areas. They have grown organically with the city and are homes and communities for the poor working women and men of cities - women and men whose cheap labour has been indispensable to the sustenance and wealth of cities. Slums are largely informal and often 'illegal' settlements. The vast majority of them do not receive any urban services such as water, sanitation, solid waste collection, schools and health clinics. Insecurity of tenure is a major problem facing the urban poor and they are under constant threat of eviction. Despite these pressing issues, city planning has continued to focus on the needs of the economic and political elite, and notions of beautification and 'world class city' status.

Rapid urbanization corresponds with the growth of working-class communities in the peri-urban areas of the city, as well as with the increased numbers of migrants, who also live in insecure conditions. Due to escalating land values (among other issues), slums are being razed and their residents are being forced to find shelter in the periphery of the city. Resettlement or re-location sites located at the periphery of the city lack basic amenities; the experience of resettlement has been one of denial of rights and services (UN-HABITAT, 2007; Menon-Sen and Bhan, 2008; Hasan, 2007). Research has shown that where resettlement has taken place, access to services has not increased and often decreased. Thus, populations facing insecure tenure are left impoverished and economically vulnerable, as they need to travel longer distances to work or to find work.

In 2001, Delhi had a population of 13.78 million. By 2005, 9.3 million people were residing in Delhi's 52 resettlement colonies, more than 1000 slum clusters, about 1,500 unauthorized colonies, and 216 urban villages (Water Aid, 2005). From the 2.55 million households in 2001, about 1.9 million (75.33%) households were provided with piped water. About 560,000 (21.91%) households received water through tube wells/deep bore hand pumps and/or public stand posts. Remaining households were dependent on other sources like wells, rivers, tanks, canals, ponds etc. (Economic Survey of Delhi, 2007-2008). Precise data on the sanitation coverage in the city is not readily available. Furthermore, in Delhi, many toilets are not connected to the sewerage system. This results in groundwater contamination and also makes wastewater treatment plants difficult to run, as they need minimum levels of sludge to operate (WaterAid, 2005, p.29). Most slums do not have any municipal services for sanitation, drainage or solid waste management.

In re-location[1] colonies, there is considerable variation in access to and ownership of water supply connections, in-home toilets or collective toilet blocks, or systems for solid waste collection and drainage. Over the last ten years, the re-location areas for slum dwellers were only provided collective toilets and public stand posts for water. There is no provision of services at the household level.

For working-class urban women and girls, the lack of access to safe, affordable and accessible water and sanitation infrastructure is a multi-dimensional problem. Waiting in long lines at standpipes, water holes, wells, and contaminated streams increases the working day of women, and often means that girls do not get to school as they have to wait in line to collect water. Unsafe water means more of women's time goes to caring for sick children and family members. This situation also drains meagre financial resources for health services and medicines, results in the loss of potential income from the economic use of domestic water, cuts into leisure time or time for adult women to access education, and minimizes time which could be used to generate income in either the formal or informal economy (UN Water, 2006).

Lack of easy access to water increases the risk of assault or sexual harassment of women and girls. In India, violence against women is reported to be rapidly increasing and Delhi has been dubbed the 'rape capital of South Asia' (Wax, 2008). Lack of sanitation facilities also means that poor families in slums and resettlement areas, as well as urban migrant women, have either to pay to use public toilets or look for open areas and vacant lots. This makes women and girls vulnerable to harassment and sexual assault. Where public toilets exist, they are often dirty or unsafe for women. There have been cases where the managers of the toilet facilities have sexually harassed women and girls. As women search for places to defecate away from their homes, they are not only endangering their lives due to risk of assault, but are also increasing their health problems due to lack of access to proper and hygenic facilities. A great deal of anecdotal evidence suggests that inappropriate and insufficient infrastructure and services are contributing to sexual assault and violence against women and girls. However, as few women in low-income communities report rapes or sexual harassment to the police, official statistics do not always reflect these findings.

In the WATSAN sector today, be it in India or anywhere else, it is not technology, or even appropriate technology that is the major stumbling block to provision of affordable and adequate sanitary options. The knowledge, capacity and technology to adequately address the water and sanitary crisis that confronts the planet do exist. However, its proper use and implementation remains an issue. There is a strong argument to be made for the development and implementation of gender-sensitive water and sanitary technology and facilities. The inclusion of women in decision-making processes for infrastructure provision or expansion can easily resolve current limitations and create sustainable and gender-appropriate modifications. UN WATER among others argues that there are close links between access to good water and sanitation, and gender equality and women's empowerment (2006, p.2). The larger question in the sector is thus one of accountability, transparency and equitable governance in WATSAN. Engendering local governance will go a long way towards addressing the sanitation gap for poor urban women and men.

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1. The terms, 'resettled' and 'relocated' are used interchangeably in many documents. However, this document highlights the distinguishing points between these terms. Batra (2007) states that there are a total of 44 resettlement colonies in Delhi, established between 1960 and 1985. Some of these resettlement colonies, such as Kalkaji, have the same standards as any other planned colony. Resettlement colonies tend to be better off than JJ re-location colonies through the term is often used loosely (and incorrectly) to refer to re-located colonies as well. In JJ re-location colonies, Batra states that when the authority that owns the land on which JJ clusters are built requires the use of the land, clearing takes place of the cluster and families are re-located to these colonies as per the re-location policy. These colonies are also known as squatter resettlement sites but they should not be confused with resettlement colonies that were a pre-1985 phenomenon.

As discussed above, up to this point the evidence to suggest that sexual harassement and violence against women and girls are consequences of inadequate provision of essential services is mostly anecdotal. The action research thus aimed to fill a gap by looking specifically at women's safety issues as they related to WATSAN in two re-location colonies in Delhi. The action research used the women's safety audits - a well developed and tested methodology used by women to engage local governments to create safer cities for themselves and for all residents - to explore what changes can be made in terms of local governance to meet the water and sanitation needs of poor urban women and girls. Though this tool has been widely used across the globe, this was the first time that it had been adapted to the WATSAN context.

The women's safety audit tool is a participatory urban appraisal tool that is a process, not a singuar event. The tool was thus selected for being comprehensive and for its emphasis on drawing on women's knowledge of their own experiences to make recommendations to government officials and key local stakeholders for making their communities safer for the women and girls who live there and for everyone. The tool, by its very nature, considers the governance questions that are so important in the context of provision of essential services in low-income communities. Thus this action research project set out to adapt the women's safety audit methodology to generate a model for engaging poor women with their local governments and other partners, to begin to address the gender service gap. The researchers hypothesize that once the adapted tool was tested, it would prove to be a successful model that could be easily used by municipal governments and local utilities in partnership *with* local women and could assist in changing local governance relations in favour of women and girl slum dwellers. The project team acknowledged the potential contribution that this adapted metholodology would bring to both the WATSAN and women's safety fields if it were to be tested successfully.

Poor urban women and women working in the city have a right to safe, affordable and accessible potable water and toilets as well as bathing and clothes washing facilities. Women and girls's human rights also include the right to live with dignity, safety and security and without fear. This action research project, therefore, focused on issues of governance, of the involvement of poor women in decisions affecting water and sanitation in slum areas.

Methodology

Research conducted by Women in Cities International and many others has demonstrated the numerous ways in which women from all backgrounds are underrepresented in decision-making and are vulnerable in cities and urban spaces (Whitzman, 2008; Mtani, 2007; UN-HABITAT, 2001, 2002; JAGORI, 2007; Viswanath & Mehrotra, 2008). Access to decision-making is further limited by poverty and insecure conditions, impacting poor urban women much more than others. Lack of access to a healthy environment, water and sanitation, and other essential services adds to women's vulnerabilities and further excludes them from decision-making structures and processes.

The women's safety audit methodology was first developed in Toronto, Canada in 1989 by the Metropolitan Action Committee on Violence against Women and Children (METRAC) in response to increasing incidents of violence against women in public spaces. It is a participatory tool that has been effectively utilized in a number of countries to identify factors that increase women's vulnerabilities and to generate possible solutions. The women's safety audit process empowers women and aids the development of partnerships between grassroots women's groups and local governments. It can be used to encourage local government to see poor communities *as partners* in finding solutions to urban problems, and it provides communities and organizations themselves with tools and strategies to approach the state.

The methodology asks users of a space to critically assess it and to identify the factors in both the built and social environment which contribute to or hinder their sense of safety. Specifically, during a women's safety audit walk, participants assess different factors that are pertinent to the space such as the condition of the street, the provision of lighting, or the presence of police. Participants also note who is using the space, during what times, and for what purpose. Based on these observations, recommendations are developed to address factors identified as contributing to insecurity. Government officials and other key local stakeholders typically accompany women during this process, thereby validating their experiences and listening to their opinions and ideas about how the space can be improved.

Both WICI and Jagori have a history of working to create safer cities for women and girls and have used the women's safety audit methodology to do so. The versatility of this methodology was highlighted by a recent assessment of the use of safety audits around the world which identified the wide range of different ways in which the tool has been used and adapted by women's organizations, NGO's and in some cases municipalities (WICI, 2008; Whitzman, Shaw, Andrew and Travers, 2008). More recently, WICI has been working to test the potential adaptability of the tool to be used by different women in different contexts to address different issues. The audit tool has been used in many different urban settings in both developed and developing countries to identify gendered safety and access issues relating to public and semi-public space. It has been successfully adapted for use in informal settlements, business districts, suburban and transport settings, for example, and among different socio-economic populations. It also has been used in a variety of spaces, including parks, garages, streets, and universities to assess a varity of factors including lighting, accessibility, and maintenance.

This action research project allowed the methology to be further adapted and applied to critically explore women's access to basic essential services, in this case, water and sanitation services. While the women's safety audit had not been adapted to specifically address WATSAN issues prior to this project, some changes that came out of other audit recommendations did. These include: waste collection, providing public water and toilet facilities, and working on sanitation issues (WICI, 2008; Mtani, 2007).

Jagori, having worked with the women in Bawana for a few years already, had heard their stories of the challenges they faced in accessing WATSAN services in their communities, many related to their personal safety. WICI and Jagori decided to form a partnership to work with local women to look at the gender gaps in the provision of essential services in low-income communities. The organisations decided to build on their existing knowledge and expertise of engaging women to build safer and more inclusive cities to look at WATSAN issues. Part of the action research was thus also to consider the potential of using women's safety as an entry-point for addressing WATSAN issues.

Understanding the need to change governance relations has also highlighted that it is critical to engage poor women in defining their needs, as well as actualizing them. This is a central focus to this research project - experimenting with ways to engage community-based women's groups in making their needs known by engaging with local governments so as to improve the governance structures and achieve concrete improvements. Furthermore, as suggested above, there is increasing recognition that poor women's involvement in decision-making in the WATSAN sector is critical to cost-effective provision, operation and maintenance of the infrastructure (UN WATER, 2006; UNICEF op. cit; McGranahan, G. & D. Satterthwaite, 2006).

This methodology supports the need to change governance relations and to increase political participation by the urban poor. Among the recorded benefits of using the women's safety audit methodology are: empowering women to use their own local knowledge and building their capacity to engage with local services and government bodies, resulting in increased skill sets, confidence and political influence. This participatory process is one of the tool's most important strengths. It validates women's lived experiences and provides them with opportunities for sharing their reality with decision-makers and provide recommendations on how to improve their own safety, thereby giving them with a sense of ownership over the initiatives (WICI, 2010).

The women's safety audit methodology is also a way of encouraging local government to see poor communities *as partners* in finding solutions to urban problems, and it provides the communities and organizations themselves with tools and strategies to approach the state. It is a strategic tool that aims to develop partnerships with local governments on issues pertaining to women. Involving key decision-makers and professionals (including both elected and regular government officials) is a crucial step for the women's safety audit and their involvement is recommended from the beginning of the audit process in order to secure meaningful participation (Booth, 1996). The influence which key decision-makers possess can help in conducting the audit, and in implementing recommended changes (Whitzman, Andrew and Shaw, 2008).

Women on a WSA walk noting the garbage piling up in a drain

This action research project expanded the scope of issues that have been addressed in women's safety audits by using the audit process to purposely focus on addressing women's and girls' safety and WATSAN. Within the context of this work, the women's safety audit process was modified to include all of the following steps:

1) The familiarization of women's NGOs and community women with relevant urban policies;

2) The completion of a rapid situational assessment - a mapping of existing infrastructure, facilities and services in their communities - by the project team, members of women's groups and women community representatives;

3) Interviews with key informants (service providers);

4) Focus group discussions (with women, men, girls and boys in the community);

5) In-depth interviews (to understand levels of marginality and accessibility);

6) Women's safety audit walk/s;

7) The review of outcomes and development of a strategy to address the issues raised.

The modified women's safety audit process was made publicly accessible through the publication *A Handbook on Women's Safety Audits in Low-income Urban Neighbourhoods: A Focus on Essential Services*. It can be downloaded from: http://jagori.org/wp-content/uploads/2006/01/Handbook1.pdf or http://womenincities.org/pdf-general/idrc_hanbook_wsalow-income.pdf.

The implementing agencies

The principle research and implementing partners in this project were Women in Cities International (Montréal, Canada) and Jagori (Delhi, India). Action India (Delhi, India) joined a partner in the project early on when it was decided to carry out the action research in two Jhuggi Jhopri JJ re-location colonies. Working in two different re-location colonies of urban Delhi provided an opportunity to validate or contrast the adaptation of the women's safety audit, as well as to explore options for engaging with local government and service providers. Thus, Jagori worked in the Bawana JJ Re-location Colony, where it has a long-standing history with women in the community, and with Action India in the JJ-re-location colony of Bhalswa.

A brief note on the three organizations is provided below.

Women in Cities International

Women in Cities International (WICI) is a non-profit network organization, based in Montréal, Canada. WICI's work focuses on gender equality and the participation of women and girls in urban development. WICI is dedicated to the identification, study, and dissemination of good practices, tools and intervention models. With its partners, WICI facilitates knowledge and experience-sharing on the improvement of women's and girls' safety and status in cities and communities. Its main objectives are:

➤ To develop an international exchange network on (a) women's participation in urban development and (b) on the consideration of gender in municipal governments;

➤ To facilitate the sharing of expertise, training, and good practices;

➤ To encourage exchange between different actors (women's groups, non-governmental organizations, cities and municipalities, academic institutions, private sector institutions, the media, international governments, etc.);

➤ To promote exchange between local authorities on issues of gender equality and women's and girls' participation in urban development;

➤ To advise local governments, national and international bodies working in the fields of gender equality and urban development.

Women's safety is a priority issue for WICI. This is because the violence and insecurity women and girls face everyday is a major barrier to achieving gender equality. Violence and insecurity reduce women's mobility and restrict their ability to freely exercise full citizenship. This is a direct violation of women's rights, as established by the 1979 Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). WICI believes that women's meaningful participation in urban development is a core requirement to end discrimination against women. Women's experiences of violence and insecurity can only be addressed when the different needs of women and men are considered in all areas of urban management.

WICI works in cities in Canada and internationally to engage local women and girls on issues of urban safety and security. WICI has piloted innovative programmes and projects working to expand the scope of our understanding of the various issues facing women and girls in an urban world, working in such diverse cities as: Dar es Salaam, Tanzania; Delhi, India; Rosario, Argentina; and Petrozavodsk, Russia as part of its *Gender Inclusive Cities Programme*. WICI also works with different groups of women facing multiple forms of discrimination, employing an intersectionality approach and seeking to respond to the safety concerns of women and girls in all their diversity, working notably with Aboriginal women, elderly women, new immigrants, women with disabilities and girls. Finally, WICI is recognized as pioneering many of the safer cities approaches for women and girls. It provides technical assistance to UN Women for its Global Programme *Safe Cities Free of Violence against Women and Girls*, being implemented in Cairo, Egypt; Quito, Ecuador; Delhi, India; Port Moresby, Papua New Guinea; and Kigali, Rwanda.

Jagori

Based in Delhi, India, Jagori is a women's training, documentation, communication and resource centre, established in 1984 with *a vision of helping to build a just society through feminist values*. Born out of the women's movement, it is a pioneering organization that has continually theorized, researched, campaigned and programmed on feminist thinking and values, as well supported women's rights struggles in India with special focus on reaching out to over 300 civil society groups in Northern India, and to over 80 rural and ethnic minority communities through its affiliate-sister agency in Himachal Pradesh. Jagori is also one of the founding members of the South Asian Network of Gender Activists and Trainers (SANGAT), and hosts its Secretariat. Jagori's primary focus is to support women from the most marginalized and oppressed groups - from the dalit, tribal and other minority communities in both rural and urban areas: landless women farmers; women working in the informal sector, especially women in domestic work; migrant women; women survivors/victims of violence and displacement; and those living in select resettlement areas of Delhi. Through its helpline and direct support to women victims of violence, Jagori supports access to shelters, legal aid, and care.

Action India

Founded in 1976, Action India is a voluntary organization based in Delhi, India. It began working on the issue of displacement of urban slum dwellers and their resettlement, demanding ration cards, and the right to food and shelter. The right to health and education have also been a major focus of Action India's community organizing. In the last decade, Action India has focused intensively on the issue of violence against women and girls, both in the family and in society. Action India has developed a framework for women-centred health, framing women's health and reproductive rights as fundamental to the control over women's bodies and informed choice.

The sustainability of Action India's work lies in the dialectical balance in the path of struggle for women's rights and an inclusive development paradigm. While using different modes of protest, Action India has simultaneously created alternatives methods of self-help and self-assertion so that women may gain greater control over their lives. This two-pronged approach has resulted in the capacity-building of the voiceless, has brought women from the domestic to the public arena, and has supported the articulation of their discontent and demand for recognition of their right to live with dignity and well-being.

The main strength of Action India's work has been grassroots women's collectives - the *Sabla Sanghs* (empowered women's groups); and young women's/girls' collectives - *Chotee* and *Nanhi Sabla's* and the *Mahila Panchayats* (grassroots women's courts for dispute resolution). Their collective leadership in addressing local issues reflects the potential in ordinary women to take initiative, participate in decision-making and set the agenda for social change.

The research sites

Bawana JJ re-location colony is situated in the north-west corner of Delhi towards the Haryana border. Thousands of evicted slum dwellers were first settled here in 2004. Residents living in JJ colonies/slums from Yamuna Pushta, Dhapa colony, Banuwal Nagar, Saraswati Vihar, Deepali Chowk, Vikaspuri, Nagla Machi, Jahangirpuri, etc. were evicted to this site, about 35km away from their homes (see map below). The plots in Bawana were assigned only to those who could prove their identity and who possessed proof of residence. People who lived in Delhi before 1990 were given 18m^2 plots, while those who had lived in Delhi since 1990 and before 1998 were allocated a plot of 12.5m^2.

To date, one of the key issues facing people in Bawana is that tenure rights are unclear; residents were given a 'license' for five, seven, or nine years and had to pay $159.09 USD[2] for their plots. Without security of tenure, residents continue to invest their savings into making their land liveable, but continue to face the threat of eviction.
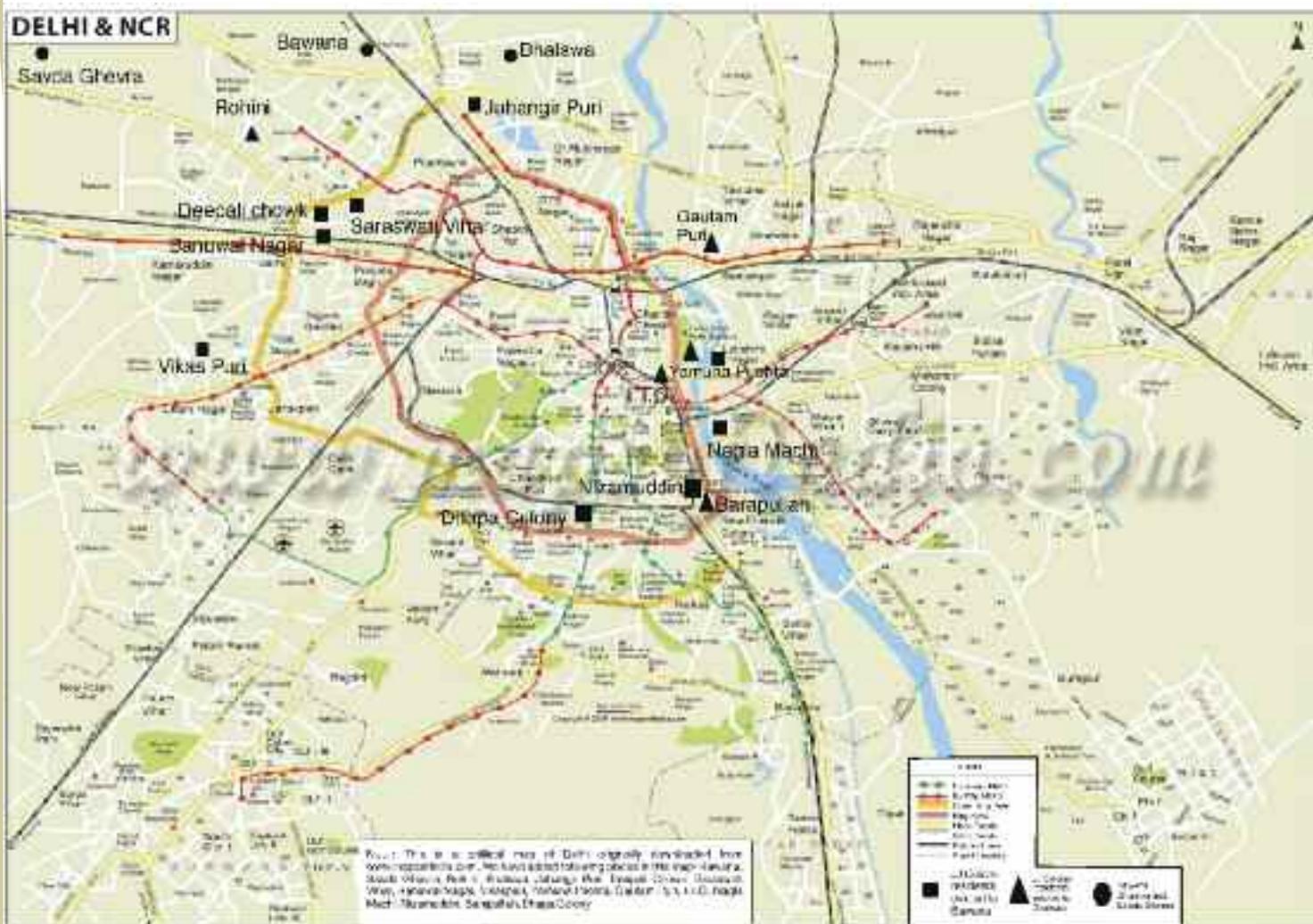
Delhi - Bawana and Bhalswa JJ re-location colonies and
the JJ colonies from where low-income Delhiites were evicted.

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2. Equivalent to Rs 7,000 using the exchange rate 1 USD = 44 Rs.

The second site, Bhalswa, is located in north-east Delhi, next to the Bhalswa landfill. Most people residing here were evicted from the north and east of Delhi from communities such as Yamuna Pushta, Gautampuri, Barapulla, Nizamuddin, I.T.O., and Rohini, about 10 - 20km away. Residents were moved here in 2000 and they too were allotted plots of either 12.5m^2 or 18m^2, based on their years of residence in Delhi. Today, Bhalswa has roughly around 2,600 plots with an approximate population of 22,000 - 25,000.

In the process of evictions associated with these re-location colonies, Delhi witnessed a huge upheaval. Thousands of poor working families were uprooted to remote areas of Bawana and Savda Ghevra where no basic infrastructure or services were provided, in the name of beautification and the development of a 'world class city'. Yamuna Pushta, a community from which many residents of Bhalswa originated, housed around 35,000 working class families who had lived there for more than three decades. Many of them were daily wage workers, domestic workers, hand cart pullers, head loaders and rag pickers (Kalyani & Bhan, 2008). Seen as illegal migrants who illegitimately used limited local resources, 'dirtied the landscape' and engaged in criminal activities, they were dumped on the periphery of the city so that Delhi could become a 'city without slums' (Jain, n.d.).

Two girls carrying water they collected from a tanker in Bhalswa. Image captured by the Women's Feature Service.

2. Delhi

The depth and complexity of the action research framework

As will be elaborated further in this report, this action research project operated within a complex and multi-layered research environment. First, it examined re-location and resettlement from the point of view of women and gender. Secondly, it examined the link between poverty, tenure, access to water and sanitation, and lack of access to other services with their impact on women's lives, livelihoods and well-being. Thirdly, these same factors were examined from the perspective of women's safety and security. Finally, all of these concepts were interlinked and incorporated within a feminist, participatory approach with the objective of adapting and testing the women's safety audit with women in low-income communities and in the context of inadequate and inappropriate infrastructure and services.

Recognizing this complex yet rich framework, it has been necessary to explore some of the key studies, projects and findings that have addressed the key issues within this action research project. A literature review is a conventional and dependable option for such a task.

Literature review

The overall aim of this action research project was to test and adapt the women's safety audit methodology to address the gaps in water and sanitation services in two re-location colonies of urban Delhi. The main partners involved in carrying out the project brought different knowledge and experience in working on these topics. Specifically, both Women in Cities International and Jagori had used the women's safety audit methodology prior to this project, while Action India had prior experience working on WATSAN issues in urban areas, a new area for both WICI and Jagori. As stated above, the women's safety audit process involves identifying the factors that make women feel unsafe and empowers participants to develop partnerships between grassroots women's groups and local governments to bring positive change in their living environments (Andrew, 2000; METRAC, 2010; Mtani, 2002; WICI, 2008).

The team consulted the literature both at the initial stages of the project and through the course of the action research. The literature review helped all three organizations involved to understand the different dimensions of water and sanitation services with a focus on safety, as well as the gender gaps in these services. In particular, the literature was instrumental in shaping the initial research undertaken in the two research sites, which involved mapping available essential services and the gender gaps therein. The articles that highlighted gender perspectives on water and sanitation (e.g. COHORE, 2008; Khosla et al., 2004; Morna, n.d.; UN HABITAT, 2006b; and Water Aid, 2005, etc.) were especially helpful. The initial literature review also provided an opportunity to learn about other interventions undertaken by non-governmental organizations and community-based organizations in the Indian context, including different strategies used to work with local governments on service provision (e.g. Burra et al., 2003; Dutta, 2000; Satterthwaite et al., 2005; Water Aid, 2008; WSP, 2007).

Since this project sought to identify and address the gender service gaps in women's access to water and sanitation with a focus on their safety, it was important to understand and recognize the ways in which poverty, tenure, and access to water and sanitation services impact the lives, livelihoods and well-being of women and girls in the two re-location colonies of Delhi. The primary methodology used, the women's safety audit, empowers women to use their knowledge and build their capacity to engage with local services and government bodies so it was crucial that the team understand the context in which they were working (WICI, 2008). The starting point for the literature review was the references cited in the original project proposal (i.e. Khosla et al., 2004, 2003a, 2003b; Interagency Task Force on Gender and Water, 2004; Menon-Sen and Bhan, 2008). These readings were subsequently supplemented by web searches of publications of organizations such as IRC International Water and Sanitation Centre, UN-HABITAT, Water Aid and Water and Sanitation Program (WSP). Access to the IDRC e-library and Sage journals further provided an opportunity to search for relevant studies. While most of the references were accessed online, some reports and books were also obtained from different organizations and libraries.

The following sections present the main themes emerging from the literature on gender, poverty and safety in the context of urban water and sanitation services. Brief summaries of women-led or participatory community-led initiatives are also provided. It was difficult to find articles or reports which simultaneously address all aspects of the project. Hence, the research was triangulated to develop a comprehensive understanding and identify the gaps (i.e. the literature focused on an issue such as safety, women's safety audits, water and sanitation, community-led WATSAN initiatives, etc., but seldom addressed more than one or all of these issues together to explore their intersections).

The literature draws mostly on examples from Asia (including India), Africa and, to a limited extent, Latin America. The specific initiatives that are discussed as part of this review are all from India. Whenever possible, it was decided that Indian experiences be prioritized and presented here in order to highlight their distinctiveness from other countries, to assist the team in understanding how this kind of action research has been done elsewhere in India and to draw out the most pertinent lessons learned.

Inadequate infrastructure and services in low-income neighbourhoods

The literature review verified that low-income settlements in urban areas are characterized by severe inadequacies in infrastructure and delivery of essential services. Most of the studies observed that the densely populated low-income communities have inadequate water and sanitation services and only a marginal percentage of the population has access to piped water supply or to sewerage. The authors note that this can lead to lack of hygienic living conditions and related problems for residents (Ahmed and Sohail, 2003; Bapat and Agarwal, 2003; Nunan and Satterthwaite, 2001; Satterthwaite et al., 2005). For instance, a water supply study in Karachi, Pakistan by Ahmed and Sohail (2003) notes that residents of low-income settlements have limited access to municipal water supply. Water pipes are often broken off and water is stolen for personal consumption or to be sold commercially. Residents therefore use other informal or alternative means of accessing water, such as by drawing it from hydrants or bore wells. However, the quality of this water is often unfit for drinking. In some cases, communities and residents pay for water provided by tankers. This is the case in Cebu City, Philippines and Kumasi, Ghana where it is reported that residents often buy water from vendors (Nunan and Satterthwaite, 2001). Water and sanitation services in certain areas of Buenos Aires are provided by the private sector as part of a partnership between community organizations, the municipal government and the private sector. However, in this case, the private sector has not provided any water and sanitation services to low-income settlements. It is also exempted from providing services to areas without legal tenure (Satterthwaite et al., 2005). Such arrangements once again put the onus on poor residents to find a way to source water and sanitation services for themselves.

Nunan and Satterthwaite (2001) highlight the poor access to toilet and sanitation facilities in cities such as: Cebu, Philippines; Colombo, Sri Lanka; Johannesburg, South Africa; Kumasi, Ghana; Mombasa, Kenya; Santiago, Chile and in the three Indian cities of Ahmedabad, Bangalore and Visakhapatnam. They also highlight the absence of drainage and solid waste management in the aforementioned cities. It should be noted that sanitation is limited not only to toilets but extends to the entire cycle of waste management and includes solid waste management, drainage, storage of faecal matter in toilets, its transportation for treatment, and final disposal or re-use after treatment (Verhagen et al., 2010). The literature on sanitation focuses primarily on the fact that residents in most low-income settlements predominantly depend on community toilets. This is due to the fact that they seldom have the space in their homes (nor can they afford) to construct individual home-based toilets. A study in Indonesia highlights that only a minute percentage of the population in poor communities has access to sewerage and home-based toilets, while the majority of the population have wastewater flowing out into open drains or other water sources such as canals or rivers (Colin et al., 2008). This situation further exacerbates lack of access to clean water and has negative health consequences on residents. Furthermore, James (2008) notes that even if houses do have their own toilets, poor sewerage leads to waste water flowing out onto the streets and often close to drinking water sources.

Agencies in India fail to provide adequate services to low-income settlements. A Water Aid (2005) study on access to water and sanitation in Delhi notes that low-income settlements depend on community level water sources including community stand posts, hand pumps, and portable tankers. However, in one of the resettlement colonies covered in the WaterAid study, 50% of the households surveyed had household water connections. This is in sharp contrast to the sites included in the action research project, neither of which have any household water supply. Furthermore, all water obtained locally in the two project sites is untreated. Bapat and Agarwal (2003) report a similar situation for slum residents of Pune and Mumbai. In these contexts, residents have to walk a considerable distance to collect water, thus losing precious time and money. Similar conditions were additionally reported by Connors (2005) in Bangalore and by Nunan and Sattherwaite (2001) for Ahmedabad and Visakhapatnam.

Girl in front of a CTC with a drain filled with garbage, taken in one of the re-location communities

Community toilet complexes (CTCs) are the most viable option for neighbourhoods in which there is limited available space and insecurity of tenure. Unfortunately CTCs are often inadequate given the density of population as each toilet is used by a large number of people. Lack of sewage connections also means that CTCs get blocked. This situation has a detrimental effect on the health of residents, especially women and children (Burra et al. 2003). Also, many CTCs are unusable due to poor maintenance. In the slums of Mumbai, for example, Burra et al. (2003) note that public toilet blocks became unusable within three months of their construction, leaving people with no other option than open defecation. McFarlane (2008) also notes that toilets are not connected to sewers and lack water or electricity connections, which renders them unusable, especially at night. Again, this situation forces the residents to defecate in the open when CTCs are closed or if there is a power failure (Bapat and Agarwal, 2003; Burra et al., 2003).

The literature also indicated that there are problems with drainage in numerous cities. In particular, it was noted several times that drains are often choked with garbage, back up, and add to the wastewater on streets. It should be noted that most of the sewage and wastewater flows in drains as low-income communities rarely have sewage systems (Bapat and Agarwal, 2003; Burra et al., 2003; James, 2008; Water Aid, 2005). Drains are seldom cleaned by service providers. It is also noted in the literature that there are no regular systems of garbage collection or disposal, which often results in garbage being strewn all around the localities.

Security of tenure is a critical dimension to consider when assessing the provision of services. Satterthwaite et al. (2005) note that formal agencies do not provide services in illegal settlements. At the same time, households in these settlements do not like to invest in infrastructure upgrading (due to the insecure nature of such investments). Furthermore, even if agencies do wish to provide services, there are no maps of such areas to assist them in laying the pipes. Ahsan et al., (2008) observe that in the Bangladeshi cities of Dhaka, Chittagong, Khulna and Narayanganj, insecurity of tenure and eviction prevents both financial and social investments. This has been observed in low-income communities in Kenya as well (Amnesty International, 2010; K'akumu, 2004). Toubkiss[3] (2008) notes that in countries such as Mali, Burkina Faso, Senegal and Niger of sub-Sahara Africa, the illegal slums are not provided any services by the municipalities and neither the government nor the residents have any documents to prove their property rights to demand that these services be provided.

Consistent with Water Aid's observation above, Dutta et al., (2005) note that the Delhi Jal Board (DJB), the agency responsible for supplying water and sewerage lines in the city, generally does not supply water to settlements that lack legal land tenure, "mainly because it is seen as the political acceptance of the settlement as a bona fide place of residence" (p.442). It is significant, however, to note that in other Indian cities including Mumbai, agencies are willing to try to respond to sanitation demands (which are considered to be less threatening than dealing outright with the issue of secure land tenure). Also, some Indian communities have taken on responsibility for the provision of water and sanitation services themselves. For example, in Mumbai some communities have CTCs that are both constructed and managed by the community (Burra et al., 2003). In Ahmadabad, a partnership between the municipality, a private industrial house, the community and an NGO has led to a ten-year guarantee of security of tenure and significant changes in local water and sanitation infrastructure. These include the introduction of household water connections, storm water drainage, solid waste management, and an increase in home-based toilets to households (Dutta, 2000).

It is against this backdrop of infrastructure and services that the following section explores the literature on the link between poverty, gender, and water and sanitation.

The relationship between poverty, water and sanitation and gender

Gendered use of time is a critical dimension in accessing water and sanitation services. Consistent with the findings of this action research project, several studies note that women are primarily responsible for managing household water in low-income communities. This means that women spend considerable time and energy collecting water (Morna, n.d.; Khosla et al., 2004; UN-HABITAT, 2006a). Khosla et al. (2004) state that women often have to spend between one and six hours every day fetching water, meaning that they have less or no time for rest, education, or domestic and productive work. The amount of time spent on water collection depends on the water source. For example, it takes less time to collect water from community taps than from tankers or other sources outside the community. Women are responsible for transporting the water home, storing it for different household uses, negotiating access to water supply with their neighbours, evaluating water sources, and considering supply timings and patterns in order to make an informed choice about which water collection point(s) to use (Morna, n.d.; UN-HABITAT, 2006a). Poor women-headed households find it particularly difficult to pay for water,

3. Though this paper mainly focuses on the challenges of financing sanitation in these countries, it also notes the general conditions of the slums.

especially in countries where water had been privatized, as was the case for some towns and cities in the Philippines and Bolivia (Khosla et al., 2004). Moreover, water collection can be more difficult for single women who may wish for male assistance at night or with heavy loads, as noted by Ahmed and Sohail (2003) in the Orangi township of Karachi, Pakistan. These authors also note that veil-observing women find it physically difficult to carry water containers at night.

Inadequate services have other serious consequences on the lives of women and girls. Lack of access to hygienic water and sanitation can lead to infections and illnesses. Studies have noted negative health consequences for women who are forced to access open spaces for urinating or defecating due to lack of privacy in CTCs (Burra et al., 2003; Water Aid, 2005). In these situations, women can only go to the bathroom late in the evenings or early mornings. This leads women to reduce their intake of food and liquids to avoid having to go to the toilet. Different studies in India explain that these practices have detrimental effects on women's health. Moraes et al. (2003) observe similar consequences on women's health in Salvador, Brazil, where women suffered from kidney stones due to the lack of fluid and food intake during the day. General unhygienic conditions of water and sanitation services can lead to infections among other family members as well, which have a direct impact on the lives of women who continue to be responsible for caring for the ill. The additional costs of these health consequences, both in unproductive time and in the money required for the treatment of the sick, forces residents into greater poverty (Amnesty International, 2010; Khosla et al., 2004).

Inappropriate location and lack of gender-sensitive design in CTCs further deter women from using toilets. Verhagen and Ryan (2008) note that male engineers who design communal toilets overlook the design parameters that ensure privacy, safety, mobility of those with disabilities and that satisfy menstrual hygiene requirements of women and girls. In the slums of Kiberia, Nairobi women hesitate to walk to distant toilets (Amnesty International 2010). Holden (2008) reports that pour flush toilets used in South Africa provided an inappropriate solution as women had to carry water from a distance to the toilets in order for them to work. Lack of gender consideration in CTC design can also have a negative impact on girls. In particular, the literature notes that girls drop out of school due to lack of access to proper toilets with privacy - there is a high dropout rate for menstruating girls. Also problematic, girls' water collection duties keep them from attending school on time or at all (Moraes et al., 2003; Khosla et al., 2004; UNDP, 2006).

Studies in India support the findings from other countries described above, noting similar WATSAN conditions in low-income communities in the country. Indian women are also responsible for water collection and spend considerable time and energy fulfilling this responsibility (Bapat and Agarwal, 2003; Menon-Sen and Bhan, 2008; UN-HABITAT, 2010; Water Aid, 2005[4]). Movement to a planned settlement does not necessarily ease the burden on women. In fact, Menon-Sen and Bhan (2008) demonstrate how movement from an informal settlement to a planned re-location site in Delhi with inadequate services actually increases the burden on women and girls as they are forced to spend more time doing their daily household chores in the planned re-location area than in their previous informal settlement.

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4. Though the Water Aid study in Delhi recognizes that collecting water is primarily the responsibility of women and girls, the focus on the time spent in collecting water is at the level of the household and not the time spent by women and girls alone (Water Aid, 2005, pp. 76).

Inadequate toilet facilities in Indian cities also impact the lives of women and girls as they have to spend money and time in queues to use toilets that are not well maintained and have little or no provision for menstrual waste disposal. If the facilities are unusable or closed (as they usually are at night), then they have no option but to use open areas for defecation, or in some cases, use plastic bags that are they later dispose of with the garbage (Eales, 2008; James, 2008). Consistent with the findings from other cities, UN-HABITAT (2006a) notes that young girls have to skip school to collect water, while Burra et al., (2003) observed that there are negative health impacts for women who have to wait until late evening to defecate in the open. One study also points to the anxiety experienced by women who have to queue up for the toilets or who do not have a toilet to use (Bapat and Agarwal, 2003).

The gaps in gender and water and sanitation services are more pronounced when addressing the safety of women and girls, as discussed in the following section. The literature provided the project team with some insights into the issue that the team built on throughout the course of the action research project.

The impact of inadequate services on the safety of women and girls

There are a growing numbers of reports on gender-based violence faced by women and girls when accessing essential services. Particular attention is given to their safety experiences when accessing the scarce toilets and open areas for defecation (e.g. COHORE, 2008; Khosla et al., 2004; Sijbesma et al., 2008; Amnesty International, 2010). The relatively detailed study conducted by Amnesty International in the Kiberia slum of Nairobi, Kenya (2010) explores different dimensions of safety, including lack of safety resulting from poor access to essential services. Women have to walk long distances to access toilets and they have reported instances of sexual assault, including rape, when attempting to use toilets. The cost per use and the restricted times that the toilet complexes are open or closed force women to seek other options, including using open areas. The issue is worse for single women and women heads of households who often have no one to accompany them to the toilets or open areas at night. Women's inability to access the toilets at night has forced them to defecate on paper and later dispose the faecal matter in plastic bags sometimes referred to as "flying toilets" (p. 18). Finally, women commented on the safety challenges they faced as a result of inadequate street lighting and lack of effective police presence.

There are brief references to women's safety in the Indian context as well. The broken doors, absence of latches on doors, broken roofs or the skylights on the roofs of toilets create stress for women using toilet complexes. Along with the poor facilities, women expressed their fear of sexual assault and of encountering men under the influence of alcohol both in toilet complexes and on the way to the open fields (Schenk-Sandbergen, 2001; Benjamin, 2000; UN-HABITAT, 2006b; Water Aid, 2005). Eales (2008) points out that in India, the community toilets do not respond to the safety needs of women and children at night as they are not well lit. But she adds that even if the toilets are safe, women still need to walk through the unsafe streets to access the toilets. This forces them to look for other options such as open defecation or the use of plastic bags described above. These studies also points to a few causes of conflicts related to inadequate and inappropriate infrastructure and services, notably specifically that inadequate provision of water causes fights to break out between women and/or households while collecting water or due to waste disposal in drains.

Experts have emphasized that since women continue to be primarily responsible for the family's water and sanitation needs it is critical to engage with them before taking decisions on the design, type of service, affordability and willingness to pay for the services (Khosla et al., 2004). The following section highlights a few initiatives and interventions that put women's participation or leadership at the centre of efforts to improve water and sanitation services. In these cases, NGOs took the initiative of engaging with and empowering women to lead initiatives themselves, thus successfully incorporating women's needs and preferences in some interventions.

Some inspiring examples of participatory initiatives

In the Indian context, the few initiatives that drew on community participation - especially women's participation - to improve water and sanitation infrastructure have led to innovative changes that have benefitted poor urban women and children and their communities. The case studies presented here have been selected to highlight the different ways in which community women have been actively involved in improving services in their communities. The key aspects of each of these interventions were shared with the project team to consider as they planned the capacity building process for the women from one of the communities involved in the project.

In Bangalore in the early 1990s, an initiative was undertaken as part of an action research project in slums to train women (and men) as hand pump mechanics and caretakers. This initiative built off of earlier efforts by local groups and NGOs to organize the women in some of these slums to put pressure on their local leaders to improve sanitation conditions in their community. A collaboration between the Dutch Habitat Committee, local NGOs and community women (and men), along with the support of the local government, led to the development of the training programme to repair hand pumps. The objectives of the programme were to empower and organize the community, reduce the burden of long distance water collection on women and demonstrate the importance of community participation in maintenance of basic services to the local authorities. Women made up half of the group that received the training. Some local NGOs paid modest wages to those who were trained to compensate them for their time (Schenk- Sandbergen, 2001). Though the article notes that the training programme was later incorporated as part of the work of the local government, it is not clear whether the intervention was sustainable over time.

In the Indian cities of Pune and Mumbai, organizations of slum and pavement dwellers built and managed toilets. In both instances, their efforts responded to an important need since there were not enough toilets and those that did exist were inadequate. These efforts were scaled up in both cities. In Mumbai, three organizations: SPARC, the National Slum Dwellers Federation and Mahila Milan partnered to undertake a large-scale project where community members - including women - bid for the construction contracts in Mumbai. The toilets were then designed and built in consultation with the women. Some of the results of the inclusion of women in the discussions were that toilets were built in the centre and not the periphery of the community, were well lit and ventilated, had separate entrances for men and women, a separate child-friendly section, a constant supply of water and a room for the caretaker. They were managed by the communities themselves and all costs were borne through user charges (Burra et al., 2003). In Pune, the success of a few community-built and managed CTCs prompted the local authorities to invite community and non-governmental organizations to bid for the building and maintenance of other such complexes. Shelter Associates assisted the women in planning the management of these complexes (Hobson, 2000). Satterthwaite et al., (2005) point out that Kenya, Uganda, Namibia, Zimbabwe, South Africa and Sri Lanka have all tried similar models.

In Tiruchirapalli, Tamil Nadu in 2000, WaterAid began working with women in low-income communities to improve sanitation services, in collaboration with NGOs, the local municipality and the local community. Residents became active in renovating and managing toilets and a large number of community toilets were handed over to the communities to run. In some cases, local NGOs even supported communities to build new complexes. Two of the community organizations involved in this process, Gramalaya and WAVE, facilitated the establishment of sanitation and hygiene education teams (SHE) and self-help groups who were given the responsibility of selecting their own leaders and managing the bank accounts. All such groups take turns to manage the toilets and each member has the responsibility of being the caretaker for the day. Along with a male and a female cleaner, the women caretakers are paid wages commiserate with the size of the community and toilet complex. These groups decide the user fees and it is significant to note that it is free for urination and use by the elderly, children and single women. All users who pay are given a token. These toilets have special provisions for children and persons with disabilities, and for hygienic disposal of menstrual waste. Any extra funds they receive are used to promote health and sanitation. A large number of these areas have now been declared 'open-defecation free'. A subsequent review of the maintenance of the toilet complexes in 2006 revealed that the complexes managed by women community members were better managed than the ones run by the municipality (Water Aid, 2008). This intervention was included in the list of best practices by the United Nations in 2006 (UN, 2006). A similar model has since been replicated in Dhaka with menstrual hygiene management (Ahsan et al., 2008).

The initiatives presented above have addressed the gender gaps in sanitation infrastructure and services in low-income communities. Women were involved in the decision-making processes regarding the infrastructure to ensure that the typical shortcomings, such as those discussed above in the section on infrastructure and services, were addressed. The design focused on responding to women's needs and requirements for water and menstrual waste disposal, and on responding to the needs of children, the elderly and persons with disabilities. The responsibility for management was subsequently placed in the hands of the community women who were paid for their services from the money collected through user charges. The most relevant lessons from these initiatives, especially the role of women in managing the toilet complexes, were shared with the community women at the project sites.[5]

How the literature review informed the project

The literature review informed the project at different stages on the gendered aspects of water and sanitation. To begin with, it provided an understanding of the impact of poverty, tenure, and inadequate access to essential services on the lives of women and girls. This was instrumental in shaping the initial resource mapping undertaken in the two field sites where the team mapped the existing services and identified the gender gaps therein. The detailed discussions on gender perspectives on water and sanitation (Khosla et al., 2004; Morna, n.d.) provided the team not only with an understanding of the issues but also a checklist of gender sensitive considerations to keep in mind when planning the strategies to engage with the community women and youth at the two sites. Further, consulting the existing literature shaped the team's analysis of the interventions undertaken by other groups in different Indian cities and informed the team of different ways of working with local government on service provision.

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5. Women-led initiatives have been supported by organizations such as CURE and FORCE in Delhi. Meetings with these groups provided insight into their strategies and were shared within the Project team and community women. Interventions have also been implemented by agencies such as WaterAid and UN-HABITAT (UN-HABITAT 2006a and 2006b).

The findings from the literature review are largely consistent with those from the action-research as it pertains to the WATSAN gender gaps. As mentioned earlier, the literature provided the starting points for exploring different related issues but the project went much further by examining the intersections of the different issues - not only exploring the gender gaps at length but also the ways in which in which they affect the well-being of women residing in low-income settlements. This was done for example, by focusing on the various dimensions of sanitation - drains, solid waste management and final disposal of all waste, including faecal matter, and exploring the impact of the sanitation cycle on the well-being of women and women's safety.

One of the primary areas of focus of the project was women's safety. An initial reading of the literature enabled the team to identify the main safety concerns raised by the studies (discussed above in the section on safety). The project delved further into the safety issues by conducting focus group discussions and interviews with marginalised women and girls (especially those with disabilities and single women), which added to the scope of the perspectives covered by the action-research. Furthermore, application of the adapted women's safety audit tool highlighted dimensions of safety that had not emerged through the other forms of engagement including the focus group discussions and interviews (i.e. the issue of electricity, also highlighted by Eales [2008]).

The deeper understanding of the intersection of gender, poverty, water and sanitation was instrumental in shaping the advocacy during the process of civil society consultations for the 12th Five-year Plan of the Government of India. The suggestions put forth by the team could be substantiated by the examples from the literature, thus increasing their credibility. At a more immediate level, the success of initiatives undertaken by other NGOs encouraged the team to focus on building the capacity of the community women and youth to engage with local service providers and the municipality to improve the WATSAN services. The empowered women and youth have indeed now taken steps towards engaging with the service providers, the municipality and political leaders to improve the water and sanitation services in their communities, with a focus on simultaneously improving their safety.

Delhi's urban services governance framework and institutions

Delhi, like a number of mega cities around the world, is a complex city. This complexity is reflected not only in its geography and demographics but also the political evolution over the years. Being the national capital of India, Delhi was directly administered by the Central Government for most of its time as independent India. Delhi was divided into three municipal zones with the control over the Municipalities being exercised by the Central Government. By an amendment to the Indian Constitution (69th Constitutional Amendment), Delhi was granted Statehood with its own legislative assembly in 1989. However, the powers of the state government (called the Government of National Capital Territory of Delhi [GNCTD]) were limited with the Central Government retaining control over the Police, Law, Order and Land. In the initial years after the establishment of the State of Delhi, the Central Government continued to exercise its control over the Municipalities. With the enactment of the 74th Constitutional Amendment in 1992 for setting up elected Urban Local Bodies, the Municipal Corporation of Delhi (MCD) Act was amended and the GNCTD financed part of the MCD's budget. However, the Central Government continued to yield effective control over the MCD and the New Delhi Municipal Council (NDMC). The impact of this has been an administrative quagmire with multiple authorities undertaking similar functions in the city.

The city of Delhi itself has been expanding at a rapid pace. Delhi has and continues to attract many people looking for opportunities in a growing urban centre and has witnessed high in-migration over the years. The city has not been able to effectively cope with this influx in addition to its own natural growth, leading to a large population residing in poor living conditions. The majority of Delhi's population lives in unplanned settlements with inadequate availability of basic services, especially those pertaining to water and sanitation. Increasingly, there has been an effort on the part of the city administration to stop unplanned settlements from coming up as well as relocating existing slum clusters away from the city centre. Evictions and preparations for the Commonwealth Games (CWG) hosted by Delhi in October 2010 accelerated this process of re-location to the periphery of the city as part of the government's efforts to project Delhi as a 'world class city' and one that is slum-free (BBC, 2006). Various reasons were given for relocating people in the recent years from the JJ clusters including cleaning the Yamuna River and infrastructure development for the CWG. While the land occupied by the people living in these areas did not, in fact, belong to them, eviction was guided by the policies of the government where evictees were provided with a certain plot of land on which to construct a dwelling. Evictees were relocated to a number of sites away from the main city with poor or no infrastructure and no sources of livelihood. This has been documented by a number of studies and newspaper reports (Menon-Sen and Bhan, 2008). The State was also responsible for providing basic services like water and sanitation in the re-location colonies, but these services were not ready at the time of relocation.

While clearing the city of encroaching settlements, significant expenditures were incurred to build up infrastructure in the urban centre. These resources were garnered through funds from the Government of India, from the Ministry of Urban Affairs and through flagship programmes such as Jawaharlal Nehru National Urban Renewal Mission (JNNURM) (even though the city had not fully met the requirements for JNNURM funding). Reallocation of the state government budgets to prioritize projects geared towards the 2010 Commonwealth Games (CWG) resulted in further investment. Other parts of the city, especially those away from the city centre and Commonwealth Games sites, suffered through reduced outlays and a political stink being raised about the alleged diversion of funds from social welfare to the CWG infrastructure. The government's drive to make Delhi a 'slum-free city' grew even stronger after the CWG (HRLN & NCDHR, 2010). In May 2011, a Consultative Committee was formed following a high-level meeting for co-ordination towards "creating an inclusive and slum free city within a time bound period" (MoHUPA, 2011).

About Delhi

Delhi is both the capital of India and a state with an elected government. It enjoys a special status whereby the Union (Central) Government is responsible for administering a number of functions usually controlled by the state government.[6] This multiplicity of functions and responsibilities has created a policy impasse and implementation logjam that serves various service providers a perfect excuse to not carry out their responsibilities fully. In the National Capital Territory of Delhi, policy making and its execution is undertaken by the Union Government through the Lieutenant Governor, the National Capital Territory Government and the three Municipal Authorities. See the diagram below adapted from the City Development Plan.[7]

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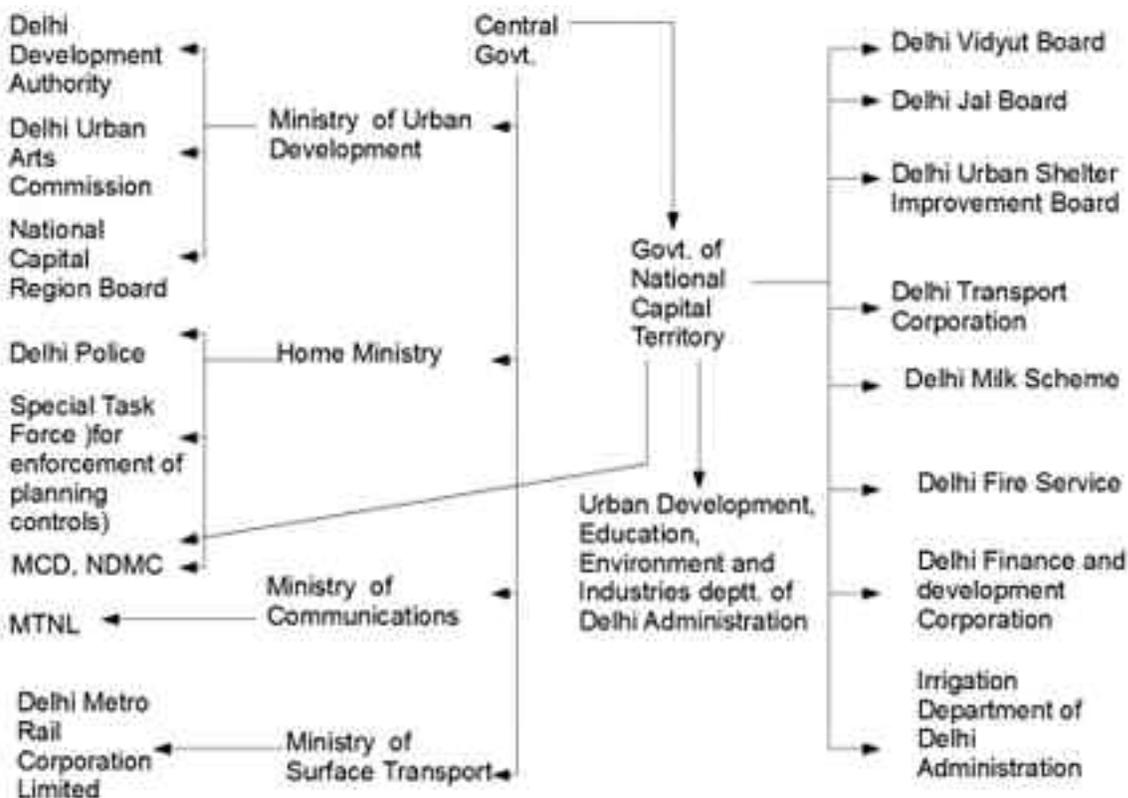
6. The 69th Constitutional Amendment determined the present status of Delhi, excluding public order, police and control over land from the powers of the State Government as enjoyed by other states in India. The Union Government thus continues to control land in Delhi through the Delhi Development Authority (DDA). http://delhi.gov.in/wps/wcm/connect/Lib_DelhiAssembly/delhiassembly/home/delhi+legislative+assembly/present+form+of+delhi+leg.+assembly/constitution+%2869th+amendment%29+act,+1991

7. Adapted by adding Delhi Urban Shelter Improvement Board to Figure 13.1, Institutional Linkages in Delhi, IK&FS Ecosmart Limited, 2006

Municipalities of Delhi

The National Capital Territory (NCT), Delhi area is divided among three municipal areas:

1. **New Delhi Municipal Corporation (NDMC) is spread over an area of 42.74 km^2 in the centre of the city. It is controlled by the Union Government with the Chairperson being appointed by the Union Government in consultation with the Chief Minister of the Delhi State Government. An additional eleven members are appointed by the Central Government, two of them in consultation with the State Government.**

2. **Delhi Cantonment Board (DCB) is spread over an area of 42.77 km^2 covers the Military Cantonment Zone in Delhi.**

3. **Municipal Corporation of Delhi (MCD) is spread over an area of 1,483 km^2, representing 94% of the total area of the city:**

Demographic Features of Delhi.	Area (km^2)	Population according to the 2001 Census
National Capital Territory of Delhi	1,483.00	13,850,000
New Delhi Municipal Corporation	42.74	302,000
Delhi Cantonment	42.77	125,000
Municipal Corporation of Delhi	1,397.29	13,423,000

Source: Table 1.1 in GNCTD, 2006

The MCD is among the largest municipalities in the country. It covers a large operational area and has been criticized for being inefficient. There are now proposals to split the area under the jurisdiction of the MCD into smaller municipal bodies. The major functions of the MCD are: city cleanliness, solid waste management, maintenance of gardens/dividers/circles, street light, bio-medical waste, slaughter house, encroachment removal, stray cattle management, community toilets, community halls, parking lots, development works, advertisement, property tax, and licensing. Over time, the MCD had also set up primary schools and health dispensaries. The latter were subsequently handed over to the Delhi Government in October 2009, along with building regulations and implementation of government schemes for social welfare and for improvement of roads, flyovers, underpasses and parks.

National policies and programmes

National Policy on Urban Housing and Habitat 2007 was passed to address the looming urban housing and sub-standard housing crisis across the country (MoHUPA, 2007). The Policy lays out the framework for "sustainable development of habitat with a view of ensuring equitable supply of land, shelter and services at affordable prices to all sections of society" (MoHUPA, 2007). The Policy recognizes that the public sector alone is not in a position to cover the housing shortage. It underlines the need for multi-stakeholder cooperation, naming the private sector, co-operative and industrial sectors as ones that could collaborate on issues of housing for labour (typically, migrants from other states end up in illegal settlements and slums), and the service/institutional sector for the employee. In general, the policy calls for public-private partnerships (PPP) to

provide "affordable housing for all", conceding that it is not possible for the government to cover the housing shortfall. It aims to enable urban planning, promote affordable housing, increase flow of funds, take spatial initiatives such as relaxing Floor Area Ratio (FAR) norms, increasing supply of land and promoting public-private partnerships.

The National Housing and Habitat Policy 2007 states that a collective approach (the term used is a 'garland') for providing services including "security of tenure, water, sanitation, health, education and social security in low income settlements" is needed to address the needs of the urban poor.

The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) (CDP, 2006) is a mission supported by the Union Government that focuses on:

> *"i) Improving and augmenting the economic and social infrastructure of cities; (ii) ensuring basic services to the urban poor including security of tenure at affordable prices; (iii) initiating wide-ranging urban sector reforms whose primary aim is to eliminate legal, institutional and financial constraints that have impeded investment in urban infrastructure and services; and (iv) strengthening municipal governments and their functioning in accordance with the provisions of the 74th Constitution Amendment Act, 1992."*

It has two stated sub-missions:

a. Urban Infrastructure and Governance: "infrastructure projects relating to water supply and sanitation, sewerage, solid waste management, road network, urban transport and redevelopment of old city areas with a view to upgrading infrastructure therein, shifting industrial and commercial establishments to conforming areas, etc." (JNNURM, 2005)

b. Basic Services to the Urban Poor (BSUP) for "integrated development of slums through projects for providing shelter, basic services and other related civic amenities with a view to providing utilities to the urban poor" (JNNURM, 2005).

Delhi has a complicated history when it comes to the allocation of JNNURM funding. Initially, JNNURM funds were not released for Delhi because it did not comply with the basic requirements of the fund itself. After tremendous pressure from the Delhi State Government and the deficit incurred for the Commonwealth Games, the Central Ministry for Urban Development released funds from JNNURM for the city of Delhi. This included funds specifically allocated for urban infrastructure and basic services to the urban poor. Most of the funds allocated for the basic services to the urban poor were used for the construction of the *Rajiv Rattan Awas*, a multi-storied housing complex for economically weaker sections (EWS) of the population. The current stated priority is to house the evictees from cleared JJ clusters across the city.

Service agencies

The Delhi Development Authority (DDA) is an autonomous body under the Union Ministry of Urban Affairs and is solely responsible for all urban planning and land maintenance. Urban development is directed through Master Plans developed by the DDA. Three Master Plans (1962, 1982 and 2001) have thus far guided this process. The 2001 Master Plan provides information on the Zonal Plans, and includes Perspective Plans developed for water, sanitation and solid waste management.

The Delhi Jal Board, set up by the Government of National Capital Territory, handles the water supply in Delhi. Specifically responsibilities include procuring, transporting, treating and distributing water in the MCD zone and for supplying bulk water to the other two municipal zones - the New Delhi Municipal Corporation and the Delhi Cantonment Area. Water is sourced from rivers and streams as well as groundwater. The DJB also performs sewerage and sanitation functions and is responsible for the collection, treatment and disposal of sewerage across the three municipalities. While initially these responsibilities did not extend to unauthorized colonies and urban villages, the DJB has been assigned this work over the last few years. The management of community toilet complexes is handled through the MCD Department of Environmental Management Services. Most of these facilities were outsourced through a tendering process in 2008 for a period of seven years. More recently, the MCD released a call for tenders for high-end toilet complexes in market areas for an operating period of 35 years.

The municipalities are responsible for solid waste management. The Conservancy and Sanitation Engineering Department under the MCD handles solid waste. The level of waste segregation in minimal and there are currently three landfill sites in operation -Bhalswa, Okhla and Ghazipur. All three locations are currently beyond their optimal level and new locations are being identified. Bhatti Mines and Bawana are three such locations being developed to handle the city's solid waste. Over the last few years, waste collection has been privatized by the MCD in certain high-income neighbourhoods. In these cases, Public Private Partnership (PPP) arrangements have been made for solid waste collection and its transportation to the landfill sites. PPP arrangements are service contracts typically involving a private agency coordinating with Resident Welfare Associations for picking up solid waste, clearing the Dhalao (large covered concrete structures open from one side for depositing solid waste) and transporting the waste to the designated landfill site. SPML, a private waste management company, has a PPP contract for nine years for the South and Central City zones (http://www.spml.co.in/business/bootppp/envprojects/envproject01.htm), while Metro Waste Handling Private Ltd. handles the West zone (http://citylifeinfra.com/index.html).

Storm water drains are the joint responsibility of the DJB, MCD and the Public Works Department (PWD) operating under the Delhi State Government. Due to multiplicity of actors, different entities blame each other for problems (Hindu, 2011). While the Irrigation and Flood Control Department of the GNCTD is responsible for the construction and maintenance of large drains, the responsibility for desalting and its removal lies with the respective municipality. The Delhi Jal Board is responsible for drains with a discharge of more than 1000 cubic feet per second (cusec), while the PWD of GNCTD is responsible for other drains in some identified areas (Chapter 10, IK&FS Ecosmart Limited, 2006). In a number of cases, untreated sewerage flows directly into storm water channels, which has resulted in waterborne pollution accumulating in the Yamuna River.

The Delhi Vidyut Board (DVB) under the GNCTD supplies electricity in the National Capital Territory. The DVB has decentralized and privatized electricity distribution, now handled by three private entities - BSES Yamuna Power, BSES Rajdhani Power and New Delhi Power Limited. Distribution is carried out under the supervision of the Delhi Electricity Regulatory Commission, an independent regulator. The Private entities supply electricity across the city including the rural and peri-urban areas of the city. These entities are only responsible for distribution of electricity; its production is still in the hands of the public sector. Electricity is provided for street lighting and, based on identified zoning, paid for by the three municipalities in the NCT. Delhi slums used to get electricity through a common connection based on a co-sharing principle, but individual meters have now been installed across the city - including in electrified JJ clusters.

Policy shifts and implications for peoples' rights, entitlements and choices

Access to urban basic services in Delhi is linked to the type of housing and status of the locality one resides in. This has led to different norms based on location-specific criteria and the legal status of the tenement rather than on any human rights standard. A number of documents trace this history (Batra, 2007). Considering the facts on the ground as well as the DDA, MCD and GNCTD records, it is clear that the Government faces a huge challenge to achieve its goal of creating a 'slum-free Delhi'. According to the Economic Survey of Delhi 2008-09, a large population lives in unplanned settlements and a significant proportion of those live in sub-human habitations. Considering that the decadal population increase in Delhi between 2001 and 2011 was almost 21%, it does require serious 'out of the box' thinking by city administrators.

S.NO	Type of Settlement	Estimated population in 2000	% of total estimated population
1	JJ Clusters	2,072,000	14.8
2	Slum Designated Areas	2,664,000	19.1
3	Unauthorised Colonies	740,000	5.3
4	JJ Resettlement Colonies	1,776,000	12.7
5	Rural Villages	740,000	5.3
6	Regularized-Unauthorised Colonies	1,776,000	12.7
7	Urban Villages	888,000	6.4
8	Planned Colonies (Approved)	3,308,000	23.7
	Total	13,964,000	100.00

Source: Statement 14.4 Types of Settlement, (sourced from DUEIPP 2011) Economic Survey of Delhi 2008-09

Along with the shrinkage of the size of plots available for the urban poor in Delhi, the availability of services - especially pertaining to water and sanitation - have decreased over the years. While the Draft Master Plan 2021 for Delhi specified norms for community water and sanitation services in the localities for the urban poor (i.e. one toilet for ten families, one bath for 20 families), these were actually lower than the existing norms. These norms were subsequently removed from the final document, which now refers to standards in the current Slum and JJ Rehabilitation Scheme (Section 4.2.3.4 MOUD, 2007). The Draft National Slum Policy also specifies norms including one public water source for every 25 persons and one toilet seat for every 50 persons. Some other pertinent minimum standards are listed in the table below:

Service Components	Level/Norms
1. Water supply	One tap for 150 persons
2. Sewerage	Sewer open drains with normal outflow avoiding accumulation of stagnant waste water
3. Storm water drains	To drain out storm water quickly
4. Community baths	One bathroom for 20-50 persons
5. Community latrines	One latrine for 20-50 persons
6. Footpaths/lanes	Widening and paving existing lanes to make room for easy flow of pedestrians, bicycles and handcarts; lane on paved paths to avoid mud and slush.
7. Street lighting	Poles 30 meters apart
8. Additional activities	Community facilities such as community centres, crèche, dispensaries, non-formal centres, parks, common work sheds-cum-raw materials depot for the poor, common retail outlay for beneficiaries, municipal service centres for garbage disposal and maintenance have been added to the charter of activities of the Environmental Improvement of Urban Slums (EIUS).

From: Table 4, Physical Norms and Standards as per the Government Sponsored EIUS Programme, (NIUA, 2007)

The MCD and the GNCTD have openly declared that due to pressure on land, they will not be able to adhere to the given norms. In reality, the current situation is such that even these minimalistic norms seem like a distant hope for residents in the JJ Re-location Colonies. Water requirement projections on behalf of the Delhi Jal Board set the policy framework for providing domestic water to people living in various types of habitats in the city.

S.NO	Type of Settlement	Per Capita Requirements (Litres per Capita per Day - lcpd)[8]	Source of the norms
1	JJ Clusters	70	The Central Public Health and Environmental Engineering Organization (CPHEEO) norms
2	Slum designated areas	70	CPHEEO norms
3	Unauthorized Colonies	70	CPHEEO norms
4	Resettlement Colonies	150	Based on CPHEEO Manual
5	Rural Villages	150	Based on CPHEEO Manual
6	Regularised unauthorised colonies	168	Based on MoUD norms
7	Urban Villages	168	Based on MoUD norms
8	Planned Colonies	200	Based on MoUD norms

Source: Table Per Capita Domestic Water Requirements (PWC, 2005) in Status Report for Delhi 21, by Ministry of Environment and Forests and NCT of Delhi Planning Department.

The government and its agencies have been criticized time and again for the lack of basic services in the JJ clusters and re-location colonies. Local citizens, civil society groups, the press, the Courts and the Parliament of India have all voiced such criticisms. For example, the Standing Committee on Urban Development, Lok Sabha noted that:

"The Committee notes that provision of basic amenities in relocation sites is the responsibility of slum and JJ wing of MCD and Delhi Jal Board. It has been argued by the Government in their action taken reply that backlog of sanitation and other services in the Resettlement colonies is mainly due to delay in the provision of services by the concerned agencies i.e. MCD and DJB. However, the Committee is not convinced by this reply of the Government. Although the MPD-2021 proposes for basic amenities in Resettlement colonies, the Committee is of the firm view that the urban local bodies and DDA have a bounden duty/responsibility of providing the basic amenities in all the urban areas including Resettlement Colonies in Delhi. The Committee, therefore, desires that DDA should make integrated efforts in coordination with MCD and DJB to provide the much-needed civic amenities, and also alleviate the problems faced by the urban poor, who cannot afford to construct toilets in their Resettlement Colonies. They also recommend that before rehabilitating slum dwellers in resettlement colonies, all infrastructural arrangements should be made so as to ensure public health and hygiene besides providing them with electricity and water." (Lok Sabha Secretariat, 2006)

8. Minimum per capita demand is maintained at 70 lpcd (litres per capita per day).

The Courts have also intervened through their judgments or through *suo moto* action (on its own initiative). For example, following a court order, the government policy of providing title deeds for evictees at re-location sites was converted to temporary licenses. This has also had implications on the site design where a plinth toilet and bath were to be constructed on the plot before it was handed over. The whole scheme was based on the assumption that a shelter loan would simultaneously become available from Delhi Co-operative Housing Finance Society (DCHFS) / Housing and Urban Development Corp (HUDCO), the state-run enterprise. However, in the wake of a decision by the Delhi High Court to allot the plots on a license fee basis, the provision of plinth and WC has been dispensed with in the future development of plots (DUSIC, n.d.). The license fee regime thus had two direct implications: (i) CTC complexes had to be constructed and (ii) people were deprived of institutional credit for home loans.

Courts have also taken *suo moto* action. For example following a report on the conditions of Community Toilet Complexes in JJ clusters (Sheikh, 2008), the Courts ordered the MCD to take immediate action to make the CTCs safe and functional.

The broad contour of the thrust of policies focusing on the urban poor in various policy documents reflects the increasing trend of new governance with a reduced direct interface of the government in provisioning basic services. This trend is visible in the provision of electricity, solid waste collection and in management of Community Toilet Centres - both in JJ and Resettlement Colonies as well as in market areas. The Delhi Master Plan 2021 and the National Housing and Habitat Policy have also indicated a role for the private sector in developing housing stock. JNNURM's push for the provision of services through PPP arrangements is also a step in the same direction. With the increasingly important role of the private sector in providing basic services in urban areas, without strong oversight or regulation by the government, there are great chances that the needs of the urban poor will be neglected. This is already visible in the poor conditions of the CTCs in the JJ Re-location Colonies in Bawana and Bhalswa where the MCD Department of Environment Management Services (DEMS) does not play any supervisory role. In both colonies the local CTC operators have set arbitrary rates and failed to comply with the standards laid out in their contracts.

Over the past couple of years, a number of significant policy changes have occurred in the institutional set-up in the Delhi State. These are listed below.

1. The allocation of several functions discharged by the MCD to the Delhi State Government, including primary education, health and implementation of various government schemes. A number of social welfare schemes and the running of education and health centres were being executed by the Delhi Government as well as the MCD. All of these functions have now been handed over to the Delhi Government. While this does not have a direct implication for the urban poor, access to various schemes and social sector facilities have now been streamlined. Through its single window *Samajik Suraksha Sangam* scheme, implemented by the Gender Resource Centres (GRCs) spread across the city, the Delhi Government can now offer easy access to various welfare schemes for the urban poor. However, given that some of the functions overlap, it is not clear which functions will be handed over to the GNCTD and which will be retained by the MCD (HT, 2009).

2. Greater control over the MCD has been given to the Delhi State Government including the right to select the MCD Commissioner and a say in the allocation of funds of the MCD. The control of the Union Government of the MCD has always been a source of contention between the Union and State Governments. However, the process of rationalization has begun with the handing over of some functions, as noted above. Moreover, the State Government now has the right to appoint the MCD Commissioner, whereas before it was the Union Government who nominated someone for the position. This change has given the State Government a greater

say in the running of the MCD. The Delhi State Government now also has the power to approve funds for the MCD. In the earlier arrangement, the Delhi State Government contributed to the MCD funds but had no say over how they were used. It is expected that this exercise will reduce some of the multiplicity of functions by different bodies governing over the same jurisdiction.

3. The proposed trifurcation of the MCD into smaller, better-managed municipal bodies has been discussed for the last decade or so. It has now been decided to split the MCD into three smaller bodies: one covering the North and Central regions, the second covering the South and West and the third covering the eastern part of the MCD's current jurisdiction. The State Government has been pushing the Union Government for immediate implementation so that everything in place before the next round of MCD elections in 2012. A draft bill proposing to set up a Delhi Municipal Authority to co-ordinate the three proposed municipal bodies has been forwarded to the Union Government for consideration. The new municipalities will have their own elected councils and mayors but will share the service staff from the current pool of MCD employees. The draft bill seeks to complete the process of the municipal functions coming under the jurisdiction of the Delhi State government and a number of functions now under the GNCTD will be delegated to the municipalities (TOI, 2011).

4. The Delhi State Government created the Delhi Urban Shelter Improvement Board in 2010. It was tasked with maintaining an updated status of sub-human settlements in the National Capital Territory in addition to removal and resettlement of JJ clusters, their improvement and re-development, and preparation of housing schemes for the displaced. All previous functions related to the acquisition of land for resettlement (previously done by DDA), re-location and site services (previously done by the Slum Wing of the MCD) are now the responsibility of the Board. Other functions under its charge include the identification of JJ clusters, negotiating alternative locations or undertaking in-situ upgrading, re-location and preparation of housing schemes for the displaced people. It has also been given the responsibility of housekeeping and provision of basic urban services to the resettlement colonies. The creation of the Board and the consolidation of the activities related to land acquisition, re-location and rehabilitation combined with housekeeping responsibilities under one body has the potential to reduce the confusion in policy and its interpretation. The Delhi Government has also decided to "accelerate the pace of providing civic services in JJ clusters", for which budget allocations were increased from about \$4 million USD[9] in 2010-11 to \$40 million USD[10] in 2011-12, as per the Budget Speech of the Finance Minister, GNCTD.

5. The Delhi Jal Board will undertake the extension of sewerage works to unauthorized colonies and urban villages. The mandate of the Delhi Jal Board (DJB) has thus been extended to cover all unauthorized colonies and urban villages and services are to be provided in a time-bound manner, keeping in mind environmental and sanitation concerns. Prior to the extension of its mandate, the DJB was not provisioning any sanitation services to these areas. Considering that Delhi is among the cities with the highest rate of unaccounted water losses, one can foresee significant challenges to the DJB's efficient provision of water and sanitation services to areas that are not currently serviced. The attempts to have the DJB take over supply of water and sanitation services have been challenging and the city is still plagued with chronic short water shortages, water leakages and wasted treated water.

6. The Rajiv Rattan Awas Yojana (RRAY) scheme to provide housing for the urban poor is being implemented. The policy shift from provision of plots to built-up flats was articulated in the Delhi Master Plan 2021, which states "The pattern of [economically weaker sections] EWS housing shall be such as to ensure optimal utilization of land in a sustainable manner. For that purpose, multi-storeyed housing will be the preferred option" (Section 4.2.2.3, New Housing for Urban Poor, Delhi Master Plan, 2021). The RRAY introduces build-up flats for EWS, with priority being given to people facing eviction. This new policy states that multi-storeyed flats covering 25m^2 will be allotted instead of the plotted spaces of the earlier policy where provisioning was considered using a cluster approach based on the profile of the people residing there (DUSIC, n.d.). There are currently no plans for integrating workspaces or space for community activities under the scheme. There is similarly no community infrastructure for public WATSAN services, as these will be privately provisioned into the flats. A total of 13,800 flats have already been constructed by DUSIB and the Delhi State Industrial and Infrastructure Development Corporation Ltd. (DSIDC) and are currently being allotted. Multi-storeyed flats will lead to a significantly different experience for the urban poor in Delhi, compared to past initiatives. On the one hand, the provision of water and sanitation facilities in the flats may reduce drudgery and the insecurity, especially for women; on the other hand, given the size of the plots, people will continue to face the space crunch which exists in the recently built re-location colonies (most have built two floors in the current re-location colonies, taking the covered area to 25m^2 even on the 12.5m^2 plot. Moreover, the lack of shared spaces combined with densification (planned for in the Delhi Master Plan 2021) brought about by multi-storeyed housing will have other social ramifications.

The changing scenario shows two broad trends. On the one hand, there are now serious efforts to address Delhi's governance issues, attempts to resolve the challenge of the multiplicity of authorities and organize matters of general jurisdiction. On the other hand, this is associated with increasing privatization of services. The process of demarcating functional assignments and streamlining the administration between the municipalities, GNCTD and the Central Government and its own institutions will still take time to settle. Smaller sector-specific attempts have not made any significant difference in terms of service provision to date.

Electricity distribution was privatized using the rationale that more competition would increase the quality of service provision. In effect, what it has resulted is that the public sector utility has been replaced by three private sector enterprises and there has been no significant improvement in services.

When it comes to housing and habitat for the urban poor, the government recognizes the huge shortage in available housing in the city. The Delhi Master Plan specifically acknowledges this and calls for the construction of housing for the economically weaker sections of the population. However, as pointed out earlier, newly created housing stock is being allocated to evictees from cleared JJ clusters. The policy of licenses, imposed due to the High Court order, continues in a modified form. For the new housing allocation being made from 2011, the GNCTD has announced a 15-year license, increasing it from the eight- or ten-year license that was periodically allocated to people relocated to sites such as Bawana and Bhalswa. The MCD has announced its intent to not collect an annual license fee and, in fact, has proposed to do away with licensing. It would, however, be difficult to do so at this stage since it is stipulated by a Court Order. The lack of titles is a serious obstacle to accessing institutional finance for purchase or redevelopment of existing housing in re-location sites.

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9. Original figure is Rs 180,000,000 (or 18 crore), equivalent to $4,090,909.09 using the exchange rate 1 USD = 44 Rs, the figure above has been rounded down.

10. Original figure is Rs 1,800,000,000 (or 180 crore), equivalent to $40,909,090.91 using the exchange rate 1 USD = 44 Rs, the figure above has been rounded down.

The privatization of services and imposition of user charges without due supervision has led to arbitrary charges by CTC caretakers or by distribution companies (DISCOMS) for electricity consumption, among others. The quality of services has not improved and institutional arrangements do not seem to have led to any improvement in provision of services for the urban poor. It is hoped that the administrative streamlining process described above will result in less bureaucratic procedures, though it will take time for the reforms to be fully implemented and it is not likely that much will change in the next couple of years. The trifurcation of the MCD will be part of the next series of reforms and will result in the creation of smaller wards. Some additional changes propose to open a small window for the voice of the urban poor to be heard. Notably, the scope of the 74th Constitutional Amendment and the requirement of JNNURM that ward committees be created will provide a platform for the urban poor. The challenge then will be for them to be heard over the din of private sector interests that seem to have an easier time getting the city administration's attention.

3. Timeline of activities

Time line of the activities undertaken as part of the action research project
(February 2009-July 2011)

1. Preparatory phase: compilation of materials and background documents and notes for the inception meeting	Jagori	February 2009
2. Policy scans and research overview	Jagori	March 2009
3. Inception workshop and mission of WICI to Delhi, including training workshop by WICI and visits to potential sites and meeting partners	Jagori/WICI	March 24 – April 1, 2009, New Delhi (10 days)
4. Learning phase: ➤ Development of action research framework and criteria ➤ Identify potential sites ➤ Meetings with women on the ground: lane meetings with key stakeholders: Planning Commission, government agencies, civil society, women's groups, field visits ➤ Development of a concept note to guide the operations in Delhi	Jagori/WICI	March – June 2009
5. Partnership with Action India for study in Bhalswa and orientation of their staff and on-going technical support for the action research and interventions	Jagori	June 2009 – June 2011
6. Development of tools and pilot runs ➤ Rapid situational assessment (RSA) ➤ Focus group discussions (FGDs) ➤ Women's safety audits (WSAs)	Jagori with support from WICI	July – October 2009
7. Undertaking the action-research study ➤ Workshops with implementing staff and field team – July 2009 ➤ Resource mapping in Bawana/Bhalswa: June - October 2009 ➤ FGDs in Bawana/Bhalswa: August- December 2009 ➤ Field visits (2009-10); (Savra Gheda, Ahmedabad, Bhopal) ➤ Development of stakeholder/in-depth interview formats and interviews – February - April 2010 ➤ WSAs (December 2009, January, February 2010)	Jagori/Action India	July 2009 –April 2010
8. Finalising the terms of reference for the Monitoring and Evaluation (M&E) technical expert and developing an M&E workplan	Jagori/WICI	June – July 2009
9. Mission to action research sites and meetings with teams	Dr Carrie Mitchell, IDRC	September 2009

11. Formation of Advisory Committee for the project and relevant meetings	Jagori	August 2009. Meetings: September 2009, and April 2010.
12. On site visits from WICI	Jagori/WICI	March 2009, September 2009; November 2010, May-July 2011.
13. Partnership with the Centre for Budget and Governance Analysis (CBGA) for the study on opportunity costs of water and gender budget analysis	Jagori	November 2009 – July 2011
14. Compiling key findings and preparation of the initial findings of the study	Jagori/WICI	April - June 2011
15. Sharing initial findings and tools prepared for the study at national and international meetings, including the CBGA study on opportunity costs of water in Bawana and Bhalswa	Jagori	August 2010; November 2010
17. Preparation and printing of a handbook on women's safety audits and other tools used in the action research	Jagori/WICI	September – November 2010
18. Planning initial interventions in the two communities	Jagori/Action India	From June 2010 – June 2011
19. Capacity building workshops with women/youth in Bawana and Bhalswa	Jagori/Action India	July 2010 - December 2010
20. Partnership with OneWorld Foundation for advocacy and outreach in Bawana	Jagori	March 2011- June 2011
21. Partnership with Women's Feature Service for 6 articles and field visits	Jagori	May 2011 – July 2011
22. Partnership with Kriti team for development of communications materials	Jagori /WICI	June 2011-July 2011
23. Field visit by Bawana team to Agra	Jagori/CURE	May 2011
24. Capacity building and visioning workshop with the field staff and the two communities	Jagori	June 2011
25. Sharing research findings with key stakeholders in Delhi by the community	Jagori/WICI/Action India and all partners	July 2011
26. Finalising report of the research study and interventions	Jagori/WICI	April – August 2011

4. Research findings

Project Objective 1 - Identify how poverty, tenure, water access and sanitation, and lack of access to other services, impact women's lives, livelihoods and well-being in the target communities using the women's safety audit as well as other qualitative methodologies
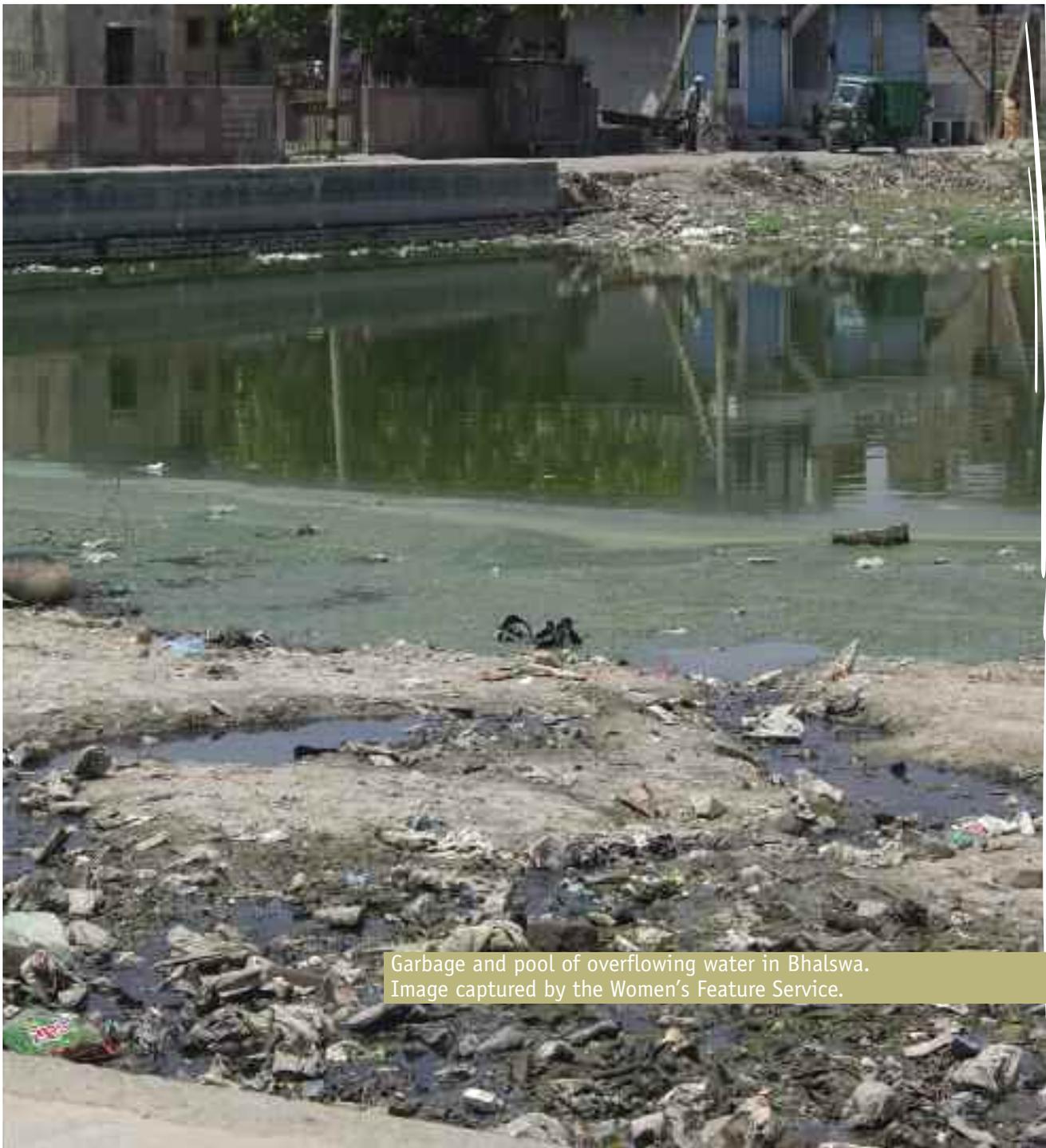
Garbage and pool of overflowing water in Bhalswa.
Image captured by the Women's Feature Service.

Evictions from Delhi to the periphery of the city, as was the case for the people living in both Bawana and Bhalswa, the sites of intervention, has led to the creation of new resettlement areas where temporary land tenure is ambiguous. As communities re-settle in environments that are hostile to them, they also face new insecurities and forms of violence. Re-location sites lack basic amenities and the experience of resettlement has been one of denial of rights and services (UN-HABITAT, 2007). Many different research methods have been used throughout the course of the project to understand the dynamic context in which the women in Bawana and Bhalswa live and the challenges they face in terms of their access to essential services.

Research completed for the purpose of this project consisted of a mix of primary research (community consultations, expert consultation, rapid situational analysis, focus group discussions, in-depth interviews with community women and local stakeholders and women's safety audit walks) and secondary research based on available literature and relevant documentation, including a policy review. The various research methods were strategically undertaken in a chronological order that would allow them to inform the next steps and ensure that the researchers were always deepening their understanding of the issues. The in-depth interviews, for example, revealed some of the problems faced by specific groups such as the differently-abled and pregnant women that had not yet been identified.

> *"They heaped us like a bin of rubbish and dumped us into this awful far-away site; we feel like rubbish right here still."*
> - Excerpt of Munni of Bawana's testimony at the National Courts of Women (www.jagori.org)

Notably, it was during the interviews that some women pointed to the huge problems they face in accessing the toilets since there is no support for alternate toilet seats. These women stated that they not only find it difficult to sit down but also worry that they may lose balance and fall on the toilet floor which often has human excreta lying around. The interviews provided women and girls with a safe space in which to share the problems they face with respect to the gender gaps in WATSAN services. This allowed the conversations to address and expose several issues that had not emerged during the focus group discussions (FGD) or during the rapid situational assessments (RSA).

Significant research went into understanding the relationship between: urban poverty; the nature of tenure for the newly evicted; access to water, sanitation, drainage, and garbage disposal; food security; increasing violence against women and girls; protection from sexual harassment and improving mechanisms for provision of justice; the gender dimensions of safety; and the impact of changing government policies on the lives and livelihoods of women and girls. This was seen as an essential precursor to being able to accurately understand and identify the gender service gaps - a central focus of the action research. Work has also gone into understanding the different tiers of government and their respective roles and responsibilities in terms of WATSAN service provision, infrastructure and maintenance. Research has shown that these are not always clear and in fact, at times they conflict or overlap, which further exacerbates the challenge of understanding the complex web of governance and WATSAN service provision.

The initial research findings from the rapid situational assessment and community consultations demonstrated that the two communities are quite distinct in terms of access to WATSAN services and safety, with Bhalwsa being significantly more underserviced than Bawana. These early findings are significant as they provide a benchmark for comparing where the two communities are now and clearly show for far the communities have advanced in terms of the provision of essential services and the degree of community engagement on the issues.

The entire research process was undertaken in collaboration with the core group of community women who have participated actively throughout the project. Local women from both implementation sites actively engaged with Jagori and Action India, sharing their stories and concretely highlighting the intersections between gender, poverty, lack of tenure, and access to services. They also explained how their lives and livelihoods and those of their families are, and continue to be, affected by these challenges. This qualitative information was key to understanding the issues they were faced with in Bawana and Bhalswa and gave meaning to the research findings.

Poverty and tenure

Deepli, a 45-year-old woman living in Bhalswa, explained that water and sanitation have always been a problem for the community and believed that half of the problems they faced would be solved if only they were provided with these two services. According to her, a person can still bear all the problems of living in poverty if these two basic necessities are provided to them.

Poverty and insecurity of tenure are intricately linked with the problems facing women and girls in the communities in terms of their access to essential services. Insecurity of tenure and poverty limit both willingness and financial ability to invest in making the infrastructure of their homes more permanent by such things as investing to install a toilet in their home. Furthermore, the small plot allocations that the families received after having been re-located (12.5m^2 or 18m^2.) mean that many know that there is not enough living space for them to install a toilet. Many of the families who have such permanent structures have had to build upwards and have taken out loans to install a toilet with septic tank.

Research found that in both Bawana and Bhalswa between 30-40% of households have installed individual toilets with septic tanks that they have paid for themselves. Families wanting a toilet in their home must invest in building a septic tank since there are no sewer lines. The frequency of the cleaning of the tanks varies according to the level of usage but is usually done once or twice a year at a cost of approximately $13.75 USD[11] each time. Most of these toilets do not have running water so people use buckets of water to flush the toilets as needed. The cost of pumping ground water to a water tank is a little more than $681.00 USD[12]. Focus group discussions later revealed that girls and women in particular make use of the toilets in their homes at night or when the Community Toilet Complex (CTC) is shut. As the cost of cleaning the septic tanks is high, male members often continue to use the CTCs or the open areas instead of using the toilets in their homes. People living in wealthier colonies of Delhi have running water and toilets in their homes and do not have to contend with the insecurities facing poor women and girls accessing WATSAN services. The small plots sizes and the high costs of installing septic tanks means that those who can afford to invest in installing a home-based toilet can only afford small tanks. These factors are also what limit most households from having their own toilet.

11. Equivalent to Rs 605 using the exchange rate 1 USD = Rs 44.
12. Equivalent to Rs 29,964 using the exchange rate 1 USD = Rs 44.

The gendered impacts of inadequate services

Generally, women and girls continue to bear the brunt of the responsibility of water collection. It is therefore they who suffer the most from limited or no access to adequate services. Furthermore, they are often put at risk when they need to use or access these services. Particular gender dimensions of water collection were noted in both project sites.

The research completed in the first year of this project identified not only problems with access to WATSAN services, services not being women-friendly, and a lack of maintenance, but also flaws in infrastructure and the design that render the services inadequate. For example, since the difference in ground levels was not taken into account in the design of the drains in both Bawana and Bhalswa, water in the drains does not flow and the stagnant water attracts insects and water levels rise easily overflowing onto the street. Women with disabilities and pregnant women who were interviewed for the project reported that the design of WATSAN services, and toilets in particular, did not consider their needs and made it difficult for them to use. In other cases, the slope of the drains flows downward into houses and residents have blocked the drains to prevent this, which in turn blocks the flow of water which then also overflows from the drains onto the street. Researchers learned that a pregnant woman slipped in the sludge overflowing onto the street from the drains and had a miscarriage.

When essential services fail to consider the particular needs of women and girls, they face serious challenges - including safety and health hazards - and are prevented from being able to access and benefit from opportunities such as employment and education. Girls in Bhalswa, for example, have complained that there is no toilet facility at their schools. While teachers do have toilets in schools, the students cannot use them. There are only two toilets intended to service the 900 - 1,000 girls who attend the school. Girls and boys use the same toilets but each have designated 'shifts' so that there is no overlap. Since the school toilets are very dirty and hardly ever cleaned, and there is no provision of menstrual waste disposal, girls do not use the toilets at school at all and have learnt to control themselves, or go home before the school day is over. Some girls do not even go to school when they are menstruating due to the dirty toilets.

Lack of available water in Bhalswa, noted during the focus group discussions and rapid situations assessment early on in the project, meant that residents - usually the women - would carry drinking water home with them from their work places, often located a significant distance away. Some have to travel up to three hours to get to work, due to lack of adequate public transportation to and from Bhalswa, and carry water with them this whole journey. Many noted facing harassment while in the bus and being the target of comments by the driver and other passengers as they were accused of taking up too much space on the bus.

The situation is even worse for the women and girls living in the *kacchi basti* (informal settlements) who have no infrastructure in their settlement. They must therefore access toilets in other blocks or use the open areas. They have had to make temporary arrangements for water as well. Since the infrastructure is not currently in place for their access to any essential services, the time required by women and girls who live in this area is much greater.

Consequences on women's and girls' safety

"A pucca road has been constructed there. Men keep coming and going. One is embarrassed to defecate there. I dare not go alone or send my daughter alone there. One feels scared. The place is unfit for women considering the safety and honour aspect. It is so unsafe that in the summers, four-five women go to the toilet in a group at 11-12 in the night. Boys keep standing there, and often they snatch and hurt us for money. Women or girls who don't have money are molested and sexually harassed. In such a situation, if one has to use the toilet in the night, one has to be accompanied by 2-4 people."

- Interview with Sunita[13] from Bawana, 60 years old

A women's safety audit walk in Bawana

13. Note: all names have been changed to protect the identity of the respondent.

The use of the women's safety audit (WSA) in the context of WATSAN services was unique as it was aimed to identify the factors that increased or decreased the sense of safety experienced by women and girls in public spaces related to essential services. It also explored how they deal with these experiences. Safety audits were conducted in various blocks in the two communities, in canal areas, in open areas used for defecation, in the areas around the electricity sub-stations and in the *kacchi basti* (informal settlements) on the periphery of the communities. Though the focus group discussions drew attention to the spaces where women face harassment or feel threatened, the walks highlighted women's and girls' vulnerabilities as they accessed WATSAN services. The safety audit walks uncovered the subtle forms of harassment that women and girls face when they access such services. Completing the audits also brought attention to issues that had previously been overlooked, including the significance of electricity in accessing WATSAN services and that the mixing of solid waste and wastewater from the drains force women to choose alternate walking routes. The WSAs also pointed to changes to WATSAN services over time. For example, during the RSA in Bawana, the CTCs in the new blocks were very well maintained but by the time the WSA was undertaken, they were dirty and unusable.

Toilets

Toilet stall without a door in on of the CTCs in Bawana

Inadequate services impact women's and girls' safety in multiple ways. Women and girls in both Bawana and Bhalswa risk sexual harassment when they have to go to the bathroom, whether they go in the open fields or in a toilet complex. This is one of the first findings of the women's safety audits, and echoes what was raised in the focus group discussions. Women's and girls' safety is threatened by a number of factors when they access the Community Toilet Complex (CTC) including: poor design (e.g. open roofs where men can peek in); poor maintenance (e.g. broken latches and doors were observed in both communities); men and boys loiter around the toilet complexes (e.g. in Bhalswa, boys of neighbouring homes keep their pet birds on the roofs of the CTC, play cricket around the CTCs, sing lewd songs, make inappropriate comments and even play card games with the caretaker); finally, inadequate lighting and power failure decrease sense of safety (e.g. women find it difficult to get back home in the dark and fear it is easier for men to attack them in the CTC compound at night).

In addition to lack of access to some services, the people in Bhalwsa have to contend with lack of maintenance, cleaning, and upkeep of the few services they have. The toilets are not cleaned properly, doors have broken latches, the water supply is inadequate and there are insufficient, if any, disposal bins for menstrual waste material. The consequence of this is that women have to use open fields to go to the toilet. Women have reported instances of sexual harassment and violence when they went out to the field, including rape. These, coupled with cases of abduction and theft while out for defecation, have created fear in the minds of women and girls who try never to go to the open areas alone. Women and girls have had to come up with coping strategies in order to mitigate the risks posed by defecating in the open areas. In an effort to band together and offer protection to one another, women have started going to defecate as a group or have begun carrying sticks with them for self-defence and protection. Even an isolated brutal or fatal attack has a deep impact on the community. For instance, one teenage girl in Bhalswa went to defecate in the open field and was found dead three days later. This has added to the level of fear in the community.

"Cases of sexual harassment against very young girls do take place but often they are not reported for the fear of damaging the societal image of the girl and her family."
- Interview with Anuba in Bhalswa, 16 years old. Anuba went on to confirm that she herself had experienced sexual harassment while defecating in the open but did not give details of the incident.

Water collection

Unlike most other places, including Bawana, the responsibility for water collection in Bhalswa is shared between the men, women, and boys. Girls are usually not even allowed to collect water because the sexual harassment at water sources is so severe. In Bhalswa, risk is reportedly aggravated by the location of the water source adjacent to a liquor shop.

Small child filling water from tap

Women's safety is also threatened at the sites where water is distributed from tankers. Families often have to send male members to collect water from the tankers since it is considered to be such a dangerous activity. The focus group discussions revealed that boys would sometimes hide underneath the tankers and try to pull the girls under with them. Others still report being groped when they were busy collecting water. For example, when crowds gather to fill water from tankers and when fights break out, which is not uncommon, men take advantage of the distraction to touch, push and harass the women and girls. Certain women who are more vulnerable, such as young girls and pregnant or elderly women simply do not participate in this process.

Woman filling jugs of water from a tap

Water collection can be a lengthy process, reportedly taking up to a few hours if it is to be collected from a tanker. The timing of the collection conflicts with the hours the girls should be in school. Since water collection often comes as a priority over school, girls' education suffers as a result. When girls collect water and then go to school, they are often late, unable to complete their household chores on time, or unable to eat (often unable to cook) a meal for themselves before going.

Drains

Stagnant drain in one of the re-location colonies

Clogged drains can also pose a threat to women's safety and result in increased sexual harassment. The faulty design of the drains and poor maintenance of the land around it leads to water clogging and wet garbage and mud spread out widely in the gullies and lanes. Not only does this make it difficult to walk, but it also becomes an opportunity for boys and men to brush past women and girls. In addition, since the plot size is so small, the space outside of the home is extremely important and is used for washing utensils, clothes, cooking and socializing. Since the open drains are often full of solid and other kinds of waste water, women occasionally try to clean the parts of the drains that are close to their plots and block the inflow of waste to the area in front of their home with stones. This can worsen the clogging on either side of their plot and has resulted in serious arguments and fights among neighbours, including verbal sexual harassment from the men of the neighbouring families.

Image of a clogged drain captured on a WSA walk in Bawana.

Electrical power failure

In Bawana, the water stops when there are power failures as electricity is used to pump water to the water tanks of the CTCs. Women find it difficult to get back home if there is a power failure while they are using the toilets and fear that the inadequate lighting during power failures makes it easier for men to attack them in the CTCs. Unfortunately, restoration of electricity does not mean that the water supply is restored at the same time. Furthermore, since there are no generators or other alternatives to electricity, power failures mean that the toilets and main water supply sources are inoperable. For the women and girls who depend on using community toilets, there is no choice but to use the open areas during power outages. By the end of the action research, it was noted that with the increasing construction and expansion of Bawana and the surrounding areas there are very few spaces left where the women could go for open defecation.

Consequences on women's and girls' health

Inadequate services impact women's and girls' health in multiple ways. The safety concerns limit their mobility and guide their behaviour and ability to access essential services in their communities. Our research has demonstrated that the lack of safety and comfort experienced by the women in Bawana and Bhalswa mean that they often avoid relieving themselves. This has had devastating consequences on their health as they avoid drinking water and hold in their urine as long as possible. Some other women report not eating and drinking at night in order to avoid having to go to the bathroom at night. In Bawana, women report that insects in the toilets often climb up their legs. They have reported feeling nauseous using dirty and unclean toilets, but they continue to do so as they have no other option.

Bhalswa is situated within a one-kilometre radius of the Bhalswa landfill site. The *lechate* from the landfill has seeped in the ground water and has made it toxic. However, due to water scarcity in the area, it was found that people use this ground water for bathing, cooking and sometimes even for drinking. In Bawana, the Delhi Jal Board supplies limited water at a few points in the locality but not in the lanes themselves. The water connections that were provided a couple of years after the area was resettled are located outside on the streets and close to the drains. Unfortunately, many of the taps have been stolen, leaving only the pipes which are situated but a few inches above the drains. The consequence of this is that during the rainy season the pipes are often submerged into the drains and the water is contaminated.

Many taps have been stolen in Bawana, leaving only holes where they used to be.

Hose hooked directly into a pipe

The research found that lack of access to clean toilets and drinking water in the re-location communities has resulted in serious health problems including bladder inflations, stomach aches, kidney stones, skin problems, urinary tract infections, jaundice, nausea, anxiety attacks and feelings of social shame. Some women revealed that this had made them feel disconnected from their bodies. Lack of safety and inadequate provision of essential services is constantly putting women and girls in positions where they are forced to make decisions that they hope will help them to ensure that there is no violation of their bodily integrity.

Consequences on women's comfort and dignity

"Self respect and dignity is treasured by all. Many a times women and girls defecate in paper, newspaper or a polythene bag and in the morning or any other suitable time throw it in the garbage. What to do, there is no other option. I come back late from work and ask the caretaker to open the doors, but he refuses to open the door of the public toilet at any cost."
- Interview with Seema[14] from Bawana, 55 years old

One of the main issues affecting the dignity of women is defecation. The safety audits revealed that over the years, the areas used for open defecation no longer have a green cover and women and girls reported having to defecate in full view of others where they face verbal harassment. The research also found that women sometimes defecate in drains or even on a newspaper that they later throw away. Lack of dustbins in CTCs makes menstrual waste disposal a difficult task for women and girls. In each of these situations, the comfort and dignity that women and girls should have in going about their daily lives are seriously compromised by inadequate infrastructure and access to affordable, safe, accessible women-friendly sanitation services in their community.

As described above, the small plots sizes have forced women to make use of the areas in front of their plots. Ill maintenance of the public space means that in addition to compromising on their privacy, they are forced to compromise on their dignity as well as they spend time right next to drains full of solid waste and water.

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14. Note: All names have been changed to protect the identity of the respondents.

Understanding the multiple gendered consequences of failed service provision in a broader context

A critical issue that guided the research process was that it was not possible to work on one issue alone, in this case, WATSAN. Other rights and issues are equally important for women and their families - such as access to food, dealing with violence against women, and empowering women and youth on relevant issues. It was thus imperative that the project team recognize these other factors as being interrelated in order to understand the broader context. It was equally important to understand that failed service provision has multiple gendered consequences. This helped the team to gain an understanding of the different intersecting issues, and assisted the research team in being able to make these links.

While the different factors considered as part of this research revealed that the associated impacts were often distinct, there were times when the consequences of inadequate service provision were the same. For example, the research demonstrated that girls' education suffers due to the burden of water collection and due to inadequate sanitation options for menstrual water disposal. To take this example further, when one considers the broader social context that values boys' education over girls' and continues to ensure the inter-generational burden of unpaid work and care economy on women and girls, one can see clearly see how many different factors are in fact interrelated and how they individually and collectively work to ensure systemic perpetuation of unequal gender relations.

Women and girls meeting in Bhalswa to discuss how service delivery can be improved in their community.
Image captured by the Women's Feature Service.

Project Objective 2 - Contribute to the methodological development of the women's safety audit, particularly with respect to its use in WATSAN research through a peer-reviewed paper in a major international journal

The adaptation of the WSA was extremely innovative as it was used to critically assess women's and girls' safety as it relates to essential services in low-income communities, something that had not been done in such a focused way before. The women's safety audit methodology (WSA) sharpened the lens on how women's experiences with water and sanitation were shaped by their safety experiences and concerns. They also pointed to the safety consequences of inadequate service provision that fails to consider women's and girls' needs, highlighting some critical issues that had not been articulated by the community earlier.

Prior to adapting the WSA, the project team spent considerable time researching the issues and engaging with the women from Bawana and Bhalswa in order to understand how the women's safety audit methodology could best be adapted to critically assess women's experiences with WATSAN in their communities but also to respond to their needs and priorities. Over time, and with much guidance and participation of the women in the communities, the team came to an agreement on how the methodology could be adapted to this specific context.

The women's safety audit should be seen as a process that can loosely be divided into three steps:

1. Before the walk: this is the period where the community is mobilized and much research is done including, in this case, RSAs, FGDs, interviews, policy review, etc. The checklist used to guide an audit is modified to consider the local context and the factors that will be considered as part of the walk, and women are provided with training on how to carry out a women's safety audit walk.

2. The women's safety audit walk: with the help of the adapted checklist, women form small groups and go out into their community to document the specific social and environmental factors that are contributing to or inhibiting their sense of safety in the space. Ideally, municipal officials and local decision-makers accompany the women on the walk as observers.

3. After the walk: the women meet again to discuss the findings of their safety audit walk and to agree on a way forward in an effort to make their community safer.

The team adapted the training, the checklist and the issues that they considered before the walk and piloted the adapted WSA methodology in Bawana and Bhalswa. At least three audit walks were carried out in each community. Encouraged by the results of the pilot tests, the team agreed that a valuable output of the action research would be to share the adapted methodology with others. They thus set about developing an easy to use tool that documented the experiences of using the newly refined women's safety audit methodology to focus on WATSAN issues in low-income communities so that other groups around the world could model their own initiatives on the work done in Bawana and Bhalswa.

The adaptation process and lessons learned for implementing the adapted WSA informed the production of *A Handbook on Women's Safety Audits in Low-income Urban Neighbourhoods: A Focus on Essential Services,* produced by the Jagori research team in collaboration with the Expert Consultant and WICI representative. The Handbook draws from the concrete experience and lessons learned from having tested the newly adapted WSA methodology in Bawana and Bhalswa. The Handbook takes readers through the various steps of the WSA process, including the rapid situational analysis, interviews with key informants, focus group discussions and in-depth interviews, in addition to the WSA walk itself. The Handbook also explains the rationale behind following the suggested step-by-step process for conducting the WSA, which is different from the approach taken in other places and contexts. The Handbook is available in English and Hindi and can be downloaded through WICI and Jagori's websites. The Handbook was launched and widely disseminated at the Third International Conference on Women's Safety in November 2010 and continues to be disseminated by other partner organizations such as UN-HABITAT.

This project also included a strong visual element. The teams undertook mapping exercises noting the specific locations of WATSAN services in their community. These were done both on paper (see Bhalswa maps below) and on the computer (see Bawana E block map below). Maps were also used to identify the walking route that the team would be following as they completed their women's safety audit walk (see partial map of Bawana below).

Map of Bhalswa in which' the team noted where some of the problems the community was facing with regards to WATSAN were.

Below is a map of Bhalswa showing where various WATSAN services are noted (i.e. toilets, open spaces, etc.)

Map of Bawana E block

LEGEND

- PUBLIC
- RESIDENTIAL
- COMMERCIAL
- UNBUILT/VACANT PLOTS
- PARKS
- ROADS
- UNCOVERED OPEN DRAINS
- COVERED MAIN DRAIN
- TEMPLE
- MOSQUE
- MOSQUE + *MADARASA
- SCHOOL
- PUBLIC TOILETS
- COMMUNITY HALL
- STREET LIGHT POLES
- NON-WORKING STREET LIGHT POLES
- WATER TAPS
- DUSTBIN

TOTAL RESIDENCES IN E-BLOCK	1149
WIDTH X DEPTH (EACH PLOT)	18' X 11.5'
WIDTH OF LANE	12'

* MADARASA - SCHOOL FOR MUSLIM CHILDREN

Several documentation and dissemination efforts have been undertaken to increase awareness of the adapted methodology and to highlight lessons learned and successes from the action research project. A chapter has been developed on the action research project for a peer-reviewed book on Safe and Inclusive Cities with December 2011 as the expected date of publication. The book is expected to reach a broad audience including academics and practitioners in the fields of urban safety, gender equality, urban planning, etc.

Jagori has been working with the Women's Feature Service (WFS - women-centred journalists in Delhi) in order to produce a series of six articles that focus on different aspects of the project. The features in the series 'Women's Access To Water, Sanitation and Essential Services', have been made available to readers through three basic ways: First, through a specially designed space on the WFS website (http://www.wfsnews.org/wfs-jagiri-inside-may-2011.html). Second, through arrangements with those who subscribe to these features. For instance, many of these features did appear on the international website, News Blaze (http://newsblaze.com/story/ 20110809120037iwfs. nb/topstory.html), Boloji (http://www.boloji.com/index.cfm?md=Content&sd=Articles&ArticleID= 11302) and Radio NetherLands WorldWide (http://www.rnw.nl/english/ article/making-poor-womens-well-being-a-talking-point). The third mode, is more long-term with dissemination done through the ProQuest database that takes WFS features to not just individual readers but researchers and data libraries. It would be difficult to quantify this in terms of a precise readership, but these features are now in the public space and will continue to get accessed through various Internet search engines. The photos illustrate the main topics in each of the articles and serve to complement the narrative of the article series.

The additional products that attest to not only the methodological contribution of the project to the women's safety audit methodology but to the whole field of women's safety and to addressing the gender gaps in WATSAN include the following:

➤ The Opportunity Cost of Water

➤ Gender Responsive Budget Analysis in Water and Sanitation: A Study of Two Resettlement Colonies in Delhi

Both of these reports are included in full as appendices to this report (see Appendices A and B).

Project Objective 3 - Develop a set of gender appropriate WATSAN options for each of the test communities and promote it through dissemination packages/activities for local governments and other relevant stakeholders

Third International Conference on Women's Safety: Building Inclusive Cities

The Third International Conference on Women's Safety: Building Inclusive Cities was jointly organized by WICI and Jagori and supported by IDRC. The Conference provided an ideal opportunity for the team to share their research findings at an international conference. Originally planned as its own activity, the final project workshop was strategically subsumed within this larger conference in order to increase both the profile of the project at the international level and the potential for disseminating the research findings to a diverse international audience. The Conference helped the team to accomplish many of the objectives set out in the project document. Specifically, the conference served as a venue to showcase the production and launch of *A Handbook on Women's Safety Audits in Low-Income Urban Neighbourhoods: A Focus on Essential Services*, an important research product that came out of the learnings of the action-research. This responds to objectives 2 and 3 of the project - contributing to the methodological development of the women's safety audit, particularly with respect to its use in WATSAN research, and promoting the research through dissemination packages/activities for local governments and other relevant stakeholders. The Conference brought together some 290 people from 81 cities and 45 countries, including approximately 20 elected officials from municipal governments.

Launch of the Handbook at the Third International Conference on Women's Safety

The project was featured as one of four panel sessions at the Conference. Entitled Gender and Essential Services in Low-Income Communities, the panel showcased the work being done as part of the project, linking essential services to women's safety and exploring the gendered impacts of inadequate services with a view of improving governance for services provision in low-income neighbourhoods. The session was moderated by the expert consultant and featured presentations by the gender budget expert and the lead researcher for the project. A great success was that Anshu Prakash (Additional Commissioner (Engineering) Municipal Corporation of Delhi) agreed to attend the session and present some special remarks at the end of the panel. At the time, Mr. Prakash was responsible for solid waste management for Delhi and later invited representatives of Jagori to a meeting where he asked them to provide him with some concrete suggestions about how WATSAN services could be improved in Bawana and Bhalswa.

Gender and Essential Services in Low-Income Communities Panel Session

By subsuming the workshop within the larger conference, we were able to not only raise the profile of the project, but also to increase awareness around the important links between essential services and women's safety, which, up to this point, are typically addressed as distinct issues. The response from the rest of the Conference was extremely positive and public toilets quickly emerged as one of the most talked about topics at the conference. Furthermore, the conference evaluation revealed that the Gender and Essential Services in Low-Income Communities panel session was the highest rated of the four.

HumSabla

HumSabla, (we empowered women) is a feminist journal that is published in Hindi on a quarterly basis by Jagori. It aims to bring feminist issues to the centre stage and encourages people to engage with them. *HumSabla* is a popular advocacy tool catering to dissemination of knowledge and information on, for and to women and an effective creative communication and resource material for reading and reflection. The target audience for this forty page quarterly includes development personnel, workers in voluntary organisations, NGO activists, college students, women studies centres and individual members of civil society. Three thousand copies of this journal are produced of which 2,500 are widely disseminated to over 12 Indian states, including Uttar Pradesh, Rajasthan, Himachal Pradesh, Punjab, Haryana, Orissa, Madhya Pradesh, Bihar, Jharkhand, Chhattisgarh, Sikkim, West Bengal, and Maharashtra. The remaining 500 are used for workshops, gender trainings and community activities. The language of the text is day-to-day spoken Hindi. Photographs and illustrations are used to break the monotony of the written word and the journal is printed in black and white with four coloured covers. The broad framework of Hum Sabla comprises of editorial (*hamaribaat*); articles/features (*lekh*); debates (*aamne-saamne*); perspectives *(samvad)*; campaign (*abhiyan*); story (*kahani*); poems (*kavita*); book review (*pustaksamiksha/parichay*); film review (film *samiksha*); publications *(nayaprakashan)*; and snippets (*aapbeeti*). Every issue of *HumSabla* is dedicated to a theme, which is decided on the basis of pertinent issues emerging in the women's movement. The May-August 2011 Issue focuses on women's access to water and sanitation, as a pre-requisite for women's safety, dignity and livelihood (see below for the English translation of the Table of Contents for the Issue).

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Editorial
Women's Right to Water and Sanitation in Cities, by Prabha Khosla

Features
Not Just Taps and Pipes But Women's Lives, by Pamela Phillipose
Women's Rights on Land and Water-Agriculture and Irrigation, by Seema Kulkarni
Women's Safety and Gender Sensitive Toilets, by Prabha Khosla
Improving Urban Slums-Improving Health, by Bijal Bhatt
Women Ragpickers, Rights and Livelihood, by Shashi Bhooshan Pandit
Gender Budgeting Initiatives in Water Sector-Resource Guide Mainstreaming Gender in Water Management

Poems
Ragpicker Girls, by Bhagwat Rawat
Destroyed Our country, by Kamla Bhasin
Rugged Palms, by Anamika

Dialogue
Lessons for New MPs, by Kalpana Sharma
Resettlement Kids Demand a Cleaner Environment, by Aditi Bishnoi
Bawana-Yesterday and Today, by Kailash Bhatt

Story
Ramiya, by Namita Singh

Point-Counterpoint
A Successful Initiative: CBT Blocks, by Indu and Maria

My Story
I am not Nobody Now, by Amai Toriro
Decision, by Chaitali Haldar

Campaign
Initiatives for Change, by Sarita Baloni
Women's Right to Water and Sanitation in Asian Cities-Summary of Project Findings, by Juhi Jain

Book Review
Swept off the Map: Kalyani Menon-Sen and Gautam Bhan

Film Review
Web of Success-Water Aid film, by Sunita Thakur

Snippets
Child Doctors
Women Handpump Mechanics

12th Five-year Plan

Jagori participated in some consultations led by coalitions of civil society organisations, in partnership with the Planning Commission, to provide inputs into the Draft Approach Paper of the 12th Five-year Plan of the Government of India. Jagori's contributions included highlighting issues of women's rights - including safety and access to gender-sensitive infrastructure and services (see: www.12thplan.gov.in and www.facebook.com/twelfthplan).

Other

The additional products that attest to not only the methodological contribution of the project to the women's safety audit methodology, but to the whole field of women's safety and to addressing the gender gaps in WATSAN include the following (presented in greater detail in other sections of this report):

➤ The Opportunity Cost of Water, produced by the Centre for Budget and Governance Accountability (CBGA)

➤ Gender Responsive Budget Analysis in Water and Sanitation: A Study of Two Resettlement Colonies in Delhi, CGBA

➤ The articles series written by the Women's Feature Service

➤ OneWorld Foundation's series of community-produced radio programmes

The two reports cited above and produced by the Centre for Budget and Governance Accountability (CBGA) are included in full as appendices to this Report (see Appendices A and B). The CBGA undertook its own dissemination efforts, taking advantage of their national network and many mailing lists that reach a number of senior people, including politicians. The CGBA committed to strategically going through these lists to make sure that the relevant people receive the reports, noting that efforts would be made to reach parliamentarians, the executive branch of the government (bureaucrats), state government officials, the media and civil society activists.

Photographic exhibit illustrating the work done as part of the project, displayed in Bawana, December 2010. The exhibit was organized as part of the worldwide 16 Days of Activism Against Gender Violence campaign.

Presentations made by Jagori and WICI at workshops and seminars

Both WICI and Jagori have been making presentations on the adapted methodology and learnings from the action research project at local, national and international events. Please see the table below for a complete list of relevant presentations made.

Timeline of presentations made by WICI and Jagori

S.No.	Title	Presented to	Date and Place
		2009	
1.	Presentation on the project to Planning Commission Member Dr. Syeda Hameed and her colleagues	Planning Commission of India	March, Delhi, India
		2010	
2.	Presentation by WICI on the project	Commission on the Status of Women	March, New York, USA
3.	Presentation by WICI on the project	Gender Equality Action Assembly, UN-FHABITAT	March, Rio de Janeiro, Brazil
4.	Presentation by WICI on the project	World Urban Forum V, UN-HABITAT	March, Rio de Janeiro, Brazil
5.	Presentation by WICI on the project	Gender, Cities and Local Governance in the Arab World and in the Mediterranean Region, CEDEJ	April, Cairo, Egypt
6.	Sharing of tools and methodology	National workshop on Safer Cities organised by Jagori	August 19th-21st, Gurgaon, India
7.	Sharing tools and methodology for DFID staff/partners	DFID, New Delhi	May 27th-28th, Delhi, India
8.	Presentation of the initial findings of the study	Third International Conference on Women's Safety	November 24th New Delhi, India
9.	Launch of A Handbook on Women's Safety Audits in Low-income Urban Neighbourhoods: a Focus on Essential Services	Third International Conference on Women's Safety	November 24th, New Delhi, India
10.	National Consultation of Women's Organizations for inputs into the Approach Paper for the 12th Five-year Plan	WPC, UN Women, EKTA and other groups	December 9th, Chennai, India
11.	National Consultation on Urban Water Management to discuss inputs for the approach paper to the 12h Five Year Plan	Arghyam, Water Aid and the water community and Planning Commission	December 15th, New Delhi, India
12.	Water Security in Peri-Urban South Asia: Adapting to Climate Change and Urbanization	IDRC Regional Office for South Asia and China	November 8th, Delhi, India
13.	Results of the WAISP Water Sector Assessment Planning Workshop	USAID	December 16th, New Delhi, India
		2011	
14.	National Workshop on Violence Against Women	Women Power Connect	March
15.	Safety and Security aspects on the issue of Gender and Sanitation at the Gender Convening Workshop	The Bill and Melinda Gates Foundation	April 18th, Washington D.C., USA
16.	Plenary Session: Health Impacts of Poor Water Quality on Women	The Institute of Social Sciences	April 26th, New Delhi, India
17.	Technical Session: Inclusive cities for Women at the National Seminar on "Design and Planning for Sustainable Habitats"	Centre for Sustainable Habitat, Human Settlement Management Institute, Hudco, IDRC, CRDI and MOHUPA	July 16th, IHC, New Delhi, India

Additional research findings -
the 'costs' of failed service provision

The Centre for Budget and Governance Accountability (CBGA) undertook two important studies to explore the budgetary implications of the gender gaps in WATSAN service provision.

The first, "The Opportunity Costs of Water" calculated the time required by women to complete the daily chore of water collection and identified what the associated costs of their time would be if they had been paid for the time they spent collecting water. This time is referred to as 'the opportunity cost'. For example, in Bhalswa, it was found that the total time spent on collecting water from the supply tanker is 110 hours per year (time to reach the water source + time to queue at water source + time to return home), which translates to $44 USD - $48.40 USD of wasted time (using average wages for un-skilled and skilled workers). For stand posts, this opportunity cost goes up to $168 USD, whereas the per capita annual share of the WATSAN budget is only $23 USD. The report thus concludes that "the time saved due to improved services and better access would invariably translate into economic gains-by means of increased production or quality time for leisure, education, etc." (Bist-Joshi, 2010).

The second, "Gender Responsive Budget Analysis in Water and Sanitation: A Study of Two Resettlement Colonies in Delhi" is the result of a comprehensive review and analysis of a number of documents including literature on public expenditures, budget documents and policies and schemes related to water and sanitation. The report focused on four fiscal years from 2007-2008 to 2010-2011. The CBGA also conducted interviews with various officials associated with relevant government bodies, including the MCD and DJB. The data was then critically analyzed to assess how low-income urban women were affected. The report explains that "Budgets are critical policy documents of the government that reflect its commitments and priorities. Analysis of budgets helps assess the gaps in implementing these commitments and suggests corrective actions. In recent years, gender responsive budgeting has emerged as a powerful strategy to ensure inclusion of the interests of the socially disadvantaged groups in the planning and budgeting process." (Argarwala and Gyana, 2011).

The studies were completed by the following members of the CGBA team: Swapna Bist-Joshi, Trisha Agarwala, Gyana Ranjan Panda, Pooja Parvati, Subrat Das and Yamini Mishra. Both studies are reproduced in their entirety as appendices herein (see Appendices A and B).

5. Interventions

Project Objective 4 – Develop and implement individualized intervention projects in at least one of the selected communities to test the research results

The first phase of the project was dedicated to data collection, research and adapting the women's safety audit methodology to reflect this research. Research completed during this period consisted of a mix of primary research including community consultations, expert consultation, in-depth interviews, rapid situational analysis, mapping key decision-makers and focus group discussions as well as secondary research. Data was then unpacked, compiled and analysed.

In May 2010, the Action India and Jagori implementation teams held a joint meeting to discuss the research process and findings. The meeting served to reflect on the initial research objectives and on the various methods used by the teams to complete the research. Both teams agreed, for example, that the rapid situational assessment (RSA) provided them with a detailed understanding of the field, enabled them to establish new relationships with community members and establish contact with services providers. The RSAs therefore served as the foundation for the implementation of the rest of the action research process.

The action research helped to identify appropriate local stakeholders to engage and informed a partnership-building strategy that included the establishment of an advisory committee. As outlined above in the timeline of presentations, Jagori staff attended several international and national conferences on issues related to WATSAN in order to identify new potential partners, raise awareness about the project and to build their own capacity to undertake research in this thematic area. Additionally, public hearings were held in each of the implementation sites, mobilizing the community and municipal officials to listen to the women about their WATSAN and governance-related concerns.

The interventions

The action research process was accompanied by a short and focused set of interventions over a period of a year and half that included reaching out to others in the community with the key findings and enabling some community women and youth to further their critical perspectives and make headways on negotiations with local service providers and relevant agencies. Action India and Jagori are both, to varying degrees, located in the community and have been accompanying the women to envision a new agenda on gender gaps in services and to develop skills and strategies to demand the changes they deserve. Therefore, the short duration of interventions following the action research process in Bawana and Bhalswa are best seen within the overall context of Jagori's and Action India's ongoing work in the community.

Jagori has been working with the women from Bawana since 2004, following a period of forced evictions and displacements. In 2004, the study, 'Swept off the Map' (Menon-Sen and Bhan, 2008) was undertaken by Jagori who worked closely with the evicted women in documenting the violations of their rights. This process enabled women in the community to build deep political insights on the impact of the neo-liberal framework of development that had dispossessed them and that underpins the formation of world class cities. It was during this traumatic process of evictions, where women and their families were struggling with the loss of their universe and lack of access to any services (including identity cards and proof of residency for allotments of plots), that they formed a collective called the *Nigrani Samiti* (Monitoring Committee). The *Nigrani Samiti* held weekly clinics, monitored the quality of food grains and rations available in the local shops and accompanied other women to register complaints concerning their ration and identity cards. Jagori also reached out to women on issues of violence in the family and community. They formed a support group of women survivors of violence, who, in turn, became front-line workers, reaching out to other women in the community. At the state level, they engaged with the *Saajha Manch* (a city-wide network of NGOs working on urban equity issues), the NGO Alliance in Bawana and the women's movement working on issues of violence, to build solidarity and common ground for advocacy and resistance actions such as petitions, rallies and public hearings.

This core group of women, despite the trauma they had endured, did not lose hope. They offered alternative thoughts on building cities in less destructive ways, where they could find a meaningful living space and identity as legitimate citizens. They began questioning the current models of urban planning which are devoid of social justice and gender perspectives. They asked '*if community women mattered at all*', they would have been at the centre of planning and designing new settlements in the city and not on the margins, invisible to planners and the state at large.

Action India started work in Bhalswa in 2005 and set up a women's mediation process called the *mahila panchayats*[15] that has proven to be successful in many other communities of Delhi and India. When this strategy failed to come to fruition, they began addressing the more practical needs of women in regards to water, sanitation, health and hygiene, drawing on their existing knowledge and experience working in six other resettlement colonies in Delhi. They began using women's health as an effective entry point to engage community women and centred their programmatic interventions on health.

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15. Mahila panchayats are community-based women's collectives that undertake feminist dispute resolution; the courts recognize their recommendations.

The common experience of exclusion and loss of dignity and rights became their rallying point for women in both communities. Many of them lost their jobs due to the distance of the re-location community from their sites of work, and with them their livelihoods. Those who did manage to continue to work now had to travel long distances to work as unorganized sector labourers and as domestic workers. They also faced the challenge of having to deal with the lack of any services, especially sanitation.

The action research process built on the women's lived experiences. It provided them a set of processes to further analyze their physical and social environment, even though it created additional stress on them as the solutions to some of these critical problems seemed difficult to come by in the short term. The introduction of the women's safety audit and other tools enabled them to see the link between the issues of safety and the lack of gendered access to infrastructure and services. They needed to find a way to address this exclusion through advocacy and lobbying.

It was also clear that besides focusing on the issues of infrastructure and design, the safety audit walks enabled women and girls to uncover the subtle forms of harassment they faced by them when accessing essential services. The safety audit walks brought men and other stakeholders into the process thus breaking the silence surrounding violence against women and girls. They also enabled women to articulate the gendered impacts of inadequate infrastructure and helped to facilitate the process of negotiation with the local service providers where the highlighted problems worked to find solutions. Thus, the safety audits served a process of bridging the exclusion faced by the women.

In navigating this difficult terrain of figuring out what would work for them, their innate power, voice and resilience gained ground. Though they remained less hopeful about any major changes happening in the near future and the government's lack of interest in their plight, they gave precious time to unite and remain determined to continue this work.

Some key questions and an emerging framework of interventions

As part of the action research process, the field staff and the community women tackled critical questions of what change could look like. They also looked at other places where such change had taken place. The women showed an interest in organizing themselves.

Some of the questions the team grappled with included:

➤ How do we meaningfully use the key findings of our study and share them widely?

➤ How do we continue to struggle for gender equality and the gradual realization of our rights? How can our voices, so-far unheard, reach policy makers, planners and other collectives? Where can we articulate our ideas and thoughts? Are we citizens at all? If so, where is the government when we need it and where are the rest of the people?

➤ Is it even possible for us to understand the fractured architecture of the governance institutions from a gender and rights perspective? It seems so confusing to know who is in charge and why we have to live like this: Who, if anyone, is accountable to us?

➤ As it is, we have so little work out here; what is the real value of our labour, our unpaid work? Who is counting? What is it worth?

These questions made us reflect on how we should proceed with our work in the respective communities. We had to think about how we could develop a deeper understanding of gender-responsive governance and accountability systems, as well as how women and young people can best be mobilized to make their voices heard all the way to the top of the government echelons.

At the outset, the action research process recognized that the needs and demands of community women should be framed within a rights framework, drawing on The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and other human rights standards in the realization of these rights. CEDAW conforms to the theory of state obligation and affirms that it is the responsibility of the state to ensure that no public authority discriminates against women. The lack of essential services deprives women living in these communities of their fundamental right to lead complete and dignified lives and compromises their dignity and bodily integrity. 'Life' in Article 21 of the Indian Constitution is not merely the physical act of breathing, rather it has a much wider meaning that includes the right to live with human dignity, right to livelihood, right to health, right to pollution-free air, etc. The right to life is fundamental to our very existence, distinguishes us as human beings and includes all those features that make a person's life meaningful, complete and worth living. Too often, women's rights are overshadowed by the violence they face on a daily basis and the normalization and social sanctioning of such violence. This is further aggravated when women are unaware of their fundamental rights as citizens of the country. It was therefore crucial that the action research address the interconnectedness between different forms of rights violations and design strategies for advocacy with government and other stakeholders to fulfil their obligations to women so as to ensure an enabling environment where they can fully assert their rights as citizens.

With support from WICI, the Jagori and Action India teams engaged in readings, dialogues and discussions with other professionals and colleagues. The qualitative research, gathered through the narratives of women and other stakeholders, needed to be accompanied by some hard data, especially in regards to questions around women's unpaid work in maintaining these services, how public resources are allocated to re-location colonies and whether women are aware of their rights and entitlements. It was crucial to understand the state policies, master plans and other frameworks more deeply so that future plans could address the differing needs, interests, priorities and responsibilities of women and men, and examine how their unequal economic and social power impacts their entitlements. In an effort to deepen their own understanding and knowledge base about the issues under investigation in the project, a number of workshops and meetings were organized for the Jagori and Action India team members and women from the communities. The charts below outline these activities.

List of capacity building workshops and exchanges attended by Jagori research/ field staff and/or community women involved in the action research

S.No.	Title	Organized by	Date and Place
	2009		
1.	Inception Workshop	Jagori	March 24th, New Delhi (10 days)
2.	Workshop on JNNURM - "Dasha and Disha" for field practitioners	PEACE, New Delhi	Aug 4th -7th, Dehradun, Uttarakhand
3.	Marginalized groups in the city – Effects of gender, religion and caste on these groups	Jagori	Dec 21st, New Delhi
4.	Third Annual Forum of the UN Solution Exchange - Water Community	UN Solution Exchange, Water Community, New Delhi	October 28th -30th, Kolkata
5.	Gender, water and equity training	IDRC and TISS	November 23rd – 27th, Pune
	2010		
1.	Understanding the Delhi Master Plan	Jagori	January 18th, Jagori, New Delhi
2.	National Conference on Sanitation: "Cost Effective Sustainable Sanitation: An Indian Experience"	WASH India	June 28th-30th, IHC, New Delhi
3.	Sharing current developments in urbanization: Capacity building module on women's health and rights for women/youth in Bawana	Jagori	June – October New Delhi
4.	Urban Pro Poor Workshop Consultation for the 12th Five-year Plan	Arghyam and WASH India	December, 22nd, New Delhi
5.	Sharing the methodology and tools for undertaking a gender audit of Urban Local Bodies under the DFID supported urban sector reforms programme in Bihar	IPE Global	October18th -19th, Delhi

Field visits undertaken by Jagori research/ field staff and community women

S.No.	Title	Organized by	Date and Place
	2010		
1.	Visit to Savda Gevhra	JCURE	July 2nd, and July 24th, New Delhi
2.	Visit to Vaasna and Juhapura slums to observe water and sanitation	SAATH	July 20th- 21st, Ahmedabad
3.	Visit to Water Aid project in Bhopal slums	Water Aid	June
	2011		
1.	Visit to Kach Pura Gaon project site to see community toilets	CURE	May 19th – 20th, Agra

Jagori firmly believes that to challenge hierarchy in all power relations there is a need to undergo personal transformation and consciousness-raising. When addressing women's safety there is also a need to trigger a greater sense of empowerment and shift the focus to women's agency instead of victimhood. In the context of this action research project, the teams explored how women could promote their communities, engage in their development in a more formal sense and institutionalize their spaces so as to create a powerhouse from within the community. The Jagori team was aware that these were difficult and long-term processes, particularly considering that these were newly formed colonies where social networks and relations had been broken and needed time to be rebuilt. Fortunately, as this project has demonstrated, women have the power and drive to work across barriers and injustices.

A framework of 'gender-responsive accountability' was assessed by the team for its potential to enable women to negotiate and demand their rights. The accountability framework contains two essential elements: (a) women are participants in all oversight processes; and (b) accountability systems must make the advancement of gender equality and women's rights one of the standards against which the performance of officials is assessed (UNIFEM, 2008). The women involved in the project needed to know more about how money was allocated and decisions made. They needed to unpack the structures of power and decision-making in order to seek processes that would enable them to question and become involved in local decision-making processes. This included working with local service providers and putting pressure on them to deliver the services for which they are accountable.

Building women's knowledge base and perspectives on rights and entitlements

Jagori was keen to advance women's knowledge of their rights and entitlements, particularly in regard to the new knowledge that was being generated through the studies. It was decided that the *Nigrani Samiti* (Monitoring Committee) members and other women and youth, including the field and training team in Bawana would be offered an opportunity to build their capacities to take the work forward. Workshops and trainings were also held in Bhalswa and work was initiated with the youth to galvanise the community.

Bawana

Following a needs assessment in Bawana, an intensive series of knowledge and capacity building sessions were developed and offered to a core group of 43 women and 11 adolescent youth (4 girls and 7 boys) over a period of three months. These sessions were intended to enable participants to gain insight into various issues and processes of change related to the provision of essential services in their communities, and were intended to inform the subsequent action in the implementation sites. Given the participatory nature of the project, it was essential that the women from the community receive the tools and knowledge required for moving forward with the governance component of this action research project. The individual sessions were organized around a specific topic based on the interests of the community women and the project orientations, were relatively short in duration and were offered at a time that the women identified as being most convenient, i.e. when they were able to re-allocate time from their livelihoods and related chores. The training schedule was originally designed as 13 modules offered on a weekly basis in 3-hour blocks. However this was modified – at the women's request – to 1.5 hours sessions followed by a mid-week review. The sessions began in July 2010 and continued through January 2011.

The trainings in Bawana aimed at:

➤ Enhancing community women's knowledge and perspectives in the context of urban settings;

➤ Focusing on leadership development and building self-esteem and identity;

➤ Challenging power relations and subverting patriarchy;

➤ Deepening understanding on women's health and hygiene issues;

➤ Learning from other experiences in Delhi and elsewhere in India.

The sessions were built around critical knowledge bases such as the master plan, addressing women's health requirements, and gender-responsive budget, governance structures of the state, urban planning paradigms and exclusivity and leadership building. Brief reflection periods asking women to consider the personal and political implications of different issues were built into the work plan. This process was intended to build the capacities and leadership skills of the women leaders and to increase their knowledge of water, sanitation, gender budgeting, governance structures, advocacy and the health needs in their community. The methodology was based on principles of adult learning and feminist understanding and built upon team building processes. Their learning process was tracked, so that meaningful changes in methodology and contents could be made in the training schedule if needed. The data gathered by the community monitoring team indicated that awareness increased and women understood and felt responsible for the changes needed in the community.

Resource people in the field of urbanism, communications and economics were identified to provide in-depth training. Jagori's training team was also consulted on the development of the modules. A detailed profile form was completed to help the trainers to understand their audience. Different resource people were then strategically asked to facilitate the sessions. For example, the consultant working on gender budgeting led a training session on this issue and Action India workers led the training session on women's health. The iterative learning process ensured that follow-up sessions were organized after each training session in the period prior to the next session. These follow-up sessions were held in women's homes and *gullies* (lanes) and served to clarify and reiterate key points from the lessons and to answer questions. This allowed for more intensive interactions with participants, while providing them with additional support. These and other gully meetings meant that this process reached about 800 women.

A field visit to Savda Gevhra, a nearby resettlement colony, was organised as part of the training. The aim of this peer exchange was to allow the women from Bawana to directly observe and learn from other similarly affected groups.

Here is a brief profile of women and youth participants[16] (see graphs on next page for more details):

➤ The group was comprised of people from diverse backgrounds, including single women and a mix from Other Backward Classes (OBC), Scheduled Casts (SC), and Muslim and Hindu communities. Twenty nine women stated that their family consisted of less than five members each, while 14 women indicated there were up to 11 members of their family. Most women were part of the informal sector, working as vegetable sellers, running small shops or doing tailoring and embroidery from their home, while others worked in the nearby factories and for other NGOs.

➤ Of these 43 women, only 11 had plots/licences in their names; however 21 women indicated that their marital families had some land in their hometowns, though not in their names.

➤ In terms of education, 24 women had not been to school and were non-literate; 12 attended primary school only and 7 continued up to higher levels from class 6 – 12. It was interesting to note that there was a higher educational status among the youth, and all youth are in schools in grades 8-10[17].

➤ Five of the 43 women do not currently have ration cards. Twenty possess Below Poverty Line (BPL) cards and 14 Above Poverty Line (APL) cards while the rest are in the *Antyodaya Anna Yojna* (AAY) category[19].

➤ Only 19 women had bank accounts in their name.

➤ Twenty women claimed to have built either bore wells costing around $568.18 USD[20] or motors that deliver water to their homes through pipes for which they paid around $227.27[21]. The rest generally access water from public supplies close to their homes.

➤ Twenty-four women said they had small toilets built largely on their terrace on the first floor or second floor. It is interesting to note that 14 of these are also those that have water pumped into their homes.

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16. Chaitali, Jagori from data collected in the field 2010.

17. Jagori has been making investments to enable drop outs to join schools and, in the last five years, has also been providing educational assistance to children.

18. The families with annual income more than $550 USD (equivatlent to Rs 24,200 using an exchange of $1 USD = Rs 44) are categorised as Above Poverty Line and are given white cards called APL Cards. The families with annual income less than $550 USD are categorised as Below Poverty Line and are given yellow cards called BPL Cards.

19. The poorest of the poor identified families are under *Antyodaya Anna Yojna* (AAY). The AAY contemplates identification of 10,000,000 (families out of the number of BPL families who would be provided food grains at the rate of 35 kg per family per month. The food grains will be issued by the Government of India at $0.05 USD (Rs 2) per kilogram for wheat and $0.07 USD (Rs 3) per kilogram for rice. The Government of India suggests that in view of abject poverty of this group of beneficiaries, the State Government may ensure that the end retail price is retained at $0.05/kg for wheat and $0.07/ kg for rice. The scale of issue, initially 25 kg per family per month, has been increased to 35 kg per family per month effective 1st April 2002.The AAY Scheme was expanded in 2003-2004 by adding another 5,000,000 households from amongst the BPL families. In line with the National Common Minimum Programme (NCMP) of the UPA Government and the announcement made by the Honorable Finance Minister in the Union Budget 2004-05, the AAY was further expanded 1st August 2004 by another 5,000,000 BPL families by including, *inter-alia*, all households at risk of hunger. As announced in the Union Budget 2005-06, the AAY was expanded to another 5,000,000 BPL households thus increasing its overage to 25,000,000 households (http://fcamin.nic.in/dfpd_html/aay.htm#)

20. Equivalent to Rs 25,000 using the exchange rate $1 USD = Rs 44.

21. Equivalent to Rs 10,000 using the exchange rate $1 USD = Rs 44.

Social status of a select group
of women participants from Bawana
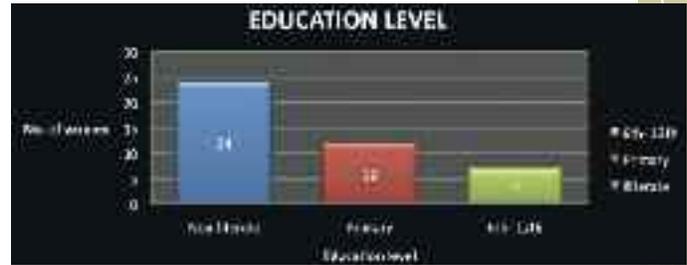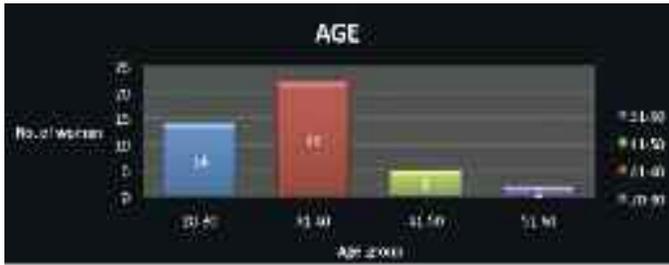
Economic status of a select group
of women participants from Bawana
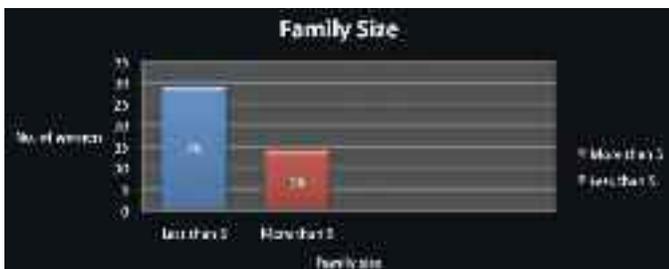
Several follow-up sessions were held in the ensuing months: sessions on leadership, information sessions about government schemes in addition to other meetings and consultations. This included a workshop with 12 women and some boys on their expectation for a clean and safe toilet complex. It was held in April 2011 (see Diagram[22] below).
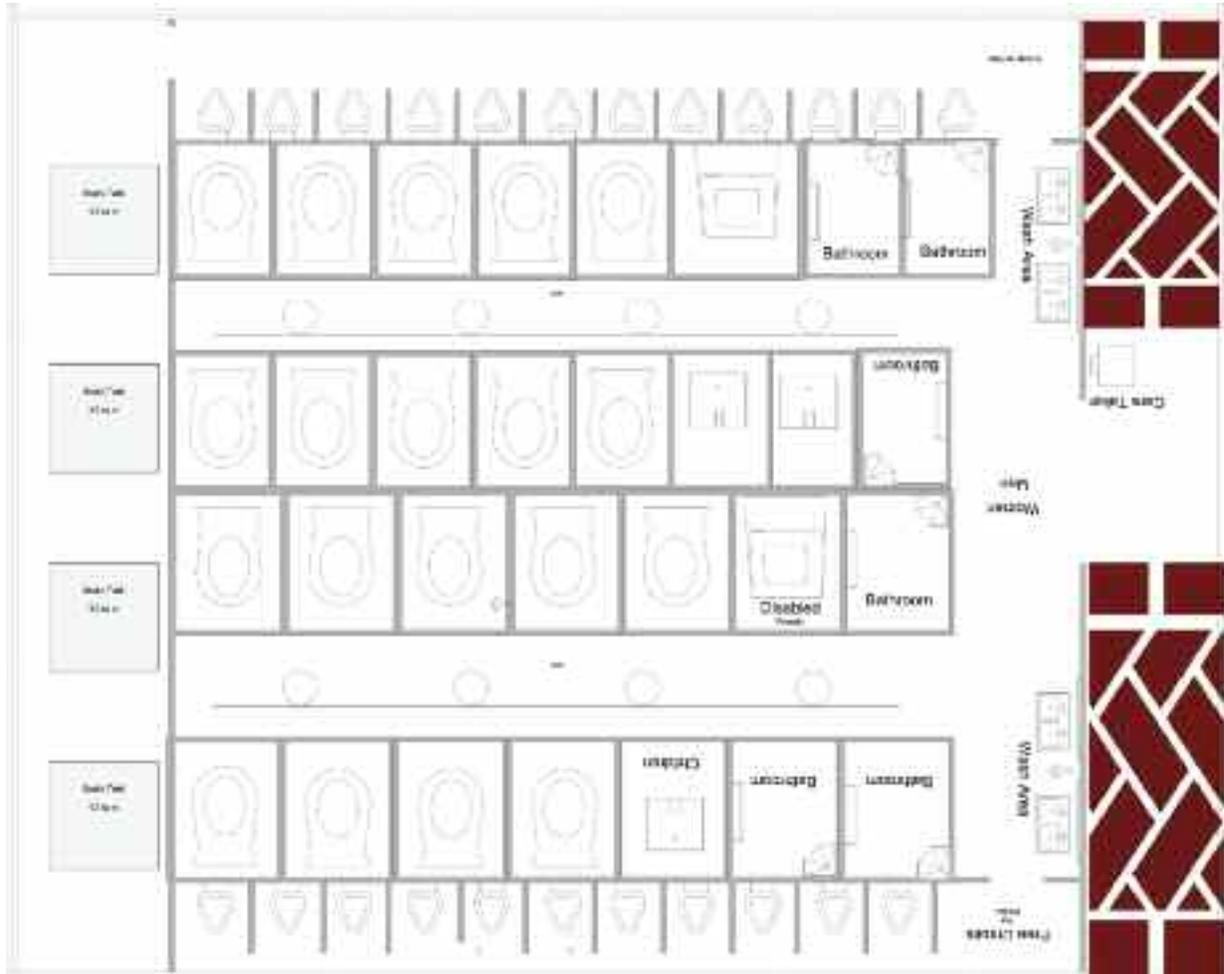
As can be seen in the diagram above, women articulated the need for an open space with a covered roof. They wanted small windows to let the light and air in; a tap inside each toilet so they would not have to fill containers to carry with them to the toilet; (there is only one tap in each complex which they use to wash hands and fill the containers they take into the toilets). They were very clear that a separate section needs to be built for children and that it was not the sole responsibility of women to accompany children to the toilets/bathing spaces. Participants were adamant that women needed a separate section with independent toilet seats, which would also have some hand bars inserted for pregnant and older women to hold onto. They said that the toilet boundary wall should be high to prevent anyone from peeping through.

22. The diagram was prepared by the women in Bawana and was translated into this English language drawing. April 2011.

Bhalswa

Much of the training in Bhalswa focused on health-related issues and aimed to enable the women to assert their right to health services. For example, the Action India team conducted surveys to identify the pregnant and lactating women in five blocks of the community. They linked these women up with accredited social health activists in order to provide them with information and to begin the process of registration. Pregnant women were also provided with training on issues related to reproductive health and WATSAN.

In another example, health issues related to poor WATSAN services were explored. This was extremely pertinent since the community had been flooded for the months of August to September. The women learned about water borne diseases and the dangers of unhygienic sanitation practices such as open defecation. Precautionary measures were also shared with the group in order to provide them with the knowledge that they need to minimize risk. Finally, the women were taught basic home remedies and learnt the medicinal value of different foods and spices as well as the importance of a healthy diet.

Woman walking around water in the lanes after a rainfall.

In Bhalswa, a five-day training workshop was organized with the youth in the community. Here they were taught about issues such as the right to food, water and sanitation under the Indian constitution. The youth were then taught that it is their responsibility to demand that their rights be respected and were trained on how to put in a request under the 2005 Right to Information Act (RTI). Complementary advocacy training was provided to give the youth the skills they needed to demand that their rights be met. In order for the workshops to be youth-friendly, a variety of different methodologies were used throughout the five days to keep them engaged (e.g. street theatre, role playing).

Partnership with One World Foundation
for a communications strategy

Bawana is a large area with limited communications possibilities and access to community outreach. Jagori, in partnership with OneWorld Foundation India (OneWorld), initiated a communications intervention that intended to empower women and youth to disseminate the critical issues they gathered through the action research. This intervention would also allow them to sensitize the community and other stakeholders while advocating for the changes needed. Scripts were developed by means of a consultative process and used for advocacy with local agencies and service providers.

A comprehensive series of capacity building trainings on community media and advocacy were held from March 2011 onwards with a core team of 12 members, including 9 women and 3 youth. Six radio programmes were produced - three for local dissemination and three for national broadcasts. The sessions included:

➤ Water and sanitation in urban resettlement colonies:
   http://edaa.in/edea/water-and-sanitation-in-urban-resettlement.

➤ Water and sanitation: Structural and institutional arrangements:
   http://edaa.in/edea/watsan—structural-and-institutional-arrangements.

➤ Water and sanitation: Best practices and women's role:
   http://edaa.in/edea/watsan—best-practices-and-women.

A radio listener group in Bawana

Another radio listener group in Bawana

The core team prepared the outlines, scripts and anchored the programmes. In addition, they conducted six narrowcasts which involved transmitting and disseminating relevant radio programmes to small and specific audiences. In order to do this, listener's clubs were established in the community. Members of the clubs engaged by lending their voice to the programme, providing feedback on content and by committing to take action based on the information shared. A total of 170 people from their lanes joined and eight listener's clubs were formed.

The three 15-minute radio programmes and three 30-minute programmes for a national level audience were produced and broadcast on AIR FM Rainbow India. The scripting process was educative and enabled the group to move from problem articulation to making commitments and spreading the discourse within the community. They gained confidence in speaking and anchoring while reaching out to a wider audience through the listener's clubs. An intensive dialogue was also facilitated amongst and between residents of Bawana, local representatives, implementing agencies, local government officials and service providers.

Key interviews were held with the local councillor of the area, a representative of the Municipal Corporation of Delhi (MCD), a member of Legislative Assembly of Delhi and the Senior Engineer of the MCD regarding the appalling status of the essential services in the community. The broadcasts aired in May and were well received on AIR FM Rainbow by the local community in Bawana and about 15,000 other listeners in Delhi and other states. A total of 142 SMS feedback messages were received from 17 different Indian states and from Nepal.[23]

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23. One World Foundation: Activity Reports to Jagori, June 2011

Bawana women and youth interviewing someone for a radio programme.

The advocacy process enabled them to acknowledge failures in service provision and seek commitments, as demonstrated below:

➤ In a radio interview on May 14th, 2011, the local MLA Mr. Surinder Kumar said that the Government of the National Capital Territory of Delhi (NCT) had sanctioned almost $3,000,000[24] for infrastructure development in Bawana JJ which was likely to be finished before the monsoon season;

➤ The local Councillor Narayan Singh, in his interview on May 18th, 2011, complained about the fact that Bawana does not have the requisite services that it needs, admitting that while there is a need for 400 *safai karmacharis* (sanitation workers appointed by the MCD), there are only 30-35 at present.

24. Original figure is Rs 13 crore, equivalent to $2,954,545.45 USD, using the exchange rate of $1 USD = Rs 44.

"I understand the government has failed in some respects and we are all responsible. And the drains and other issues are known to the MCD and they have made some efforts. In 2001-02 community toilets were made. Delhi has an issue of urbanization and a drainage plan is being prepared, which is currently a priority for the Delhi Government".

- Pradeep Khandelwal, Senior Engineer, MCD in a Radio interview on May 6, 2011.

It is evident that sustained advocacy and pressure building is needed on this front along with advocacy for issues of tenure and related rights.

The communications strategy was effective as it enabled the Jagori field team to engage with the community more widely and hear diverse voices while identifying people who wished to join the collective process. In some gullies (lanes), they witnessed increased collective mobilizing, whereas in other lanes there was a need for more group building processes.

Creative material development in partnership with Kriti Team

To effectively reach out to the community, creative materials were developed to highlight some key findings of the action research. In consultation with the women and youth in Bawana and Bhalswa, sets of posters and stickers have been developed (see below). The youth and women also work closely with a filmmaker to document their issues and build an advocacy tool.

We have become aware of the rights to essential services,
Of the right to clean water, to safe sanitation,
Of the right to live in clean lanes,
It's the voice of every woman!
Whether it's a single, pregnant, differently-abled, dalit, working woman or domestic worker
It's the right of every woman!

Let us draw a map of our city today,
Where we have access to rations, water, electricity and sanitation,
One such city, one such slum, where there is no pool of garbage,
And dirty water does not flow in the drains,
Let us make a community where there is a partnership with sanitation workers,
And where there is women's safety,
Where the main focus is on women's needs and perspectives,
Let us together build a "gender-equal" society

Our lanes, our community,
Everyone's partnership and everyone's responsibility

गली गली में शोर है,
हुई अधिकारों की भोर है

हवा में उछले हाथों का,
जन सुविधाओं पर ज़ोर है।

www.womenincities.org

www.jagori.org

Supported by IDRC

Hoisting voices along the lanes,
For the dawn of rights has dwindled,
We raise our hands in proclamation,
Of essential services which now cannot be meddled.

Media advocacy in partnership with Women's Feature Service (WFS)

Women's Feature Service (WFS) produces news articles from a gendered perspective and works to bring women's issues into the public domain (http://www.wfsnews.org). In 2010, WFS – India's only gender-centric features agency – was awarded a top prize by the United Nations Correspondents Association (UNCA) Awards Committee for its series, 'Toward MDGs, 2015: Gains and Gaps'. The media content generated by WFS is placed in the Indian print media as well as on websites both in India and internationally.

Jagori entered into a partnership with the WFS in the context of this action research project. Through the WFS, media stories focusing specifically on women's safety in different areas including in the home, in public space and in the work place were produced and disseminated. These features drew on the findings of the action research to present the realities of the women of Bawana and Bhalswa, showcasing their experiences and perspectives on the right to essential services. The feature articles highlighted the political dimensions of the gender gaps in water and sanitation and conveyed the opinions of a wide array of professionals and policy-makers, as well as grassroots women leaders. These features also captured changes in social, administrative and personal attitudes to the issue of women's safety over the period covered by the project. The features have been made visible through dedicated website space, which continues to serve as a resource for social activists and academics working on these and related issues. The article series on women's rights and access to water and sanitation can be accessed on the WFS website at: http://www.wfsnews.org/wfs-jagiri-inside-may-2011.html.

Some of the articles have also been published and disseminated by other news agencies including Bangalore's Deccan Herald (http://www.deccanherald.com/content/174640/when-women-take-over.html) and the Global Room for Women (http://www.globalroomforwomen.com/global-heart-blog/entry/resettlement-girl-leads-motivated-youngters-to-raise-awareness-on-water-conservation-in-delhi.html).

Advocacy on gender-sensitive infrastructure and women's safety

The action research project has provided Jagori staff with a deeper understanding of gender in the context of urban settings. Due to their involvement in this project, Jagori was and continues to be invited to meetings to present its work and share the findings of the research on women, safety and essential services. See chart in Section 4 for a complete list of meetings, workshops and conferences where either Jagori or Women in Cities International participated in to date.

Reflecting together

At a reflection and planning workshop organized by Jagori in June 2011, the Bawana and Bhalswa groups came together and were provided with information and asked to provide inputs on some particular areas of essential services including solid waste management and design features of services. During this process, they envisioned some changes to essential services in their communities.

They said: *"Hamari baton ka dhyan karo, hamari samasyaon ka samadhan karo",* which translates to "Pay keen attention to what we are saying and find solutions to our problems."[25]

They expressed wanting to undertake a huge campaign that would see them work closely across several communities. They hoped that they could garner the support of several stakeholders, including the resident welfare associations, municipal wards, local political representatives and others for such a campaign.

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25. Workshop report, Jagori, June 2011.

6. Results and reflections on the action research project

The action research consisted of both primary research (community consultations, expert consultation, in-depth interviews, rapid situational assessment, mapping key decision-makers and focus group discussions) and secondary research, followed by a period of analysis. Both WICI's expert-consultant and a representative from WICI travelled to Delhi and met with the Jagori team to assist with the development of a plan for writing up the project findings and reporting on the data. During this period, the women's safety audit (WSA) methodology was both adapted and tested in the two communities and partnership building with municipal government officials and key local stakeholders was initiated.

Results demonstrate that the two communities are quite distinct in terms of access to essential services and safety. Initial findings revealed that Bhalswa was significantly more under-serviced than Bawana. The research completed within the framework of this action research project identified not only problems with access to essential services, services not being women-friendly, and a lack of maintenance, but also flaws in infrastructure and the design rendering services inadequate.

The action research was collaborative in nature and drew on the sustained active participation of the core group of women from Bawana and Bhalswa. Their engagement helped the researchers to understand the challenges they faced, providing a qualitative depth to the research. Their opinions, experiences and ideas shaped the action research. The project team, in turn, was sensitive to their needs and time constraints, making periodic adjustments to the process, as required.

Important outcomes in Bawana

Creating a space for dialogue and changing attitudes

The engagement of women and youth in the action research project has brought some interesting and fundamental changes in social relations in Bawana. Prior to the Project, most residents, women or men, did not speak about defecation, urination or bodily functions such as menstruation in public. It was assumed that women would 'do their business' in the darkness of early morning or night and was considered inappropriate for them to attend to their bodily functions in the daytime. Today, due to the interchange on the gender implications of inadequate infrastructure in the community between Jagori staff, the women in the community and the residents, women and men, boys and girls are not as shy as they used to be. The use of numerous communication and capacity building initiatives has assisted in creating opportunities in normalizing discussions about, for example, the needs of menstruating girls and women.

Through the project there has been a noticeable change in the residents – women, men, boys and girls - in terms of their understanding of the link between sanitation facilities, services, women's safety and women's and girls' biological needs. People have become significantly more comfortable discussing their bodily functions. There has also been a significant change in the attitude of the street cleaners, inspectors and supervisors in regard to the issues of bodily functions and they too feel comfortable talking to women about sanitation and menstrual waste management.

Now, in the public and *gulley* (lane) meetings, both women and men speak openly about the need to provide better services for women so they can have safe access to toilets at any time of day. They are also speaking openly about the problems of women's and girls' safety and well-being, acknowledging, for example, the problems related to the CTCs being shut between 10-11pm every evening and only opening again at 5am. Men also now feel comfortable to say things such as, "We don't use these paths in the evening or early morning as we know the women use it for defecation and it would not be nice to meet one's sister in this way". Women would like the CTCs to be open 24-hours/day, however, with limited lighting in Bawana and with the CTCs not being close to all potential users, there is still the issue of safety in walking alone to the CTCs at 3 or 4 am. Another new development in the community and lane meetings is their discussion of the problems of overflowing drains and solid waste management in the spirit of finding solutions.

Another significant change in Bawana is the development of a new relationship between women, their communities and the sanitation workers in charge of solid waste management and drains. Before this project, there would be at least one or two women per *gully* or block who would fight for proper services, even though their neighbours would discourage them from doing so. Through this project and its outreach and engagement, women and men in many *gullies* (lanes) and five blocks of Bawana have a deeper understanding of the link between the quality of service provision, constraints on the sanitation workers and the collective responsibilities of both sides to working together to address the problems that are causing them so much distress and hardship. The fact that an increasing number of residents feel that they too are responsible for taking care of their surroundings and facilities demonstrates how far things have come when compared to the project's early days in the summer of 2009. At that time, women and men used to point their fingers at the government for lack of accountability and the infrastructure and its poor maintenance while ignoring their own potential to improve the situation.

However, despite everyone's best efforts to work together to ensure that garbage is picked up and the *nalas* (drains) remain clear, it continues to be nearly impossible to create sustainable changes in the services due to the infrastructure's poor quality and faulty construction. Many of the drains were poorly built in the first place and they were constructed well after the evicted population was settled there. Furthermore, the drains were built with very limited carrying capacity and for a smaller population than the one that currently resides in Bawana. The consequence of this is that the drains overflow with a mix of wastewater, solid waste and sewerage, making many of the lanes impassable and further endangering the lives and safety of not only women and girls but of all residents. This is a persistent problem plaguing the community almost year round.

Women and girls experience less harassment

Another noteworthy change has been a reduction in the level of harassment experienced by women and girls when they are on their way to and from the Community Toilet Complexes (CTCs) and when they are at the CTCs. Earlier, boys and men used to harass women and girls when they were walking to the CTCs or when they were waiting in line to use the facilities. The combination of the women's safety audit walks, numerous conversations between young and older residents, and subsequent follow-up conversations with the CTC caretakers have significantly enhanced people's awareness and understanding of the kinds of behaviours that make women and girls feel uncomfortable and unsafe. Unfortunately, while women and girls now report feeling a lot safer around the CTCs, this does not mean that they are completely safe. One still hears of girls facing harassment and that makes them feel shamed or humiliated. Other activities identified by the women as being problematic, such as boys climbing up onto the CTC roofs to fly kites, continue and women's vulnerability to harassment and violence still exists. There are still cases of young girls going 'missing' on their way to the CTCs only to return hours later, if at all. So while it is clear that much has been accomplished in the past few years, it is equally clear that much remains to be done.

Active community participation to address the gender gaps in service provision

The intensive capacity building programme benefited 43 women, 4 young women and 7 young men and served to develop a core team of residents who could mobilize others and create the change needed by their communities. The trainings aimed at enhancing community women's knowledge and political perspectives in the context of urban settings. They also focused on leadership development, building self-esteem and identity, challenging power relations and subverting patriarchy, deepening an understanding of women's health and hygiene and learning from similar organizing in Delhi and in the country. This knowledge base is essential for taking the work forward and creating sustainable change.

Women from the community worked together to develop a proposed new design for the CTCs that would address the gender gaps in the current design. As described earlier, the proposed plans for the CTC include a covered roof and small windows for light and air circulation and taps inside each toilet. The also include a separate section for children with toilets and sinks to scale and options for both men and women to be able to take children in to use of toilets and to bath them. They underscored the importance of having a CTC that accommodates men as caretakers of children so that the burden is not solely on women. The women considered particular accessibility needs and the proposed design includes toilet stalls with hand bars for pregnant and older women to hold onto. Finally, the toilet walls in the women's design are high enough to ensure both their privacy and safety.

Another noteworthy result was the engagement of young women and men in the action research and the resulting deepening of their understanding about access to essential services and the safety of girls and women. They were keen to participate and bring about change in infrastructure in their community. Together, the youth produced three 15 minute and three 30 minute radio programmes that were broadcast locally and nationally. With the Jagori team, they organized meetings in the lanes with the residents to listen to the programmes and then discuss and debate the issues raised in the broadcasts. This process reached many residents who had not been involved in the project thus far and increased their awareness around issues related to water, sanitation, drainage and solid waste services and their gender implications.

Demanding accountability

Women in Bawana filed four Right to Information (RTI) applications in 2010. The RTIs demanded to know why services were not working in the community and what the budget allocations for maintenance were. The first RTI was filed on July 6, 2010 to find out who was responsible for maintenance of the CTCs. The second, third and fourth RTI were filed, respectfully, to find out who was responsible for the maintenance of big and small drains, to get the attendance records of the *safai karamcharis* (drain cleaners) and to get a copy of the Sub-zonal Plan under the Master Plan. While they received some responses, the women felt that they were unsatisfactory and it was quite clear that a more detailed study, such as a gender budget analysis, was needed to shed more light on gaps in service delivery[26].

In June-July 2011, women and youth put together a petition addressed to the Member of the Legislative Assembly (MLA). They went through the *gullies* and had residents to sign in support of the letter suggesting the actions that they can take to address the infrastructure and services gaps in Bawana. The letter was delivered to the MLA and the councillor with over 300 signatures.

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26. RTIs filed by women and shared by Kailash, Jagori Bawana, 2010.

Important outcomes in Bhalswa

Action India's involvement in leading the project in Bhalswa has resulted in some impressive outcomes, despite some important challenges. Bhalswa proved to be a very difficult community to work in. This was due to a number of factors: first, the difficulties of daily living have taken a heavy toll on the women in the community. The deep poverty of the community was worsened by the failings in terms service provision. Specifically, the lack of sufficient potable water; insufficient and badly managed CTCs - and thus the need to engage in open defecation; lack of proper drainage management and lack of a system of solid waste management all aggravated the living conditions of the residents of Bhalswa. Additionally, women's mobility was compromised by poverty and the distance of the community to the main road where working women have to go in order to take buses to their work. If they could afford the fares for the *Tempos*, small motorized passenger or goods carriers, it would cost them $0.14 USD[27] each way totalling $0.28 USD before including the cost of the many buses they would have to take to reach South Delhi. This is simply not viable for many working women and men who choose instead to walk the 50 minutes it takes to reach the main road.

Additionally, the history of the engagement of NGOs in Bhalswa has left a legacy of defeat and dashed expectations for positive change in service provision and infrastructure. While many women and men from the community had been active with NGOs over many years, these organizations were not successful in securing accountability and improved services and infrastructure for the community from governments and utilities. Repeated efforts over the years left many residents disheartened and even hostile towards new NGO initiatives in the community.

Action India activists worked with women through these very difficult circumstances and were successful in engaging women and young women and men on a number of levels. The building of rapport and trust took many months, but eventually led to some very positive changes in the lives of the women and their communities.

New and improved services

Some notable outcomes of the action research project in Bhalswa include the clearing of drains and the improvement of a section of a road in Bhalswa. Additionally, a vacant area of Bhalswa that was usually covered in solid waste is being cleaned-up and developed into a park.

Another important improvement has been the establishment of a small system of solid waste collection via a motorized vehicle on the main roads of Bhalswa. This is the first time in the over ten years of Bhalswa's existence that there has been any system of solid waste collection. The women must be vigilant to ensure it continues. It stopped briefly and the women and youth organized a petition that was promptly delivered to the local councillor and resulted in the reinstatement of the service.

Prior to the engagement of Action India in the project, the residents of Bhalswa recived a very limited supply of potable water via tankers. Residents had to bring potable water from outside the community including their places of work, typically located very far from their homes. Many women had to use leachate pumped from underground to wash clothes and dishes.

27. Original figure is Rs 6. USD conversion done using an exchange rate of $1 USD = Rs 44.

By the end of the action research it noted that the supply of potable water to the area had increased in a number of ways. First, there are now additional tankers that deliver water to the lanes. Two tankers come twice a week in the different lanes whereas before there was only one tanker delivery in seven to ten days and that was only delivered via political connections. Potable water supply has also increased through the instalment of new water lines in the residential blocks and re-activation of the older pipes. Here is a breakdown of water supply to five blocks in Bhalswa to the end of the project:

Block A2 gets water from tankers and pipes;
Block A3 gets water delivered via tankers only;
Block A5 gets both water delivered by tankers and piped water;
Block B4 gets both water delivered by tankers and piped water;
Block C2 only gets piped water.

Service providers did not provide taps for the water since they tended to disappear or get broken. This meant that the water was left to run and was wasted. Women devised their own way of closing the pipes using a piece of wood and a cloth. This technique ensures that water is not wasted. Women also formed monitoring committees composed of five members in each of the blocks to ensure that water from the pipes is not wasted.

Women's and girls' safety has improved

The police have increased their presence in the community and have tried to be responsive to the safety concerns identified by women and girls in Bhalswa. By the end of the project, women's safety had reportedly improved and police were patrolling the area in the day and the evenings. Girls faced less harassment when they left school in the afternoon as the police began keeping watch when school ends so that the girls can walk home safely.

Another successful intervention was made at one of the only two functioning CTCs in Bhalswa. Men used to harass women and girls when they came to use the CTC and they used to peep into the women's section of the CTC from the open roof. They would even enter into the women's section of the CTC when women and girls were inside. Furthermore, when the caretaker would clean the toilet, he would throw all the garbage from the toilets to the back of the CTC. The women got together and went to meet the caretaker and told him of their problems. He spoke to his boss and men are no longer allowed to harass the women and girls and the garbage has been cleaned up and removed from behind the CTC.

Community organizing for better services

This success in obtaining water has changed women's and the community's lives in remarkable ways and has provided the women, men and youth with an impetus for further organizing to get the services that should rightfully be theirs.

There are now two active youth groups in Bhalswa: a group of about 25 young women and 18 to 20 young men. There are also twelve small groups of women organised according to the blocks and lanes of the community. They act as monitoring committees for infrastructure issues and work to mobilize residents in their blocks. Twenty-five women are part of this new community structure. An improvement of living conditions has had a positive impact in some families where the husbands of many of the women now come out to join in the gully meetings held to discuss and mobilize around local services issues.

Staff of Action India, the women in the community and the young women and men of Bhalswa have learnt new things and built their capacity in a number of areas. They have learnt about research methods and tools, they have learnt about the meaning of organizing political meetings and lobbying elected officials, how to develop and deliver petitions for their demands, how to identify and speak with relevant municipal officials, and how to file RTIs. They have seen some important improvement in terms of service provision in their community and are committed to continuing to push for their rights to essential services.

Analysis of the monitoring

At the inception of the project, it was decided that the monitoring component of the action research project should focus on getting regular feedback from the community and that they would monitor changes to water and sanitation related services on the ground. Part of the monitoring would focus on the project activities so that the project team could assess the effectiveness of their engagement as the project unfolded. An outside monitoring and evaluation (M&E) consultant was hired to carry out the M&E process and to lead the community-based feedback mechanisms. The M&E consultant was responsible for analysing the results of the community monitoring process and communicating those results back to the project team so that changes could be made to the project design as required. The consultant was invited to all planning and review processes for the project to enable him to have a comprehensive idea about the interventions.

Given the nature of the action research and the fact that the principal agents in the process - women in the JJ re-location colonies of Bhalswa and Bawana who are hard-pressed for time - it was decided to use simple methods that could be administered quickly, that were accessible to all to use and that were easy to understand. The emphasis was to generate quantitative information in an interactive manner so as to allow the women to be comfortable and in control of the process. The M&E consultant regularly met with the women in the community to discuss their impressions about the action research and its impact in their community, thus providing complementary qualitative information.

Establishing a monitoring committee

The monitoring process was initiated after the rapid situation assessment (RSA) in Bawana and Bhalswa was complete. Information gathered as part of the RSA identified the availability of various services pertaining to water and sanitation in the area as well as some of the related concerns. The first formal interaction with the community was done around the same time as the focus group discussions (FGDs). The FGDs were organized by blocks and revealed that women, men and youth all shared some commonly held perceptions around water and sanitation issues in their community. It was decided that the community monitors should number five for each site and that women who were part of the *Nigrani Samiti* (monitoring committee) in Bawana and *Mahila Panchayat* (community-based women's collectives that undertake feminist dispute resolution) in Bhalswa would be the first approached to participate as community monitors. The responsibilities of the community monitors included providing regular feedback to the project team and monitoring the processes happening at the field level. As the first step towards this, an orientation of the trends that had emerged from the FGDs was shared with members of the *Nigrani Samiti* and *Mahila Panchayat*.

The Jagori and Action India field teams shared preliminary research findings from the two re-location colonies with women in the communities and explained the reasons for undertaking the action research. Selection of the community monitors was done through a consensual process at both the locations. The only condition to deciding on the five people who would form the committee was to ensure that residents from different blocks in the JJ re-location colonies were selected in order for the group to be representative. Given the nature of the community engagement at the time, the five community monitors selected by the *Nigrani Samiti* in Bawana were three women, one girl and one boy from the community. In Bhalswa, the group was originally composed of five women, but the composition of the group changed and the group came to be formed of two of the original women members, two girls and two boys by the end of the project period.

After the selection of the community monitors, a half-day training session was held at both locations to introduce and train the group on how to use the monitoring tools. Both the community monitors and Jagori and Action India field teams participated. The tools used as part of this monitoring process were primarily visual and participatory based on scoring and ranking. Notwithstanding the formal role of the community monitors, the interactions at both Bawana and Bhalswa always elicited additional participation from other community members.

The scoring system

The synthesis of the findings of the RSA and FGDs in Bawana and Bhalswa formed the baseline for engagement with the group. Scores for the current status of various parameters about water and sanitation facilities and services were established through the aid of a visual evaluation wheel to draw an interconnected cobweb for each of the priority issues identified by the community (see examples below). Similar exercises were done in Bawana and Bhalswa with the community monitors in order to identify the sub-themes and issues. While the broad parameters determined were the same, the Bawana team decided to focus on four categories: water, toilets, solid waste and drains, while the Bhalswa team concentrated on solid waste and drains as a combined category. Women and youth in both communities then began systematically monitoring essential services as part of the monitoring process. Particular focus was given to a few CTCs and did result in some improvement to the services.

Scoring was done using a nine point scale where nine represented the ideal situation. Community monitors used the following general guidelines: scores from one to three were used to indicate poor conditions, scores between four and six were used to indicate average conditions and scores from seven to nine were used to indicate good conditions. For each theme, the parameters for assessment were laid out in a circle and then scored with the help of stones. The community monitors began by discussing whether the scoring should fall in the poor, average or good categories and then each monitor moved the stones on their own to indicate their personal rating. The monitoring committee then continued the discussions and further fine-tuned their scores to come to a consensus of where the final score should be.

Since the monitoring group in Bawana remained consistent through the process, the recording of scores was always referred to their own recording of the previous scores to denote if conditions had changed over time. Since the group in Bhalswa did change and only two of the five community monitors accompanied the action research process until the end, the two original members validated the scores given at the inception stage and were able to explain the reasons for the scoring to the new members.

Results from the community monitoring process

The following represent the conditions noted at the beginning of the participatory monitoring process (December 2009) and at the end of the project (July 2011) for Bawana and Bhalswa JJ re-location colonies. Parameters within the categories also showed some variation. Scoring was done using a scale of one to nine where nine represented the best possible situation and one represented the worst possible situation. Scores of one to three indicated poor conditions, scores of four to six indicated average conditions and scores of six to nine indicated good conditions.

Results from Bawana
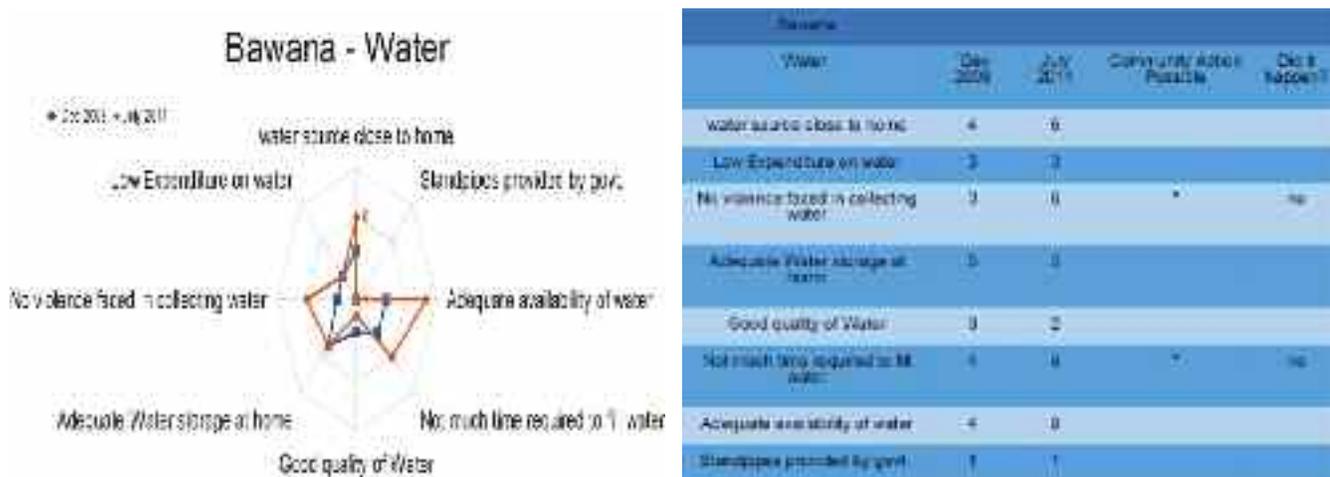
A number of private tube wells were installed in Bawana over the course of the action research. The frequency of water supply was also noted to have increased through the pipelines. While this has resulted in better water availability and reduced time required for filling water and a reduction in associated violence, the quality of water has deteriorated and there has been an increase in the number of water-related ailments. The chart above on the right was generated in July 2011 with the community monitors, taking note of the factors that have changed and considering whether these changes could be attributed, at least in part, to action on the part of the community. For example, the monitors noted decreases in the experiences of violence during water collection and in the time spent collecting water, however, they determined that since the community had not taken much action towards these ends, the slight improvements in water supply likely resulted from other people's actions (i.e. outside of this action research project).

As far as toilets are concerned, an incremental number of tube wells was accompanied by an increase in the construction of toilets in individual homes. This resulted in slightly less pressure on the Community Toilet Complexes (CTCs) to provide for the whole population.

Engagement with CTC caretakers by the *Nigrani Samiti* members as well as coordination with the local police did result in better behaviour by the caretakers. It was noted that the caretakers also made some effort to improve safety conditions in the CTCs on their own by asking gangs of young men to move away from them, which resulted in women reporting that they felt more secure. While the overall condition of the CTCs has improved, the community monitors reported that there are now increased user fees for accessing the toilets. Efforts towards improving the CTCs did occur during the project period but the community was not able to tackle the issue of the collection of user fees of the CTCs.

Similar participatory monitoring exercises were undertaken to assess the quality of the drain and for solid waste collection, both of which were in a dismal condition at the beginning of the action research project. While community engagement with the sanitation workers and their supervisor has shown to have significantly improved their attitudes, the situation on the ground has not reportedly changed at all.

Results from Bhalswa

In Bhalswa, the WATSAN situation changed since the start of the project. At the beginning of the project, people were forced to carry potable water from their workplaces or get it from outside the locality as there were only a few areas connected with piped water. The only other sources of water at the time were infrequent water tankers or polluted groundwater.

Pipelines have now been installed across some of the blocks of the Bhalswa JJ re-location colony and water points have been installed at the beginning of each street. Water tankers are now also coming on a more regular basis. This has resulted in an overall improvement in the supply of water to the community. As the table on the right below illustrates, this did not happen without efforts on the part of the community. Such efforts included inviting politicians to come to the area in order to gain a first hand understanding of the problems the community faced. The community also put pressure on the officials through use of petitions and by filing applications under the Right to Information Act.

The pressure generated by the community over this period of the action research project also resulted in some perceived improvements in the behaviour of the sanitation workers. While efforts have been made, there has been no change in the situation on the ground either in terms of drains or solid waste collection. The only exception being that for a short period of time the municipality began waste collection, though the service has since stopped.

Toilets have been and continue to be a major source of concern in the Bhalswa. While the vigilance and the engagement on the part of one caretaker have resulted in a slightly improved situation in one CTC, the general conditions are the same in the only other functional CTC in the area (there are other CTCs though most others are not in a functional state).
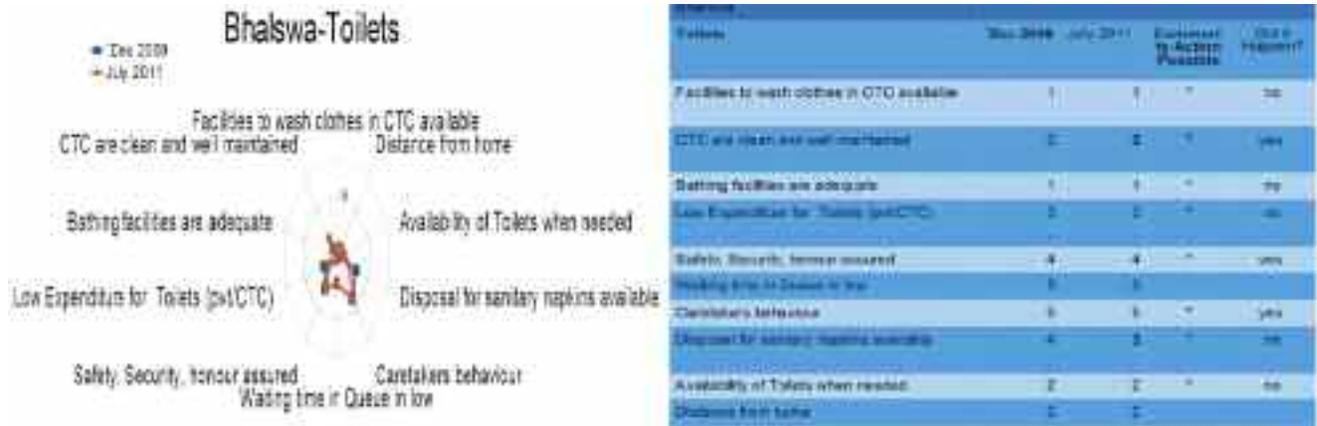
Approaches that yield results

A reflection exercise to identify the kind of action that was most effective in ensuring better services in the local community was undertaken in April 2010 in Bawana and in June 2010 in Bhalswa. A listing of how people access government services was considered in relation to its effectiveness and duration of impact. One of the objectives of the exercise was to understand the relevance of key players whom the community should be engaging with to share their perspectives of the issues related to gender, safety and essential services. In this exercise, different interventions were ranked where one was the highest possible rank used to denote the most used method or the most lasting impact. A gender distribution was also established to assess the efficacy of the kinds of engagement used mostly by women compared to the ones men tend to favour in accessing government services. The Bhalswa team used a simple listing of which mode of engagement was used by women, men or by both jointly. This exercise was one-off process used to determine the various methods people use to access government services, including but not limited to water and sanitation services, with a view of informing the project team where they should strategically focus their follow-up action.

Bhalswa - June 2010

Interventions used by the community to access services	Regularity of use	Duration of impact*	Used by:	
			Women	Men
Paying money	1	1	Women	x
Requesting local government functionaries	2	5	Women	x
Petitioning government officials	3	6	Women	x
Through pressure of local *pradhans* (local leaders)	4	3	Women	Men
Through pressure from the MLA/Councillor	5	2	Women	Men
Dharna/pradhashan (protests and sit-ins)	6	4	Women	Men

Bawana - April 2010

Interventions used by the community to access services	Regularity of use	Duration of impact*	Used by:	
			Women	Men
Requests to local government functionaries	1	7	6	4
Scolding	2	9	8	2
Paying money	3	8	7	3
Petitioning government officials	4	4	3	7
Through pressure from *pradhans* (local leaders)	5	6	5	5
Requests to the MLA	6	1	5	5
Collective action	7	2	5	5
Right to Information (RTI) applications	8	3	7	3
Dharna/pradharshan (protests and sit-ins)	9	5	5	5

Apart from issues around water, toilets, solid waste and drainage, the above information was relevant at the time of designing the project follow-up steps towards actualizing interventions. The results clearly pointed to the need to work with and engage the political leadership and to address governance issues through the articulation of rights using various forms of collective action.

While the overall distribution in the two locations shows different perceptions, the overall discussion clearly pointed to the potential of influencing the government through pressure by community representatives or by organising protests, which were seen as potentially having more impact. The team did acknowledge, however, that the regular use of protests as a mechanism to address access to essential services was irregular. In addition, this helped the Action India and Jagori project teams to establish the need of proactively engaging with the administration and key political representatives - an engagement that was then scaled up in the second half of the project period.

Community assessment of project activities

Scoring exercises were also done at the community level to establish whether the engagements had led to an increase in knowledge at the community level, and, if so, whether this increased knowledge was translated into action. Scoring was done using a ten-point scale where ten represented the maximum score.

Bhalswa

February 2010	Information	Action
Survey	0	0
Focus groups discussions (FGDs)	5	5
Women safety audits	7	0
Ward meetings	9	4

Bawana

February 2010	Information	Action
Discussing issues and sharing plans	9	0
Resource mapping	0	0
Focus group discussions	9	2
Women safety audits	10	2
Contacting government functionaries	5	1
Nigrani (vigilance)	5	4

From the tables above we can clearly see that the community monitoring teams both felt that there were significant levels of information gained from having been part of the research process. This in turn highlights the engagement that the research team had with the community. Unfortunately not all of this increased knowledge was converted into action in the eyes of the community. While this is not to say that all information directly leads to community-level action, it does demonstrate that the tools used in isolation without other complementary activities do not lend themselves to community mobilization as such.

The scores in the table of information and action denote a progression from zero through ten, with zero representing no increment and ten representing an extremely high incremental gain. This information was based on feedback from the community monitors to the various interventions made during the action research process. For instance, the information gained through the women safety audit in Bhalswa and Bawana was scored as seven and nine denoting that the tool led to an increased knowledge, but was scored zero and two respectively by the community monitors for corresponding action towards enabling change. This clearly points out that the community did not see the women's safety audit walk, under the circumstances and as used during this action research process, as leading to direct action to address the issue. Instead, the walk required complimentary activities to translate into action. Interventions designed to generate direct community engagement, such as vigilance or ward meetings, were deemed to have resulted in action by community members to address the lack of water and sanitation services.

The two activities identified as being the most successful in resulting in action were the ward meeting in Bhalswa and the watch-keeping committee in Bawana – both of which are community-based activities. This also shows that the women's safety audit tool used cannot be viewed in isolation, but has to be seen in congruence with the other tools that were used as part of the action research. In general, the women's safety audits are seen as being a process that includes an earlier research and local diagnosis phase, the walk itself and efforts to mobilize decision-makers and bring about change. It was clear from these results that the community did not see the women's safety audit as a process attached to the other project activities, rather they viewed it in isolation as being only the walk.

In April 2010, the community monitors and the Action India and Jagori field teams participated in an exercise where they scored the community's efforts and achievements in carrying out the action research project to date. Participants each scored these factors independently. While the community monitors considered a longer time frame since they had come to the re-location colony, the field teams of the two organizations reflected on the time frame of the previous year since they had started the project. The scores of the field teams were then scrutinized by the community members and, if they deemed it to be necessary, modifications suggested. This was in fact the case in Bhalswa where the scores of the field team were scaled following a group discussion. The low scores around effort in both locations were attributed to the lack of clarify about the responsibility of various agencies/departments responsible for the different water and sanitation services. These results were shared with the project team who then spent much time on understanding the governance structure so that systematic efforts could be made. This also helped the project team to see that the action research framework had to be explicitly broadened to cover aspects of governance and the multiplicity of responsibilities for such services in Delhi.

Bawana

February 2010	Water	Drainage	Solid waste	Toilets
Efforts in eight months (Jagori)	4	5	5	4
Achievements (Jagori)	3	4	3	2

Bhalswa

February 2010	Water	Drainage	Solid waste	Toilets
Efforts in eight months (Action India)	2	6	6	4
Achievements (Action India)	3	3(5)*	4(5)*	1

*Note: the number in brackets above represent the initial scores by the Action India team which were subsequently revised downwards at the suggestion of the community monitors in Bhalswa.

Capacity building

The Jagori team in Bawana designed a structured capacity building intervention based on the learnings that emerged from the research process. A structured questionnaire was administered to the selected participants at the beginning of the intervention and then again two months after the end of the capacity building training sessions. Qualitative feedback was also taken from participants immediately after the end of the sessions that denoted overall satisfaction with the capacity building interventions. The number of participants under each level of satisfaction represents the number of participants who scored their satisfaction level with the session in that category.

Bawana **September 2010** **Feedback on capacity building process**	Higher stars means greater satisfaction (max *****)				
	*	**	***	****	*****
The capacity building process is useful for me				3	15
I understand the objectives of the capacity building process				8	7
The capacity building process has increased my knowledge	2		8	5	3
The capacity building process had the flexibility to adjust to my learning needs	1		1	6	10
Trainers give information is a simple and clear manner				2	16

A questionnaire was administered to all the participants selected for the training to gage their level of understanding around the contents of the capacity building training sessions. The same was administered after the end of the training to those who had attended more than half the sessions. Some broad results emerged based from the participants' responses that attest to the success of the capacity building intervention. Firstly, results demonstrated that awareness about water and sanitation issues had gone up among the trainees. They also revealed that while significant levels of understanding around the gendered impacts of inadequate service provision already existed among many participants, their knowledge about these issues has been reinforced and refined through the training sessions. Importantly, the participants pointed to having developed an understanding about the role and responsibility of the government to provide basic services. These results clearly demonstrate that the objectives of the session – to provide women in the community with the knowledge and tools they would need to be able to move forward with the governance component of the action research project.

Final community assessment

At the end of the project period, an assessment of the various activities was undertaken. A list of activities based on recall was done to gain an appreciation of the project activities that were most relevant to the group. Each of these was then rated using a ten-point scale with ten representing the highest possible score. The women scored the following topics: increased information, self-confidence, women's safety, impacts on government and participation of relevant stakeholders. The following charts were then generated from the scores given by the women in Bawana and Bhalswa for the various activities.

Bawana Activities[28]

Activities	Information	Women Safety	Self Confidence	Stakeholders participation	Impact on Govt.
Talking to Govt. Functionaries	7	6	7	7	5
Training	7	4	7	5	5
Vigilance (nigrani)	5	7	6	7	7
Radio programme and narrowcast	8	5	9	8	5
Women Safety Audit	7	8	5	8	5
Street Meetings	7	0	5	7	5
Focussed Group Discussion	7	4	5	7	5
Jan Baithak	8	7	5	8	5

Overall scores made by community monitors in Bawana indicate that the activities were useful in enhancing self-confidence and imparting relevant information. Engagement in these activities also gave an enhanced feeling around women security in the area.

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28. Jan Baithak was a public hearing on water and sanitation issues of women in the community. Though this was not part of this action research project, it has been included in the Bawana activities since the group saw this as being an important part of the continuum. The activity took place just before the start of the project.

Bhalswa Activities

Bhalswa participants also indicated that the activities resulted in increased self-confidence and in enhanced information. They did not, however, feel that the activities resulted in a significant impact on the government - this despite the fact that the government did offer some response following the *Mohalla Sabha* (Ward Meetings). This is likely due to the fact that while government functionaries did become active immediately after the meetings, as soon as the senior officials attention moved away from the event the situation returned to the proverbial 'business as usual' and the government efforts in solid waste collection and cleaning small drains returned to how they were before.

The community monitors participated in another exercise intended to provide an overall assessment of the interventions taken. The exercise aimed to assess and understand the community's perceptions around the success of the capacity building efforts in supporting them to take independent action and efforts and actions undertaken to improve water and sanitation services. The community monitors also undertook a process of self-evaluation of the success they felt they had achieved through their active participation in this action research project. Results of these exercises are represented below as collective scores for both re-location colonies, respectively, to a maximum score of ten.

Bawana

August 2011	Water	Toilets	Solid waste collection	Drainage
Understanding to enable independent action	5	6	5	7
Efforts and actions	2	7	2	9
Achievement and impact	4	5	2	4

Bhalswa

August 2011	Water	Toilets	Waste collection	Drainage
Understanding to enable independent action	7	9	9	9
Efforts and actions	7	7	8	8
Achievement and impact	5	4	4	1

In Bawana, the community monitors felt that they had enough information to be able to address water and sanitation issues on their own but still needed some guidance from Jagori. Most of the effort made by the community during the action research process and the community follow-up period focused specifically on the Community Toilet Complexes (CTCs) and drainage, with relatively lesser focus on water and solid waste collection. The only major area where they felt that some positive change had taken place was at the CTCs, where vigilance and discussion with the caretakers resulted in improvement in services and reduction in the gathering of young men at the entrance of the CTCs. Water was another area that they noted there to have been improvements, but that was deemed to be due to the private initiative of community members who took it upon themselves to sink private tube wells and was thus only scored at four.

In Bhalswa, there was a greater sense of understanding at having taken action. However, the achievements did not show the same kind of response with water being identified as the only significant achievement with the installation of new pipelines, greater duration of water supply and an increased frequency of water tankers providing water to the community.

Final reflections on the monitoring process

The action research process was not just a process of enabling community action while undertaking research, but a clear learning process of applying the tool of the women's safety audit (WSA) to water and sanitation services in poor urban areas. The response from the community clearly indicated that the tool, when viewed in isolation as the women's safety audit walk, did not translate directly into action towards making the services better or more secure for women. The community considered that the congruent activities alongside the WSA were critical to addressing the identified issues. One can conjecture that a greater participation of government functionaries may have had a different result but we also need to recognise local dynamics and way of doing work in the Delhi context. For example, the ward meeting showed that more than the safety audit was able to galvanise the cooperation of government functionaries. It is unfortunate that once these official realised that their superiors had reduced vigilance with regards to their work in Bhalswa, the services dropped back down to their previous levels. This strengthened with the mid-term change to a broader governance agenda from the narrowly focused water and sanitation perspective that the action research process had started with.

In both the locations, some of the safety concerns of women were met over the period to the project. Vigilance and discussion with CTC caretakers in Bawana improved the maintenance of toilets and reduced the harassment faced by women. Women reported feeling safer as they met their water collection responsibilities in both localities due to increased water supplies in Bhalswa and informal sharing arrangements for use of the private pumps in Bawana. The WSA tool, while focused on water and sanitation, also identified the school as the point of insecurity for the girls in Bhalswa, especially at the time when the girls' school closes and the boys school starts in the same premises. Engagement of the community youth with the police resulted in posting of a mobile police picket that has made them feel safer.

Reflections on some challenges to project implementation

The initial project proposal underestimated the time needed to involve community stakeholders and engage in a learning process. Thus it took longer than one year to complete the research and for the next phase to begin. Undertaking a participatory process with the women demanded that the work advance at their pace, respect their availability and the time they had to give. Furthermore, building staff capacity for a team like Jagori and Action India was a challenge. Some of the issues covered by the action research project were new for WICI, Jagori and Action India, which meant that all three organisations needed time to learn about the different topics and build an understanding of how they all relate.

The Action India and Jagori teams both faced some staffing challenges with this project. Specifically, two key members of the Jagori team sustained injuries on the job and were off for several weeks in 2010. Furthermore, both the lead researcher and the consultant who coordinated the training sessions left the organization at the end of January 2011 when their contracts ended. At this stage in the project, replacements were not sought; however Jagori enlisted the support of two Senior Project Associates to work with the field team to pursue the community interventions. The Training and Community Programme Manager and the Director of the organization supported the team. The Action India coordinator fell ill and was never replaced and another team member sustained an injury that prevented her for working in the community. Together, these resulted in delays in project implementation and the project was extended from 24-months to 30-months.

A critical issue that affected the conduct of research in the communities was the inability to work in isolation on one issue (i.e water and sanitation). Other rights such as access to food, dealing with violence against women, and empowering women and youth on relevant issues are equally important for women and their families. It became imperative to the research process that these be recognized as interrelated and that the research addresses the different issues as such. Though the work funded was not intended to address all issues mentioned, it was agreed that it was important to acknowledge and understand the collective impact and inter-sectionality of these issues on women's lives, which cannot be fragmented into separate topics for different projects.

Another initial challenge was engaging and sustaining the involvement of people in Bhalswa who were resistant to participating in the project. They cited examples of other organizations that had previously come and organized meetings and tried to mobilize the community, but had not delivered on promises of safe water. The pent-up distrust among community members made trust building difficult and some of the women decided that they no longer wanted to be part of this project midway through. Extenuating factors such as illness and injury aggravated the distrust as many in the community chose to interpret this as a lack of commitment to working with them. There was thus a gap in organizing and trust had to be rebuilt over time. Action India mobilized the youth in the community who successfully encouraged their mothers to rejoin the effort. These young women and men have been catalysts for the mobilization and continue to be organized as groups of young women and men today.

The project team made sure that it was clear that this was an action research project that was looking into the linkages between safety and essential services, but there no plans for the organizations involved to begin service delivery themselves. The focus, instead, was on governance and on holding those responsible for service delivery accountable.

Language was also a challenge. Since the community women speak Hindi, most of the staff worked in Hindi. Naturally, information gathered during the research process, such as interviews and FGD documents, was also in Hindi. As translation of all of these materials required a lot of time and resources, it was decided to work from the Hindi data, but to draft the research documents in English. This requires additional time and excluded the possibility of WICI accessing the original transcriptions.

Jagori also dealt with intense administrative work and spent much time and energy in reaching out to government and other stakeholders to mobilize support for the project. Furthermore, the fact that the Commonwealth Games were hosted by Delhi in 2010 was a challenge, as time, energy and resources on the part of the municipality were all focused on the event. The Delhi Government had asked that all local travel be kept to a minimum, which limited the time that Jagori and Action India team members spent in the field. This also made it very hard to get municipal buy-in and support for the project.

Finally, both the WICI and Jagori teams invested much time and resources into organizing the Third International Conference on Women's Safety and while the conference was a great success, the time leading up to the conference required intense efforts on the part of the organizations and limited the amount of time that they had to spend on pulling together the comprehensive report of the research findings.

7. Conclusion

Governance must lead to a more equitable world, where women also have choices and their rights are realized. It cannot be effective if there is no understanding of the differing needs of women and men in public spending, policies, legislation and treaties. Nor can it be effective if women cannot exercise their right to participate equally in the decisions that affect their lives. In short, governance cannot be effective, or 'good', unless it is gender-sensitive
- Alyson Brody, BRIDGE, 2009

The Action Research Project on Women's Rights and Access to Water and Sanitation in Asian Cities (2009-2011), explored the following four objectives:

1) Identify how poverty, tenure, water access and sanitation, and lack of access to other services, impact women's lives, livelihoods and well-being in the target countries and cities using the women's safety audit, as well as other qualitative methodologies (i.e. focus groups);

2) Contribute to the methodological development of the women's safety audit, particularly with respect to its use in WATSAN research through a peer-reviewed paper in a major international journal;

3) Develop a set of gender appropriate WATSAN options for each of the test communities and to promote it through dissemination packages/activities for local governments and other relevant stakeholders; and,

4) Develop and implement individualized intervention projects in at least one of the selected communities in India to test research results.

The research was carried out in two recent settlements of evicted slum dwellers: the Bawana Jhuggi Jhopri (JJ) re-location colony and the Bhalswa Jhuggi Jhopri (JJ) re-location colony, both in Delhi.

For many poor women and men, young and old, the right to live in the city with dignity, safety, security and with livelihoods remains out of reach. Delhi, like many other cities of the world has seen a growing divide between richer and poorer residents and a re-shaping of the geography of the city based on an inequitable distribution of land, housing and essential municipal services.

The research presented here shows that a gender analysis of infrastructure, facilities and services is critical to understanding women's and men's daily living in slums, re-location colonies post-evictions, resettlement colonies, un-regularized slums and other settlements of the poor, be they legal or illegal. Gender-neutral infrastructure and services have a greater impact on the lives of poor women and girls than poor men and boys due to their responsibilities in household management and the provision of domestic services. Evictions have meant the loss of employment

for many women and men and a gap in the education of both boys and girls. Generally speaking, women spend more time in low-income settlements than men. Usually, employment permitting, men leave the settlements for work, as do some women. However, women are left in the settlements in greater numbers to sustain daily living and to raise children.

The results from the action research described here demonstrate explicit links between gender, infrastructure and poverty in both Bawana and Bhalswa. With an average family size of six, many residents in both communities are living on less than a dollar a day. An improvement in the infrastructure and services of water, sanitation, drainage, solid waste management and electricity, and housing and tenure - as per the needs and demands of women and girls - will reduce the poverty of everyday living in terms of access to and affordability of services and could increase livelihood opportunities for some.

Numerous researchers and studies have highlighted the exclusion of women and a gender perspective from local urban governance. Some recent publications include Mukhopadhyay and Meer (2004), and Beall (2005). There is conclusive evidence (Mukhopadhyay, 2005) that the much-touted benefits of decentralization, which was supposed to include women and marginalized communities in meaningful decision making at the local level, have not materialized. On the whole, in many parts of the world, including Delhi, urban local governance is not gender-inclusive and nor is it pro-poor.

Further, there is certainly a lack of effective representation of poor women and gender issues in decision-making. While the United Progressive Alliance (UPA) government had announced in 2009 that there must be fifty percent representation of women in local *panchayats* (rural local governments) and local urban bodies, not much progress has been seen in Delhi on this front. The Chief Minister of Delhi recently highlighted the need for such representation and it is hoped that the next municipal election in 2012 will ensure more women are represented. However, the engagement of women in local decision making has to also include non-elected women, and especially non-elected low-income women, in all levels of decision making for urban management.

Poor women have a right to know how public resources are allocated and whether such services take into account their fundamental needs and rights; whether there is a deeper understanding of the care economy and women's unpaid work, and how they want to engage in the waged economy. The studies undertaken in this project highlighted the issue of the lack of institutional accountability to poor women on the ground and the fact that gender equality and equity and sensitivity to urban poverty is missing in policies, practices and action plans of the relevant governments. There are no clear mechanisms to track impacts on poor women as no gender audits are undertaken of programmes and schemes.

The results of the action research project also illustrate the importance of women's safety and security when women are engaged in their daily activities and responsibilities. Violence against women is not only defined by violence against women in the home and at work, but also in terms of their daily functions of going to the toilet, to bathe, wash clothes and to collect water in public and collective facilities. It underlines the need for gender- and poverty-sensitive urban governance and planning if cities are to truly be inclusive.

Gender-sensitive infrastructure for low-income communities is a new issue for women's groups in India and it will take communities and organizations time to engage and make demands on how they can shape and frame their arguments and recommendations. This will also require intensive mobilization across the communities, NGOs and women's organizations.

The researchers hypothesized that once the adapted tool was tested, it would prove to be a successful model that could be easily used by municipal governments and local utilities in partnership with local women and could assist in changing local governance relations in favour of women and girl slum dwellers. The project team acknowledged the potential contribution that this adapted metholodology would bring to both the WATSAN and women's safety fields if it were to be tested successfully.

Making a concerted effort to understand how safety and sense of safety factored into the provision of WATSAN services to the women of Bawana and Bhalswa was equally revealing and led to the identification of many problems, such as girls feeling unsafe to collect water in an area where films are screened due to the crowds of men and boys or the problem of installing a water source next to a liquor store. In some cases, actual harassment or the fear of harassment is such a constant feature of women's lives that they learn to live with it and adopt coping strategies to deal with it. The research revealed that some strategies, such as not drinking or eating to avoid having to go to the bathroom have serious health consequences. This, therefore, raises the question of the social and economic costs of fear and potential of harassment and violence in such contexts. This becomes critical especially if there are no preventive, referral and legal services to end violence against women in the community.

Part of the action research was thus also to consider the potential of using women's safety as an entry-point for addressing WATSAN issues. *A Handbook on Women's Safety Audits in Low-income Urban Neighbourhoods: A Focus on Essential Services* was produced as part of the commitments of this project and distributed widely in English and Hindi by Jagori, WICI, UN-HABITAT and other partners. We await feedback of its use in low-income communities in other countries. Presentations by Jagori and WICI to Indian and international audiences have been extremely positive. The feedback has primarily focused on how the use of the WSA has raised awareness about low-income women's safety and security in cities and the importance of examining infrastructure, facilities and services from the perspective of poor women and girls. Respondents commented that they had not thought of the gendered impacts of infrastructure in terms of safety impacts on women and girls, let alone any other dimensions of gendered impacts.

The action research project was accompanied by a short and focussed set of interventions over a period of a year and a half, which included reaching out to the community with the key findings, and enabling some community women and youth to further their critical perspectives and make headways on negotiations with local service providers, relevant agencies and elected officials. Both communities have had varying degrees of success in negotiating with service providers and elected officials to improve their services. These include limited improvements of some roads and better water provision in Bhalswa and solid waste management and drain cleaning in five blocks of Bawana. However, a lot more changes are needed in the way services are provided, when and by whom before they can be considered gender-sensitive in that they meet the needs of *all* the residents.

In both communities, the enthusiastic engagement of youth – young women and men between the ages of 15-22 – proved to be a pleasant surprise. They have taken on leadership and nudge their parents to become more involved. A totally unexpected outcome from this project has been the increase in awareness and understanding by men and boys of women's and girls' needs around defecation and menstruation in the re-location colonies. From being taboo and unspoken subjects, these issues are now spoken of as matter of fact issues and without shyness or shame by women, men, boys and girls and in the presence of each other. This surely bodes well for future and pro-active actions on safety, gender and WATSAN by the residents of Bawana and Bhalswa.

Areas for further research

Women and girls and of course men and boys, should have the right to water and sanitation even if they do not have security of tenure, land rights and housing.

Additional research and pilot projects are needed to explore how to de-link water from the provision of sanitary systems via sewers and create non-water borne sewerage systems in cities such as Delhi. These systems should be pro-poor, gender-sensitive and environmentally viable.

Research and technology options are needed for sustainable menstrual hygiene management in high-density areas.

Next steps for the two re-location colonies

While a lot has been achieved in the last year of the Project, a lot more needs to be accomplished. The following list identifies some of the persisting problems that were there when the project began as well as some of the new demands of the now organized women, young women and men and their communities.

1) When the project started in March 2009 only two of the six CTCs in Bhalswa were functioning. This is still the case today. The women and youth of Bhalswa hope to get another two CTCs open and functioning; and to improve the management of the existing ones.
Women in Bawana want a better system for drainage and CTC management. They would like to be involved in the decision making for this management.

2) While the police presence in the community has been beneficial on a number of fronts it has also raised a problem for residents. The *Tempo* (motorized vehicle) which used to charge Rs 6 ($0.14)[29] USD person to take them to the main road has been reprimanded by the police. The driver used to overfill the *Tempo* with passengers, and often the *Tempo* would turn over due to the over-crowding. Now the police have informed the driver that he can only take six passengers at a time. So, he has raised the cost of the journey from Rs 6 ($0.14 USD) to Rs 10 ($0.23 USD). This means that women are walking the 50 minutes to the main road as they cannot afford the Rs 20 ($0.45 USD) on a daily basis. Many women have complained about this and they now will have to figure out what they can do about this.

3) They would like a dispensary and a health centre where women can deliver their babies.

4) Getting a park for the use of both children and adults is a high priority.

5) They would like to see the roads into Bhalswa as well as the roads in Bhalswa repaired and in good conditions so it is easier to move in and out of Bhalswa.

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29.   All currency conversion was done using the exchange rate $1 USD = 44 Rs.

Some policy considerations

Public toilets for women and girls that are safe, hygienic, affordable and accessible need to be provided as part of the government's public services provision. They also need to include sustainable systems for disposal of menstrual waste. This is important for women and girls of all classes and especially for low-income working women. The government needs to consider the provision of infrastructure for private toilets in women's homes in the re-location and resettlement colonies.

Sustainable sanitation should be a government priority in large cities such as Delhi, which have a limited water supply. A sustainable sanitation policy needs to address de-linking safe drinking water from the provision of sanitary services. A range of options needs to be considered for the diversity of urban communities. The sanitary system for low-income communities should be designed with input from the women and girls of these communities.

Design, technology and policy advocacy need to ensure that women, and especially low-income women who are primarily affected by insufficient and inappropriate essential services such as water, sanitation, drainage and solid waste management, are centrally involved in planning and decision making surrounding the provision of these services.

The health and safety impacts of communities are dependent on the time, labour and livelihoods of women and girls. This means that poor women are subsidizing insufficient government services. The Delhi government is spending a mere Rs 30 ($0.68 USD) on water supply and Rs 80 ($1.81 USD) on sanitation per JJ colony resident in 2011-12. The budget for water and sanitation services for the urban poor needs to be augmented and provisions made in local budgets for women and girls' daily living in JJ re-location colonies and other low-income areas.

It is clear from the developments of recent years that the Delhi State Government is committed to evictions of slum dwellers from the wealthier parts of the city.[30] The arguments for the right to the city of poor working women and men have been developed elsewhere in the report. Slum dwellers, civil society and human rights organizations are challenging the Delhi government on these evictions. In the meantime, policy guidelines are needed for the development of areas where evicted slum dwellers are being sent. Any future resettlement areas should be designed well in advance of people being relocated to said area. Plots should be designated, permanent gender-sensitive infrastructure and facilities should be provided (including provision of sewers and water pipes for household connections), rain water harvesting for public and collective infrastructure, a system for solid waste management (including composting), proper drains, lighting, connections to the transportation grid and relevant health, education and recreation infrastructure. The guidelines and areas should be developed in consultation with women and girls from JJ re-location colonies. New areas need to be developed into new housing colonies for resettlement at it is clearly what they will turn into in the near future.

Residents now living in JJ re-location colonies under the 'licence' should be given land titles in the names of both heads of households – the women and the men. Single women/mothers should get title in their own name.

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30. See The Hindu of July 21st 2011. http://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/article2278581.ece

Existing infrastructure and services in JJ re-location colonies are temporary in nature and need to be made permanent. These changes should be made in consultation with the women and men and boys and girls who live in these communities. Key changes needed here include the provision of sewers and connections to households. This is critically needed for the safety, security and dignity of women and girls.

Any new CTCs should be gender-sensitive in their design and management. Existing CTCs need to be renovated and re-designed for the safety, security and dignity of women and girls, which are currently extremely compromised.

All councillors and MLAs in the city of Delhi are allocated discretionary funds for development projects within their jurisdictions. These funds come with guidelines for their allocation and also with mechanisms for ensuring transparency. The involvement of low-income women and girls in decision making for the allocation of these funds should be included in the guidelines for the disbursement of these funds.

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Annex 1

The Opportunity Cost of Water[1]

Bhalswa and Bawana JJ re-location colonies, Delhi, India

Swapna Bist-Joshi
Centre for Budget and Governance Accountability (CBGA)
(www.cbgaindia.org)

1. The Background

Cost benefit analysis studies in the WATSAN (water and sanitation) sector have provided substantive empirical evidence of the benefits accrued out of financing such services. These evidences have helped sharpen the advocacy around the necessity for enhanced and committed resource allocations for WATSAN. The World Health Organization in 2004 carried out a global analysis with the objective to estimate the economic costs and benefits of a range of selected interventions to improve water and sanitation services. The costs of the interventions included the full investment and annual running costs. 'The benefits of the interventions included time savings associated with better access to water and sanitation facilities, the gain in productive time due to less time spent ill, health sector and patients costs saved due to less treatment of diarrhoeal diseases, and the value of prevented deaths. The results show that all water and sanitation improvements were found to be cost-beneficial, and this applied to all world regions. In developing regions, the return on a US$1 investment was in the range US$5 to US$28.[2]

One of the major benefits seen out of financing interventions to improve WATSAN services is the time saved due to better access. The argument around 'time saving' and its use for productive activities- exploring opportunities- is an important advocacy strategy from the gender perspective.[3] This exercise is an extension of the WATSAN GRB review and analysis of the two re-settlement colonies- Bhalswa and Bawana. This section explores the average time spent on water collection/provisioning and attempts to calculate the opportunity cost of water for Bhalswa and for Bawana.

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1. A special thanks for assisting with the survey to Kailash and Sarita for Bawana and Veermati and Uma for Bhalswa.
2. Evaluation of the Costs and Benefits of Water and Sanitation Improvements at the Global Level, Guy Hutton & Laurence Haller, WHO, 2004.
3. Women/girls due to their productive and reproductive roles are primarily responsible for water collection and management activities.

This paper on gender and the opportunity cost of water in Bawana and Bhalswa JJ re-location colonies in Delhi is an outcome of the Action-Research project on Women's Rights and Access to Water and Sanitation in Asian Cities (2009-2011). The two JJ re-location colonies in the action research are Bawana and Bhalswa. Jagori worked in Bawana where it has an established track record of working with the community and Action India, the co-implementation partner worked in Bhalswa with overall research and technical support from Jagori and Women in Cities International (WICI). The project was funded by the International Development Research Centre (IDRC).

The action research project's objectives were to engage with women in the two JJ re-location colonies of Delhi to assess their safety and security in terms of their access to and the quality of WATSAN (water and sanitation) services - water, sanitation, drainage, solid waste and electricity. Specifically, the project's aim was to test and adapt the women's safety audit (WSA) methodology to generate a model for engaging low-income women and other marginalized communities with their local governments and other partners to begin to address the gender service gap in WATSAN services. Thus, the research would highlight women's safety and security and the gender gap in the governance of municipal infrastructure and services.

Bawana is situated in the north-west corner of Delhi towards the Haryana border and as mentioned earlier was identified as site for re-location for a large number of people evicted in 2004. Residents living in JJ colonies/slums from Yamuna Pushta, Dhapa colony, Banuwal Nagar, Saraswati Vihar, Deepali Chowk, Vikaspuri, Nagla Machi, Jahangirpuri, etc. were evicted to this site about 35kms away from their homes. The plots in Bawana were assigned only to those that could prove their identity and proof of residence. Families that lived in Delhi from before 1990 were given 18 sq m plots, while those who had lived in Delhi since 1990 and before 1998 were allocated a plot of 12.5 sq m. Residents were given a 'license' for either five, seven or nine years and had to pay Rs 7,000 for their plots. Without security of tenure, they are continuing to invest their hard earned and meagre savings to make the space a bit more liveable for themselves. They could be evicted again. There is no official count of the number of people living in Bawana; however, residents estimate there are well over 100,000 people living in Bawana.

The second site, Bhalswa, is located in north-east Delhi, next to the Bhalswa landfill. Most people residing here were evicted from the north and east of Delhi from communities such as Yamuna Pushta, Gautampuri, Barapulla, Nizamuddin, I.T.O. and Rohini about 10 – 20kms from their homes. They were moved here in 2000 and they too were allotted plots of either 12.5sq m or 18sq m based on their years of residence in Delhi. Today Bhalswa has roughly around 2,600 plots with an approximate population of 25,000.

2. What is an Opportunity Cost?

In economics nothing is free of cost; there is a value associated with everything. The value may either be explicit (quantitative benefits) or implicit (qualitative benefits). Opportunity cost can be defined as the value of the next best purpose for which any asset could be used. In context to water, the opportunity cost (time lost in water collection and management) could be the foregone wage, time that could be productively spent on other household activities, education or even leisure. The value is subjective but never zero.[4]

3. Methodology

The objective was to examine patterns of water collection and the time spent in such activities with the help of a structured questionnaire. Five blocks[5] in Bhalswa JJ re-location colony and two blocks[6] in Bawana JJ re-location colony were chosen for the exercise. A questionnaire was designed keeping in mind the objective at hand. The first draft of the questionnaire was circulated amongst the Jagori research team and CBGA core team for review and inputs. A few structural adjustments were subsequently made as per suggestions.

3.1 The Pilot Survey

The questionnaire was field tested by means of a pilot survey. Purposive[7] Random Sampling method was used in the pilot survey. The objective was two fold:

i. To help assess the consistency of the parameters chosen for the survey. A few structural changes were made to the chosen parameters in light of the learning's from the pilot survey.
ii. To help determine the sample size for the survey

3.2 Calculating the Sample Size

The standard deviation[8] 's' of the pilot study for Bhalswa JJ re-location colony was calculated as 38.98 minutes and using 95 % confidence levels and fixing the permissible margin of error at 10 minutes, the sample size N worked out to be 62.

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4. On the hidden Cost of Free Water, David Foster, India Water portal, www.indiawaterportal.org
5. Block Number A2, A3, A5, B4 and C2
6. Block D and Block K
7. A form of sampling in which the selection of the sample is based on the judgement of the researcher as to which subjects best fit the criteria of the study.
8. Standard deviation is a measure of the dispersion of a set of data from its mean. The more spread apart the data, the higher the deviation. In the pilot the range of variation spans from a spectrum of a maximum of 130 minutes to a minimum of 30 minutes spent in collecting water. The mean of the pilot is 86 minutes.

The following formula was used to determine the requisite sample size for the survey:

Sample size $N = \left(\dfrac{z \times s}{E}\right)^2$

N= Sample Size
s = Standard deviation of pilot study
E = Error in Estimation
z = 1.96 (A 95 % level of confidence corresponds to a 'z' value of 1.96)

In the pilot survey
's' = 38.98 min
E = 10 min
z = 1.96

The Sample size N is:

$N = \left(\dfrac{1.96 \times 38.98}{10}\right)^2 = 62$

The same methodology was applied to calculate the sample size for the two blocks identified in Bawana JJ re-location colony. The sample size was calculated separately for both the blocks. The two blocks, D[9] and K[10] in Bawana JJ re-location colony have diverse patterns of water sourcing and provisioning; therefore the choice was deliberately made with the objective of a comparative analysis between the two blocks. The sample size 'N' for the two Blocks of Bawana JJ re-location colony was calculated as:

For block 'D' the sample size 'N' = 74
For block 'K' the sample size 'N'= 64

3.3. Administering the Questionnaires

The questionnaires were administered by the primary researcher using purposive random sampling methodology. Assistance and support was provided by the Action India field staff in Bhalswa JJ re-location colony and Jagori field staff in Bawana JJ re-location colony. The field staff help identify the available water sources (private and public); they provided other relevant inputs with regard to the study and also assisted in administering the questionnaires. In the course of the field survey few difficulties were faced in terms of resistance and refusal from some respondents to participate in the survey. The resistance was an outcome of the anger and frustration that these residents held against the State machinery for their failure to provide basic amenities such as water and sanitation and their complete disregard of the situation.

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9. Block D has provision for pubic stand posts
10. In Block K (which is incidentally a new block), there is no provisioning of public water supply (stand posts or tanker). Therefore, K Block inhabitants have to depend solely on self provisioning.

4. Calculating the Opportunity Cost

The opportunity cost is the next best alternative for which the time spent in any non remunerative activity - in this case water collection - could be utilized by the individual. The next best alternative is always subjective as it depends on individual choice. It could either be quantifiable- if utilized in economically remunerable activities or qualitative in terms of more leisure time, more time for children, home chores etc. We can impute a value to the time spent on the activity (or the time saved if better alternatives are made available) and attempt to calculate the opportunity cost in quantifiable variables. This can be done by taking the minimum wages of unskilled, semi-skilled and skilled labour as the benchmark. Table 1, provides details on the prevailing wage rate norms as published in the Delhi Gazette, Labour Department Government of NCT of Delhi.

Table 1: Prevailing Wage Rates

Category	Rates from 01-02-2008 (Rupees)[11]	
	Per Month	Per Day
Un-Skilled	3633.00	140.00
Semi Skilled	3799.00	146.00
Skilled	4057.00	156.00

Source: Delhi Gazette Extraordinary, Part IV, Government of NCT of Delhi,
Labour Department

The hourly wage rates in all three categories can be calculated in view of the prevailing per day wage rates (considering 8 hour work day). This value can then be used to calculate the opportunity cost in all three categories for Bhalswa and Bawana. The Analysis is presented separately for the two JJ re-location colonies- Bhalswa and Bawana.

4.1. Calculating the OC for Bhalswa JJ colony

This section provides the OC analysis for Bhalswa JJ Colony. Interestingly, in Bhalswa there is no scarcity of water for cleaning/bathing/washing purpose as most households own private hand-pumps. Those who do not own private hand-pumps, source water from their neighbour's (for which no user fee is charged). However, as this is a landfill, the groundwater is severely contaminated due to leachate[12] and is unsafe for not only drinking/cooking but also cleaning and washing purposes. Despite the contamination the inhabitants use ground water for cleaning and bathing purposes. Therefore, the core issue in Bhalswa is provisioning water for drinking/cooking purpose as there is a total lack of other fixed alternative source. The analysis therefore focuses exclusively on patterns of sourcing water for drinking/cooking and the time spent on the activity. The time spent depends on many factors such as-the distance of the source from the dwelling, time taken to queue at the water point, waiting time and the time taken to return. Also, returning back with filled containers/buckets is more time consuming and labour intensive as it requires more than one trip depending on the volume of water and also the capacity of the individual to manage the volume.

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11. 1 US $ is approximately Rs.45 (2011)

12. Landfill *leachate* is liquid that moves through or drains from a landfill. The water percolating through landfills produces *leachate,* which may contain undesirable or toxic chemicals.

4.1.1. The Sample Profile

Sixty-three households from five blocks[13] were surveyed and from each household, one female member in the age groups 18 and above was interviewed. 49% of the respondents were in the 26-40 age group, 21% in the 41-60 age categories. Rest 5% respondents were 60+, 14% were in 18-20 age groups and 10% were in 21-25 age category. 73 % of the respondents (43 households) were Hindus and the rest 27% (17) Muslims. The literacy rates in the re-location colony in abysmally low and this was reflected in the literacy levels of the respondents - of 63 females interviewed 75% were illiterate, 11% below class 8th and only one respondent was a graduate. Of the 63 females interviewed 53 (84%) were married, 3 were single and one respondent was a widow. Majority of the respondents (53) were unemployed except a few (10 respondents) who were either daily wagers (unskilled labourers) or home based workers. Major employment categories include unskilled labour, *anganwadi* worker, home tuitions, ironing, tailoring and craft making (on piece rate basis).

The average household size in the colony is large. The household size of the sample varies between a range of 11 to 3 members. In the survey, 33% households reported more than 8 members, 40% households' 6-8 members and 27% reported 3-5 members. The average household size is 7 for the sample. The total population of the households surveyed is at 449 (221 males and 228 females) and the sex ratio is 49% males to 51% females.

4.1.2. Pattern of Water Collection

In Bhalswa, drinking water is sourced - as per convenience and preference- either from tankers (public supply and free of cost) or public stand posts and in some cases both sources. Stand posts are few in number; water quality is poor and supply is irregular and scarce. For convenience of analysis the respondent households were divided between those that are tanker dependent, those that source water from public stand posts and those that use both sources. Of the 63 households surveyed 65% were tanker dependent, 27% sourced water from public stand-posts and 8% from both sources. For the purpose of analysis, the households that source water from stand posts and those that use both the sources are clubbed under one category.

4.1.3. The OC for those who source water from tankers

Majority of the residents in Bhalswa JJ re-location colony depend entirely on tanker supply for drinking water. This is a free service and each block receives two tankers on a weekly basis- this means that residents have to collect and store enough water to last them for at least 5 days. There are no fixed days or timing for the tankers. 65% of the households surveyed, collected water from this source. The tankers park at a designated point and everyone is expected to queue well in advance in order to be able to access the service. The timing of the tankers (noon or fore noon- when most men are out on work) in a sense feminizes the water collection responsibilities. The patterns indicate that the water collection responsibility is shouldered mostly by women and at times children also assist in the activity. The household data on the primary responsibility of water collection indicate at 12% adult males as the primary collectors, 64% adult females and 24% mixed groups (the activity is shared amongst men, women and children-both girls and boys). Many times more than one member is involved in the activity and there are no fixed patterns.

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13. Block Number A2, A3, A5, B4 and C2

a. *Liters per capita per day (LPCD):* The volume of water collected depends on variables such as size of the family and also the capacity of the individual to manage to collect the intended volume of water, carry it back to the dwelling and also to store it. In the course of the survey it was seen that those who could not afford to buy a connector pipe (to connect to the tanker and feed the water into their containers/buckets) suffered a disadvantage over those who could. Priority and preference is also given to individuals who have political clout, are influential or who can afford to bribe the tanker drivers. Many residents have also devised coping strategies such as hiring rickshaws/carts to bring the load back home- therefore they can carry back and store more water. This cost anywhere between 20-25 Rs/Trip. As tankers supply water on a weekly basis, it is very important for the residents to store water for at least 6 days. As for the volume of water stored per trip, the respondents reported the range between 300 liters to 150 liters[14]. The total collection sums up to 7350 liters and therefore the average for each household is approximately 180 liters/household for 6 days use.

Household consumption for one day
180/6 = 30 liters/day
Average household size of sample = 7
Available liters per capita per day
30/7= 4.2LPCD Approximately

b. *Distance from the water source (WS) and time taken:* The distance of the WS and the time taken to reach the WS, factors into calculating the total time spent in the activity. In the survey 22 respondents reported the distance from WS in the range of 100-200 m, 12 in the range of 50-100 m, 3 between 20-50 m and 4 respondents reported the distance to be more than 200 m. The average distance for the sample (WS is tanker) is 124.5 m. The time taken to reach the WS is reported to be in the range of 2-5 minutes for 14 (34%) respondents and 6-10 minutes for 27 (66%) respondents. The time taken to reach WS is also subject to individual capacities and might vary. The average time taken to reach the WS (tanker) for the sample is 6.47 minutes.

c. *Time to queue at WS and time taken to return:* This is the most time consuming sub activity. There are long queues and waiting time at the WS. The containers are lined up well in advance in anticipation of the arrival of the water Tanker. Also, after the containers/buckets are filled up, someone has to guard them in order to ensure that the water is safe when the other person is ferrying/carrying the filled up containers/buckets back home. Therefore the return back is much more time consuming and labour intensive as it involves more than one trip. The time to queue at the water source is reported to be more than 60 minutes (<60 min) by all respondents. The waiting time may vary from time to time and from individual to individual. Assuming the waiting time in the range of 40 to 120 minutes, we can take the average as 80 minutes. Therefore, the average time spent waiting at the WS can be assumed to be 80 minutes.

The return from WS involves more than one trip/cycle. This again is subjective and might vary depending on many factors as has been already discussed. In the sample 7 (17%) respondents reported 2 trips/cycle, 32 (78%) said it takes them 3 trips/cycle and the rest 5% reported three trips/cycle. The time to return is reported in the range of 10-15 minutes by 35% respondents, 15-30 minutes by 47% and 30-60 minutes by 18%. The average time to return from the WS for the sample is 23 minutes.

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14. This is a variable and might depend on many factors that have already been discussed.

d. *Calculating the total time spent on the activity:* The total time spent on the activity is a summation of all the above calculations. As water source is tanker, the frequency of water collection is once in 6 days (period in which tankers supply water). Therefore the time spent on each sub activity in a year (365days) can be calculated as :-

Sub activity 1: Time to reach water source
Average time taken to reach WS in one trip = 6.47 minutes/trip
Average time spent to reach WS in one month for 5 trips (as water is sourced once a week):
6.47*5 = 32.35 minutes/month
Average time spent in 12 months is:
*32.35*12=**388.2 minutes/year***

Sub activity 2: Time to queue at water source (the waiting time)
Average time taken to queue at WS in one trip = 80 minutes/trip
Average time taken to queue at WS in one month for 5 trips is:
80*5=400 minutes/month
Average time spent in 12 months is:
*400*12=**4800 minutes/year***

Sub activity 3: Time to return from WS
Average time taken to return from WS = 23 minutes/trip
Average time taken to return from WS in one month for 5 trips is:
23*5=115 minutes/month
Average time spent in 12 months is:
*115*12=**1380 minutes/year***

The total time spent in water collection in a year is:
*Sub Activity 1+2+3 = **6568.2 minutes/year or 110 hrs/year***

e. *Calculating the opportunity cost:* The total time spent in the activity in a year, i.e. 110 hrs/year (considering one cycle/day throughout the year) can be adjusted against the minimum wages of unskilled, semi-skilled and skilled labour as the benchmark (refer Table 1). As seen in table 2, the hourly wage rates in all three categories are calculated in view of the prevailing per day wage rates (considering 8 hour work day). This value is then used to calculate the opportunity cost in all three wage categories. The opportunity cost in a year (tanker supply) for unskilled labour is Rs 1925, for Semi-Skilled it is approximately Rs. 2008 and Rs. 2145 for skilled labour

Table 2: The Opportunity Cost: Tanker Supply

Category	Rate/hour (8 hours working)	Opportunity Cost/year
Un-Skilled	17.5 Rs.	110 hrs* 17.5 rs = **1925 Rs.**
Semi Skilled	18.25	110 hrs* 18.25 = **2007.5 Rs**.
Skilled	19.5	110 hrs* 19.5 = **2145 Rs.**

4.1.4. The OC for those who source water from Public Stand posts

There are only few stand-posts in the colony. 27% respondents sourced water from this source and 8% used both sources. Due to the similarity in patterns of water collection and for convenience of analysis, households that sourced water from stand posts and those that use both-stand posts and tankers- are clubbed under one category. Total number of respondents under this category is 22. Here too the primary responsibility of water collection rests with the females and at times males and children also participate. In the survey 23% respondents reported that the primary responsibility rests with the adult males in the household, 63% adult females and 14% reported a mixed group of men, women and children. The water is sourced daily but the number of cycles in a day may vary depending on variables such as size and need of the household, individual preferences etc. The analysis is considering an average of one cycle/day throughout the year.

a. *Distance from the water source (WS) and time taken:* As reported in the survey, the distance of the WS is in the range of 20-50 m for 2 respondents (9%) , 50-100 m for 8 respondents (37%), 100-200 m for 8 respondents and more than 200 m for 4 respondents (18%). The time taken to reach the WS is less than 2 minutes for 1 respondent, in the range of 2-5 minutes for 10 (45%) respondents and 6-10 minutes for 11 (50%) respondents. The average time taken to reach the WS for the sample is 5.7 minutes.

b. *Time to queue at WS and time taken to return:* There are long queues at the stand posts and this consumes major chunk of the time spent on the activity. There are only few functional stand posts and at times the water supply is intermittent and inadequate. Only 1 respondent reported 5-10 minutes as waiting time, rest 72% (16) reported the waiting time within the range of 30-60 minutes and rest 23% as more than 60 minutes. 46.7 minutes is the average waiting time at the WS. Return from the WS may take more than one trip/cycle. But as the water is sourced daily, the trips/cycle may not be as many as required in case of tanker supply. 12 (50%) respondents reported two trips/cycle, 8 respondents 3 trips/cycle and 2 respondents 4 trips. The time to return is reported in the range of 5-10 minutes by 14% (3) respondents, 10-15 minutes by 50% (11) respondents, 15-30 minutes by 27% (6) and 30-60 minutes by 9% (20). The average time to return from the WS for the sample is 17.5 minutes.

c. *Calculating the total time spent on the activity:* The periodicity of water collection in case of stand posts is on a daily basis. The time spent on the activity in a day for one cycle can be calculated by summing up the time to reach the WS, waiting time and the time to return. This value can then be added to arrive at the time spent in one year (365 days) for one cycle/day.

Sub activity 1: Time to reach water source
Average time taken to reach WS in one trip = 5.7 minutes/trip
*Average time spent to reach WS in one month (30 days): 5.7*30 = 171 minutes/month*
*Average time spent in 12 months is: 171*12=**2052 minutes/year/cycle***

Sub activity 2: Time to queue at water source (the waiting time)
Average time taken to queue at WS in one trip = 46.7 minutes/trip
Average time taken to queue at WS in one month is:
*46.7*30= 1401 minutes/month*
*Average time spent in 12 months is: 1401*12=**16812 minutes/year/cycle***
Sub activity 3: Time to return from WS
Average time taken to return from WS = 17.5 minutes/trip
*Average time taken to return from WS in one month: 17.5*30=525 minutes/month*
*Average time spent in 12 months is: 525*12=**6300 minutes/year***

The total time spent in water collection in a year for one cycle is:
*Sub Activity 1+2+3 =**25164 minutes/year or 420 hrs/year/cycle.***

d. Calculating the opportunity Cost: The Opportunity cost can be calculated using the same wage norms (table 1) and method as in case of opportunity cost for Tanker supply. The opportunity costs in terms of wage loss in this case vary from Rs. 7350/year for unskilled labour to Rs. 8190 for skilled labour. Here too the OC is considering an average one cycle/day throughout the year.

Table 3: The Opportunity Cost: Stand posts

Category	Rate/hour (8 hours working)	Opportunity Cost/year (For One Cycle)
Un-Skilled	17.5 Rs.	420 hrs* 17.5 rs = **7350 Rs.**
Semi Skilled	18.25	420 hrs* 18.25 = **7665 Rs.**
Skilled	19.5	420 hrs* 19.5 = **8190 Rs.**

4.2. Calculating the OC for Bawana JJ re-location colony

As discussed in section 3.2, the sample size for the two Blocks (D and K) was calculated separately for purpose of comparative analysis between the two blocks. As discussed, block D has public water sources in form of public stand-posts (though grossly inadequate) whereas in the other block (K) there is complete absence of public provisioning of water (neither stand posts nor tanker supply). The analysis for the two blocks is therefore presented separately. In both the blocks, the primary respondents were female members in the age groups of 18 and above.

4.2.1. The Sample Profile

Block D
Block D, comprised of 74 sample respondents of which a majority that is 51% belonged to 26-40 age category, 16% fell in the 21-25 category and 15% and 14% respectively in the 18 - 20 and 41-60 category. Only 3 respondents were 61+. The literacy level of the respondents was very low, with 73% reported as illiterate (no education) and 15% below class 8th. Only 5% fell in the 8th to 10th class category and only 3% had cleared intermediate. 86% respondents were married, 11% unmarried and 3% were widows. The sample household size varies from a range of 2 members to 9 or more. Majority of the respondents, almost 59% fell in the 6-8 member category followed by 35% in the 3-5 member category. Five percent respondents reported the household size of more than 9 members and only 1 household constituted of 2 members. The average household size for the sample is 6 members for Block D. The total population of the sample household (adults and children) was 429, of which 203 were males and 226 females (47% males to 53% females).

Block K

Of the 64 respondents interviewed in K block, 35% belonged to the 41-60 age category, 31% and 20% respectively in the 26-40 and 21-25 age groups. Of the total, 7 respondents were 60+ and only 2 were in the 18-20 age group. Majority of the respondents (94%) were married, 3 were unmarried and 1 respondent was a widow. As expected the literacy levels were extremely low with 86% reported illiterate, 9% below class 8th and only 3% in the 8to 10th standard category. Of the total respondents interviewed only one respondent had cleared intermediate. The household size for the sample varies anywhere between more than 9 members in some cases to 2 or less in some; 42% reported 3-5 members, 38%, 6-8 members. 11% respondents reported more than 9 members and 9% fell in the 2 or less category. The average household size for the sample for Block K is 6.6 members. The total population of the sample is 344 with 182 males and 162 females. As per the employment status of the sample, only 10 respondents reported as employed, of which 9 were daily wagers and 1 was employed in a private firm.

4.2.2. Pattern of Water Collection

In Bawana, the ground water is not contaminated as in the case of Bhalswa- where the ground water is unfit for drinking and cooking purposes due to severe contaminants (leachate). Residents in block D source water from mixed sources- public stand-posts, private water sources[15] and a nearby canal. Whereas, in block K public provisioning of water supply (stand-posts or tankers) is completely nonexistent. In the absence of such provisioning, the residents are left to find suitable coping strategies as per individual financial capacities and need- self owned bore wells, neighbour's bore well (both paid and unpaid), canal etc. Hand-pumps are non functional in this area as the water table has depleted over the years and most hand-pumps have run dry. Water is sourced as per availability, preference and convenience in both the blocks. The analysis for the two Blocks focuses on patterns of sourcing water for all purposes (drinking, cooking, washing, cleaning etc). As mentioned in the earlier section the total time spent on the activity depends on variables such as need (family size, consumption patterns, time of season etc), distance from the WS, waiting time at the source, time to return, storage capacity etc.

4.2.3. The OC for Block D

In block D, 64% of the respondents reported public stand posts as the primary water source whereas 36% (27 respondents) sourced water from private and natural sources. Of the 27 that reported private sources; 6 respondents sourced water from temple premises (bore well), 2 from neighbour's/landlords bore-wells and the remainder owned private bore-wells. Ninety-two percent paid no money for sourcing water; i.e. no user fees were levied. A total of 6 respondents' reported as paying anything between Rs.50 to Rs.100/Month as user fee for privately owned bore wells. The private bore wells are electricity dependent and no charges are paid towards electricity bills.[16] The investment is towards installing the bore-wells and the maintenance costs. The scope of the analysis is limited only to calculating the time spent in the activity and the corresponding opportunity costs. It does not factor into the calculations the coping costs, in terms of money spent in provisioning - bore-wells and hand-pump- installation charges, running costs, user fee etc.

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15. Such as Bore well in a temple premises, privately owned bores that are electricity run and neighbour's bore wells which are both paid and unpaid.

16. Connections are not metered and the residents do not receive any electricity bills.

a. ***Distance from the water source (WS) and time taken to reach WS:*** 42% respondents reported the distance as less than 20m, 31% in the range of 20-50 m, 16% sourced water from a distance of 50-100 m and the rest 11% from a distance of 100-200 m. The average distance of the WS for the sample works out to be approximately 48 m. The time taken to reach the WS is also subject to variables such as distance, personal capacities etc. 32% respondents reported the time taken as less than 2 minutes, 52% between 2 to 5 minutes, 10% between 6 to 10 minutes and rest 7% as more than 10 minutes. The average time taken to reach WS for the sample is approximately 3.8 minutes/Cycle.

b. ***Time to queue at WS and time taken to return back:*** This sub activity is the most time consuming as there usually are long queues at the WS which means long waiting time. Also, returning back with full containers/bucket takes longer as it involves more than one trip per cycle.[17] The time to queue at the WS as reported by the respondents is in the range of less than 5 minutes for 27% respondents, 5-10 minutes for 12%, 10-15 minutes for 7%, 15-30 minutes for 9%, 30-60 minutes for 31% and more than an hour for 14%. This also is subject to a range of variables. The average time spent queuing at the WS is approximately 27.8 minutes for the sample. As discussed, the return back with filled buckets/containers might involve anywhere between one to more than 5 trips/cycle. The time to return from the WS range between 5-10 minutes for 60% respondents, 10-15 minutes for 26%, 15-30 minutes for 5%, 30-60 minutes for 8% and only one respondent reported the time spent under the sub activity as more than an hour. The average time spent under this sub activity for the sample works out to be approximately 14 minutes/cycle.

c. ***Periodicity of sourcing water and number of cycles per day:*** As per the respondents water is sourced on a daily basis (365 days a year). The number of cycles per day again depends on a range of variables such as water timing, need, time available, household size, preference etc. 11% respondents reported only one cycle in a day, rest 85% sourced water 2 times in a day and 1% sourced water 3 times in a day. The remaining reported 4 or more cycles per day. The average works out as 2 cycles/day 365 days a year.

d. ***Calculating the total time spent on the activity:*** The average time spent on each sub-activity factors into calculating the total time spent in a year. The time spent on each sub activity in a year for one cycle/day is as follows:-

Sub activity 1: Time to reach water source
Average time taken to reach WS in one trip = 3 minutes/trip
Average time spent to reach WS in 365 days (1 year)
*3*365=**1095 minutes/year***

Sub activity 2: Time to queue at water source (the waiting time)
Average time taken to queue at WS in one trip = 27.8 minutes/trip
Average time taken to queue at WS in 365 days (1 year)
*27.8*365 = **10147 minutes/year***
Sub activity 3: Time to return from WS
Average time taken to return from WS = 14 minutes/cycle
Average time taken to return from WS in 365 days (I year)
*14*365=**5110 minutes/year***

The total time spent in water collection in a year for one cycle is:
*Sub Activity 1+2+3 = **16352 minutes/year or 272 hrs/year/cycle***

As the average per day cycle for the sample is 2cycles/day through 365[18] days, therefore the total time spent on the activity in a year is 272*2= **544hrs/year/2 cycles**

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17. One might need more than 2 trips per cycle if for example there are 4 containers/buckets of water to be carried back to the dwelling.

18. Connections are not metered and the residents do not receive any electricity bills.

e. *Calculating the Opportunity cost:* The Opportunity cost can be calculated using the same wage norms (table 1) and methodology as in case of Bhalswa JJ re-location Colony. The opportunity costs in terms of wage loss (considering 2cycles/day/year) in this case vary from Rs. 9520/year for unskilled labour, Rs. 9928/year for semi skilled and Rs.10608/year for skilled labour (Table 4).

Table 4: The Opportunity Costs: Block D

Category	Rate/hour (8 hours working)	Opportunity Cost/year
Un-Skilled	17.5 Rs.	544 hrs* 17.5 rs = **9520 Rs.**
Semi Skilled	18.25	544 hrs* 18.25 = **9928 Rs.**
Skilled	19.5	544 hrs* 19.5 = **10608 Rs.**

4.2.4. The OC for Block K

As discussed, in Block K, there is complete absence of public water source. All respondents reported private source of water- either motor operated bore wells or natural source. 99% respondents' sourced water from privately owned bore wells, of which 11 were self owned. The others were dependent on their neighbor's bore wells- with or without user fee. Majority reported the service to be free of cost and only 7 respondents paid user fees in the range of Rs. 50 to Rs. 300/Month.

a. *Distance from the water source (WS) and time taken to reach WS:* Water is sourced daily. The distance to the WS vary in the range of less than 5 m to more than 200 m. the average distance for the sample is 47m. The average time taken to reach the water source is 3.06 minutes/Cycle.

b. *Time to queue at WS and time taken to return back:* The time spent waiting at the WS, ranges from less than 5 minutes to 10-15 minutes for the sample. The average time spent in the que is approximately 6.5 Minutes/Cycle and the average time taken to return is approximately 10 minutes/cycle

c. *Periodicity of sourcing water and number of cycles per day:* Water is sourced on a daily basis (365 days a year). The number of cycles/day is a variable and subjective. Number of cycles/day averages to be 2 cycles/day.

d. *Calculating the total time spent on the activity:* The time spent on each sub activity in a year for one cycle/day is as follows:-

Sub activity 1: Time to reach water source
Average time taken to reach WS in one trip = 3 minutes/trip
Average time spent to reach WS in 365 days (1 year)
*3*365=**1095 minutes/year***

Sub activity 2: Time to queue at water source (the waiting time)
Average time taken to queue at WS in one trip = 6.5 minutes/trip
Average time taken to queue at WS in 365 days (1 year)
*3.6*365 = **2372.5 minutes/year***

Sub activity 3: Time to return from WS
Average time taken to return from WS = 10 minutes/cycle
Average time taken to return from WS in 365 days (I year)
*10*365=**3650 minutes/year***
The total time spent in water collection in a year for one cycle is:

Sub Activity 1+2+3 = 7117.5 minutes/year or 118.6 hrs/year/cycle
*As the average cycle for the sample is 2cycles/day through 365 days, therefore the total time spent on the activity in a year is 118.6*2= **237.25 hrs/year***

e. *Calculating the Opportunity cost:* The OC for Bawana K block can be calculated using the same methodology. The opportunity costs in terms of wage loss in K block (considering 2 cycles/day/year) vary from Rs. 4151/year for unskilled labour, Rs.4330 for semi skilled and Rs. 4626 for skilled labour (Table 5).

Table 5: Opportunity Costs: Block K

| Category	Rate/hour (8 hours working)	Opportunity Cost/year
Un-Skilled	17.5 Rs.	237.25 hrs* 17.5 rs = **Rs. 4151.8**
Semi Skilled	18.25	237.25 hrs* 18.25 = **Rs. 4330**
Skilled	19.5	237.25 hrs* 19.5 = **4626 Rs.**

5. Conclusion

The objective of the study is to re-enforce the importance of time saving associated with better access to services and the disadvantages suffered in the absence of the same (loss of time, loss of income etc). The time saving could occur due to, for example, the re-location of a well or borehole to a site closer to user communities, the installation of piped water supply to households[19]. The re-location of the bore-well/hand-pump would however be an inept solution in case of Bhalswa as the groundwater is toxic and unsuited for any use. Therefore, solutions should also be context specific and in tune with the ground situation and the specific needs of the community. As has been proved in the OC analysis for the two re-settlement colonies, it is evident beyond doubt that the time saved due to improved services and better access would invariably translate into economic gains-by means of increased production or quality time for leisure, education etc. For Bhalswa, the analysis is presented in two categories[20]; those who source water from tanker supply and those who rely on public stand posts and for Bawana a comparative chart is presented to showcase the difference in the OC for the two blocks- D and K.

➤ The data suggests that the primary responsibility for the activity is borne by the females in majority cases though in some cases men are also responsible for water collection. Many times 2-3 members of the household including children are involved in the activity. Invariably, adult females shoulder the primary responsibility.

➤ The time spent in the activity is a summation of few sub activities, such as time to reach WS, waiting time at WS and the time to return back from the WS. The time spent in each sub activity is subject to many variables such as the periodicity of collecting water, number of cycles, distance of the WS from the dwelling, size of the house hold (this determines the consumption patterns), waiting time and time to return with heavy loads (this is again subject to individual capacities). The average time spent annually on the activity was calculated under the two categories and was valued at the minimum wage standards of unskilled, semi-skilled and skilled labour categories.

➤ In case of Tanker Supply, Bhalswa, the Tanker dependent house-holds source water once in 6 days and the average time spent in the activity annually is 110 hrs/year. By valuing this time against the minimum wage standards of unskilled labour, the wage loss in a year is approximately Rs.1925 (Table 2). This value is an approximation and subject to variation.

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19. Evaluation of the Costs and Benefits of Water and Sanitation Improvements at the Global Level, Guy Hutton & Laurence Haller, WHO, 2004.

20. Tankers supply water once in 6 days and therefore the periodicity of collecting water from the two available options- tanker supply and public stand posts vary. For tankers the periodicity is once in 6 days and in case of stand posts it is done on daily basis.

➤ With regard to public stand-posts in Bhalswa, the numbers are grossly inadequate and the services inefficient. There are only few stand posts that supply water in the colony. The periodicity of sourcing water from this source is on a daily basis and may involve one, two or three cycles as per need and availability. The patterns vary and are subjective. House-holds that source water from stand posts spend on an average approximately 70 minutes/day/cycle in the activity. The total time spent annually on the activity for one cycle is 424 hours/year/cycle. By valuing this time against the minimum wage standards of unskilled labour, the wage loss in a year sums up to approximately Rs.7350 (Table 2). The value is subject to a host of variables such as, patterns of water collection-the periodicity and cycles and patterns of water consumption- need of the household.

➤ The comparative OC for those who source water from tanker supply and those who are dependent on public stand-posts for Bhalswa (considering one cycle/day throughout the year) is presented in chart 5.1. The OC for Tanker supply is less compared to that for public stand posts. Before arriving at any conclusion, one should bear in mind that there is no definite time for the tankers to arrive at the fill point and therefore the activity actually involves an entire day waiting (as reported by the respondents). Few respondents also reported missed school days for children who were involved in the activity. This is not factored into the calculations for OC. The constraints of provisioning for an entire week that too in small shanty of a dwelling in itself is a huge challenge. These considerations also need to be borne in mind before arriving at any substantive conclusion.

➤ Chart 5.2 presents the comparative OC for block D and block K in Bawana.[21] The OC for K block is low when compared to that of D block. This by no means is indicative of better services/provisioning. As has been discussed earlier this block has no public provisioning of water supply. The residents are solely dependent on Bore-wells that are motor operated. There are huge coping costs involved in installing and maintenance of the same. However, these considerations have not been factored into the final calculations as this was outside the scope of the study.

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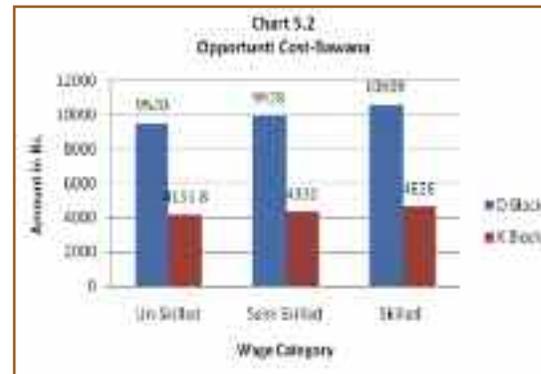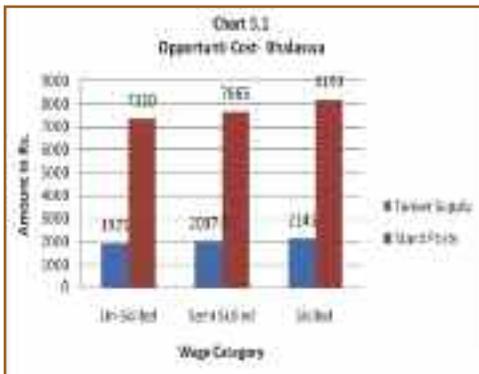
21. This calculation is for an average 2cycles/day/year for the sample in both the blocks.

➤ As a solution, the most ideal situation is either:

i. Direct access by means of piped connections in the dwellings-this could be metered. In the course of the survey 99% respondents reported willingness to pay if such services are provided. Paid connections would also mean reducing the non-revenue water loss[22] suffered by the Municipal Corporation. In the survey, majority of the respondents were willing to pay anywhere between Rs. 50 to Rs. 200/month for such services. Only few were unwilling to pay.

Or

ii. Adequate number of stand-posts as per size of the population, convenient location of the stand post (equidistant location should be specified in the plans), and 24 hour supply-which is a must. A functional stand post at the end of each lane would also considerably cut down time spent in queues, walking to WS and back to the dwelling. Watch and ward committees for each lane can over see the repair & maintenance work and also ensure against theft and damage. Members both men and women should be trained in minor repair related work and tools provided for the same.

The above provisions would mean convenience time savings and would also ease the burden of water collection. Also, coping costs and health related costs will come down drastically.

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22. The Slum &JJ Department owes approximately Rs.3 crores to the DJB for un-meterd water use in Bhalawa JJ re-location colony.

Annex 2

Gender Responsive Budget Analysis in Water and Sanitation

A Study of Two Resettlement Colonies in Delhi

Acronyms

BSUP	Basic Services for Urban Poor
CDP	City Development Plan
CSS	Centrally Sponsored Scheme
CTC	Community Toilet Complex
DCB	Delhi Cantonment Board
DDA	Delhi Development Authority
DEMS	Department of Environmental Management Services
DJB	Delhi Jal Board
DUSIB	Delhi Urban Shelter Improvement Board
FYP	Five-year Plan
FY	Financial Year
GIA	Grants-in-Aid
GRB	Gender Responsive Budgeting
GSDP	Gross State Domestic Product
IHSDP	Integrated Housing Slum Development Programme
JJ	Jhuggi Jhopri
JJRC	Jhuggi Jhopri Relocation Colony
JSC	Jan Suvidha Complex
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
MCD	Municipal Corporation of Delhi
MDGs	Millennium Development Goals
MLALAD	Member of Legislative Assembly Local Area Development
MoHUPA	Ministry of Housing and Urban Poverty Alleviation
MoUD	Ministry of Urban Development
NCR	National Capital Region
NCT	National Capital Territory
NDMC	New Delhi Municipal Corporation
NE	North East
NGO	Non-governmental Organisation
NSDP	National Slum Development Programme
O&M	Operation and Maintenance
PPP	Public–Private Partnership
RAY	Rajiv Awas Yojana
RC	Resettlement Colony
UC	Utilisation Certificate
UD	Urban Development
UIDSSMT	Urban Infrastructure Development Scheme for Small and Medium Towns
ULB	Urban Local Body
WATSAN	Water and Sanitation
WHO	World Health Organization

Acknowledgements

Centre for Budget and Governance Accountability (CBGA), in collaboration with Jagori carried out a study on Gender Responsive Budget Analysis of public provisioning of water and sanitation services in the two re-location colonies of Bawana and Bhalswa. This input is part of the larger Action Research Project on Women's Rights and Access to Water and Sanitation in Asian Cities (2009–11) supported by Women in Cities International (WICI) and International Development Research Centre (IDRC).

The analysis covered specific urban water and sanitation policies and programmes at the level of Union (federal), state and local government. Since water and sanitation services affect women and men differently, an attempt has been made to see what is there for women in these policies and schemes. The quantum of budgetary outlays has also been captured for urban water and sanitation in Delhi with a focus on the north-west district of Delhi, i.e. Narela and Model Town sub-divisions. However, due to unavailability of budget data at the sub-divisional level, the state government's outlays through the budget of the Municipal Corporation of Delhi (MCD) and the Delhi Jal Board (DJB) (agencies responsible for creating essential infrastructure, maintenance and sustenance of water supply and sanitation services) has been used in the study.

The study was based on a comprehensive review of available literature on public expenditure analysis of the urban water and sanitation sector in Delhi. Analysis of various budget documents, particularly the 'Detailed Demands for Grants'[1] at the State (Delhi) government levels pertaining to water and sanitation for the last four years from 2007–08 up to 2010–11 has been undertaken. Besides, an in-depth study of various policies and schemes pertaining to water and sanitation at the union and state government levels has been done to assess what it offers low-income urban women. Interviews with officials of the MCD, DJB and the Delhi Urban Shelter Improvement Board (DUSIB) were undertaken to gain a clearer perspective on relevant issues.

The study team comprised of two researchers from CBGA and the duration of the study was from March to June 2011. The lack of sex-disaggregated data and the reluctance of concerned officials to part with information regarding budgets for water and sanitation in the study area were some of the challenges faced by the study team.

The paper is divided into three sections whereby Section 1 deals with the policies, Acts and schemes dealing with water and sanitation in urban areas at the union, state and local government levels. This section also looks closely at how and where women feature in these policies, acts and schemes.

Section 2 analyses the budgets for water and sanitation at the level of the union and the state and highlights the prevailing fund-flow mechanism.

This is followed by Section 3 which discusses the constraints in the effective delivery of water and sanitation services and how it impacts low income women and girls. Issues regarding implementation and suggestions to counter them have been highlighted.

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1. Detailed Demands for Grants are detailed budget documents that record up to unit level expenditure of various administrative units/departments of the government.

Findings

➤ Policies and schemes regarding urban water and sanitation do not have anything for women and girls except for the Urban Sanitation Policy, 2008 and the National Urban Habitat and Housing Policy, 2007 which recognize women and children as being worse sufferers than men and boys due to poor water and sanitation services. The Basic Services for Urban Poor (under Jawaharlal Nehru National Urban Renewal Mission) fund is supposed to earmark 20% of municipal funds for the urban poor. However, it is yet to be implemented.

➤ In the Delhi budget, water and sanitation is the second most prioritized area after transport and constitutes approximately 17% of the total plan outlays in the Eleventy Five-year Plan. In spite of an increase in overall budgetary allocation for water and sanitation from 2007–08 to 2010–11, in absolute terms it has gone down when compared to the total budget of Delhi. In the 2007–08 financial year (FY), the share of actual expenditure on water and sanitation to total budgetary expenditure of Delhi was 7.4% and it went down to 6.1% in the FY 2010-11.

➤ For *Jhuggi Jhopri* (JJ) clusters, in the FY 2011–12, Rs. 90 million ($2 million)[2] has been spent on water supply and Rs.240 million ($5.32 million) on sanitation facilities. One needs to question whether this allocation is adequate keeping in mind the unsafe and unhygienic water and sanitation services existing in the study area as well as the growing population of the low-income settlements. Considering that the Delhi government is spending a mere Rs 30 ($0.66) on water supply and Rs 80 ($1.78) on sanitation per JJ colony resident in 2011–12, inadequate funds for these areas is surely a cause of concern.

➤ Although the government comes out with a Gender Budget Statement (GBS) every year, water and sanitation is not reflected in it. Neither the Department of Drinking Water and Sanitation nor the Department of Urban Development report in the GBS of the Union government which makes it difficult to assess women's share in water and sanitation services in rural and urban areas. Departments should be urged to report in the GBS so that the true picture of actual allocations is revealed.

➤ Sewerage and drainage in the re-location colonies of Bawana and Bhalswa are the main issues of contention as pointed out by officials from the MCD and DUSIB. Since the DJB only provides water and no underground sewerage in these areas, MCD's efforts to keep the area clean prove to be a wasted effort. It is difficult to assess who is accountable for the prevailing water and sanitation situation in the study areas.

➤ Lack of effective collaboration and consultation between the urban local bodies (ULBs) and the agencies such as the DJB, MCD and the DUSIB has come out in the course of the study whereby confusion and lack of ownership was found to be prevailing in the departments. For this, the larger political picture needs to be kept in mind. Continued low allocations towards this sector reflect the lack of political will to improve urban water and sanitation services; more so, in JJ re-location colonies, where a paternalistic attitude has been observed among the ULBs towards the residents. The recent increase in allocation for the Member of Legislative Assembly Local Area Development (MLALAD) scheme from Rs 20 million (US $0.44million) to Rs 40 million (US $0.88 million) and an additional amount of Rs 10.5 million (US $0.23 million) to the MCD Councillor Fund have given greater financial powers to the elected representatives of the government. Monitoring of how these funds are spent would significantly bring in some degree of transparency and accountability.

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2. Note: 1 million is Rs 1,000,000 (Rs 10 lakhs) and the currency conversion rate from INR to USD is used with Rs 45.0875 for $1 as on 27 June 2011.

➤ The issue of privatization of urban water and sanitation services is a matter of some concern. In the study areas, although the MCD does not impose any charges on the residents for the use of community toilet complexes (CTCs), the ones that are contracted out to private agencies charge a fee, consequently putting a financial burden on the residents and more so on women who have to pay for the children as well. With talks of public–private partnership through Jawaharlal Nehru National Urban Renewal Mission (JNNURM), in all likelihood, privatization would translate into high out-of-pocket expenditures for the urban poor.

1. Women's Safety and Access to Essential Services: Analysis of Policies and Programmes

1.1 Introduction

This paper on gender and water and sanitation budgets for *Jhuggi Jhopri* (JJ) re-location colonies in Delhi is an outcome of the Action Research Project on Women's Rights and Access to Water and Sanitation in Asian Cities (2009–11). The two JJ re-location colonies in the action research are Bawana and Bhalswa. Jagori worked in Bawana where it has an established a track record of working with the community and Action India, the co-implementation partner worked in Bhalswa with overall research and technical support from Jagori and Women in Cities International (WICI). The project was funded by the International Development Research Centre (IDRC).

The action research project's objectives were to engage with women in the two JJ re-location colonies of Delhi to assess their safety and security in terms of their access to and the quality of WATSAN (water and sanitation) services – water, sanitation, drainage, solid waste and electricity. Specifically, the project's aim was to test and adapt the Women's Safety Audit (WSA) methodology to generate a model for engaging low-income women and other marginalized communities with their local governments and other partners to begin to address the gender service gap in water and sanitation services. Thus, the research highlights women's safety and security and the gender gap in the governance of municipal infrastructure and services.

Budgets are critical policy documents of the government that reflect its commitments and priorities. Analysis of budgets helps assess the gaps in implementing these commitments and suggest corrective actions. In recent years, gender responsive budgeting (GRB) has emerged as a powerful strategy to ensure inclusion of the interests of the socially disadvantaged groups in the planning and budgeting process.

Gender-Responsive Budget Initiatives (GRBIs) are tools that analyse budgets to see how government policies and programmes have different impacts on women and men, and girls and boys (Khosla, 2003, p5). The various tools that can be used for a gender sensitive budget analysis (UNIFEM, 2005) are:

1) Gender-aware policy appraisal

2) Gender-disaggregated beneficiary assessments

3) Gender-disaggregated public expenditure incidence analysis

4) Gender-disaggregated tax incidence analysis

5) Gender-disaggregated analysis of the impact of the budget on time use

6) Gender-aware medium term economic policy framework

7) Gender-aware budget statement

Water and sanitation services in re-location colonies expose women to real and perceived dangers in the community. Women's role in the collection and management of water is usually taken for granted. In fact, the extent of the impact of unsafe sanitation and water supply on the time, security and dignity of a woman does not need to be further emphasised. Inadequate and inappropriate water and sanitation facilities have led to health and safety hazards for women as mentioned in the studies by Jagori and Action India. With this backdrop, the paper attempts to demystify the planning and budgetary processes related to governments' initiatives on water and sanitation. 'Gender-aware policy appraisal' (GRB Tool 1) has been used to closely examine and analyse policies and budgets specific to water and sanitation in Bawana and Bhalswa. In the absence of the availability of sex-disaggregated data as well as budget data at the level of Bawana and Bhalswa, 'gender-disaggregated public expenditure incidence analysis' (GRB Tool 3) could not be used in the analysis.

1.2. Women's Safety and Access to Essential Services

The urban poor residing in JJ re-location colonies face various disadvantages such as lack of tenure, poor living conditions, unemployment and few livelihood options. Availability and access to essential services like health clinics, clean drinking water, safe sanitation, and electricity affect both men and women. However, due to women's secondary role and position in society and the prevalent patriarchal system, the lack of certain services impact women more than men.

Bawana is situated in the North-west District of Delhi towards the Haryana state border and as mentioned earlier was identified as site for relocation for a large number of people evicted in 2004. Residents living in JJ colonies/slums from Yamuna Pushta, Dhapa colony, Banuwal Nagar, Saraswati Vihar, Deepali Chowk, Vikaspuri, Nagla Machi, Jahangirpuri, among others were evicted to this site about 35 kms away from their homes. The plots in Bawana were assigned only to those who could prove their identity and proof of residence. People who lived in Delhi before 1990 were given 18 sq m plots. Families that lived in Delhi from before 1998 but after 1992 were allocated a plot of 12.5 sq m. The residents of JJ colonies were given a 'license' for a term of either five, seven or nine years and had to pay Rs 7,000 (US $155) for their plots. Without security of tenure, they are continuing to invest their hard earned and meagre savings to make the space a bit more liveable for themselves. There is a possibility that they could be evicted again. Hence, a sense of insecurity and lack of ownership to their place looms large in their pattern of livelihood.

The second site, Bhalswa, is located in North-west District of Delhi, next to the landfill site of Bhalswa. Most people residing here were evicted from the North and East of Delhi from communities previously located in Yamuna Pushta, Gautampuri, Barapulla, Nizamuddin, ITO, and Rohini, about 10 to 20 kms from their homes. They were moved here in the year 2000 and were allotted plots of either 12.5sq m or 18 sq m based on their years of residence in Delhi. Today Bhalswa has roughly around 2,600 plots with an approximate population size of 25,000.

Taking from Jagori and Action India's work in the relocation colonies of Bawana and Bhalswa, the following are some of the gender-based disadvantages which women from these areas face due to lack of access to safe drinking water and clean and affordable sanitation:

Gender-based disadvantages in accessing to water supply

➤ Time and opportunity cost for work lost due to time spent in water collection.

➤ Conflicts and fights regarding space to wash clothes and cook.

➤ Physical and sexual harassment in public transport while collecting water from distant places.

➤ Exposure to physical and sexual violence while collecting water from tankers.

➤ Absenteeism and dropout rate of girl children from schools.

➤ Unsafe drinking water raises the risk of women, men and children being susceptible to waterborne diseases such as cholera and diarrhoea affecting their health and subsequently livelihood.

Gender-based disadvantages in accessing sanitation, sewerage and drainage

➤ Incidents of sexual harassment while availing sanitation facilities at the Community Toilet Complexes (CTCs).

➤ Poor and faulty design of CTCs which put women at the risk of being harassed.

➤ CTCs are not open for the entire day which causes inconvenience to women to meet their sanitary needs.

➤ Inadequate and unsafe sanitary public infrastructure causes loss of dignity and privacy to women who are forced to resort to open defecation.

➤ Inadequate infrastructure raises vital safety concerns for women as they are sexually assaulted or attacked when they resort to open defecation.

➤ Women have to wait until dark to defecate and urinate in the open as they tend to drink less water during the day, resulting in all kinds of health problems such as urinary tract infections (UTIs).

➤ Poor maintenance and design of drains leading to conflicts that put women at risk physically.

➤ Loss of dignity and privacy while disposing menstrual waste.

➤ Hygienic conditions are often poor at public defecation areas, leading to worms and other water-borne diseases.

➤ Girls, particularly after puberty, miss school due to lack of proper sanitary facilities for dealing with menstrual hygiene.

Women in Bawana and Bhalswa localities have reported these problems while accessing toilets and sanitation facilities. Their complaints relate mainly to incidents of sexual harassment at the CTCs and in open areas whenever CTCs cannot be accessed. Initiatives undertaken by the community have been the only way to counter these problems. This raises the question of government action in this regard, considering that a woman's dignity and safety is severely undermined especially among the vulnerable urban poor.

The lack of proper sanitation facilities and water supply is something residents of these two areas have learnt to live with. The situation is worse in Bhalswa which is situated next to a landfill site with the residents until recently were totally dependent on tankers for their water requirements. An additional burden is the amount that every household has to pay for the use of CTCs and the fact that many girl children drop out of school when they get involved in household chores, including collecting water. Hence the womenfolk are not only exposed to an unsafe environment but also hold a weak economic position in the existing structure.

What is the government's role in planning for the urban poor? Reports and studies on the subject reveal that their needs have not been given due consideration while making plans and programmes for the development and modernisation of cities. The capital city, Delhi, has been projected and planned in a manner as to attract further investment and to make it conducive to public–private partnership (PPP), but it has not taken into account of those who live on the fringes of society. In this context, the country's first comprehensive and massive city modernisation flagship programme, JNNURM, launched in 2005, is projected as the chief policy instrument through which cities are conceived as an encompassing global space where provisions for the poor have to be made in tandem with local governments and the community. It should be emphasised here that solutions for accommodating the urban poor are largely dependent on effective community participation and a pro-active and supportive local government. Most importantly, it is crucial to see whether gender-based disadvantages are being addressed in the policies and programmes of urban water and sanitation.

1.3. Policies and Programmes:
   ## What are the Entitlements for Women?

Water and sanitation has never been given adequate priority by the government, and more so in urban areas. But with increasing urbanisation of the country, there is a tremendous pressure on civic infrastructure systems like water supply, sewerage and drainage, and solid waste management. As per recent data, (Vaidya, 2009, p.11) water supply is available only for 2.9 hours per day across cities and towns. The non-revenue water that includes physical and revenue losses account for 40%–60% of total water supply. About 30%–50% households do not have sewerage connections and less than 20% of the total waste water is treated. Solid waste systems are severally stressed. The state of services reflects the deterioration in the quality of city environments. As per the 54th round of National Sample Survey (NSS), 70% of urban households are being served through taps and 21% by tube well or hand pump. Sixty-six per cent of urban households were reported as having their principal source of water within their premises while 32% had it within 0.2 km. Forty-one per cent had sole access to their principal source of drinking water and 59% were sharing a public source. As per the 54th round of NSS, 26% of households had no latrines, 35% were using septic tanks and 22% were using the sewerage system. Sewerage connections varied from 48% to 70% in the country. It is estimated that about 115,000 metric tonnes (MT) of municipal solid waste is generated daily in the country. Per capita waste generation in cities varies between 0.2–0.6 kg per day and it is increasing by 1.3% per annum.[3]

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3. The data are referred in Vaidya, 2009. Urban Issues, Reforms and Way Forward in India, Working Paper No. 4/2009-DEA, Department of Economic affairs, Ministry of Finance, Government of India.

A major government programme that provides facilities for water supply and sanitation in urban areas is JNNURM. It aims at improving and augmenting economic and social infrastructure facilities of the cities, extending basic services to the urban poor including security of tenure at affordable prices, and strengthening municipal governments and their functioning in accordance with the provisions of the 74th Constitutional Amendment.[4] Services to the urban poor include access to water supply and sanitation which largely hinges around an effective local government. The cities under JNNURM are supposed to develop City Development Plans (CDPs) demonstrating their plans and commitments to the JNNURM's objectives. Plans have been developed for all the cities in the JNNURM but these have not been done in a consultative manner involving all sections of society. This non-consultation has mainly been attributed to the inadequate capacity of urban local bodies (ULBs) which form the pivot in the Mission. This is adjunct to the 74th Constitutional Amendment Act which calls for devolution of funds, functions and functionaries to the ULBs.

A look at some of the schemes and policies involving slum and re-settled populations at the union, states and local body levels will shed light on the extent to which women and girls have been included and on budgetary provisions made for them. The analysis of the schemes and policies also attempts to cull out entitlements for women, if any. At the Union Government level, there are some schemes and policies that focus specifically on water and sanitation. These are as follows.

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4. The 74th Constitutional Amendment is a path-breaking development in strengthening the urban local bodies in the country. It was passed by Parliament of India in December, 1992 and received presidential assent on April 20, 1993. The main characteristic of 74th Constitution Amendment Act, 1992 is that it provides constitutional recognition to the powers and functions of the urban local bodies. The Act adds Part IX-A to the Constitution covering Articles from 243P to 243ZG. It also introduces Twelfth Schedule in the Constitution, which lists 18 subjects coming under the jurisdiction of municipalities. Under the allocated subjects falling under the jurisdiction of municipalities, subjects such as slum improvement and upgradation, water supply for domestic, industrial and commercial purposes, and public health, sanitation conservancy and solid waste management are prominently covered.

1.4. Policies and Schemes at the Union Government level for water supply and sanitation.

I. Jawaharlal Nehru National Urban Renewal Mission (a) Basic Services to the Urban Poor (BSUP), (b) Rajiv Awas Yojana (RAY), and (c) Integrated Housing Slum Development Programme (IHSDP)

II. Service–level Benchmarking

III. Urban Sanitation Policy

IV. National Urban Habitat and Housing Policy 2007

V. Mid-term Appraisal of the Eleventh Five-year Plan

I. Other than the Urban Sanitation Policy, none of these policies and schemes deals with sanitation and water supply directly. Water and sanitation is either linked with housing for the poor or with employment generation, and has not been treated as a stand alone issue. Moreover, gender has not been overtly mentioned, but just implied. This shows that the policymakers have not directed enough attention to the needs of women and girls relating to water supply and sanitation, especially in the urban slums. The National Slum Development Programme was one of the few schemes which had a provision for adequate water supply, sanitation, housing, solid waste management, primary and non-formal education in urban slums. It provided additional central assistance to states to supplement the resources of the state government for provision of basic infrastructure and services in slum areas. Unfortunately, it was discontinued in 2009–10.

a) Basic Services to the Urban Poor (BSUP) scheme under JNNURM has the following objectives.

➤ To provide security of tenure at affordable prices, improved housing, water supply, sanitation and ensuring delivery of these services for the urban poor through convergence of other already existing universal services of the government for education, health and social security.

➤ To secure effective linkages between asset creation and asset management so that the basic services to the urban poor created in the cities are not only maintained efficiently but also become self-sustaining over a period of time.

The following objectives stress on the development of basic services for the urban poor which includes water and sanitation. To maintain these basic services, one of the objectives of the scheme is to secure effective linkages between asset creation and asset management so that they become self-sustaining over a period of time. However, there is no mention of a separate fund for water and sanitation.

b) Rajiv Awas Yojana has a vision of a 'slum free state'. It seeks to bring existing slums within the formal system while redressing the deeper issues of slum creation. The scheme talks of earmarking for basic services to the urban poor within the local body budgets. As one of its reformative measures, it also mentions provision of basic services to the urban poor which includes water supply and sanitation. The intention of the scheme belies the fact that no separate funds have been earmarked to achieve its vision.

c) Integrated Housing Slum Development Programme (IHSDP), in addition to providing shelter through up gradating and construction of new houses, also aims to provide community toilets, water supply, storm water drains, community baths, widening and paving of existing lanes, sewers and street lights. Slum improvement and rehabilitation are part of the scheme focussing on inclusive urban planning. Yet there has been no specific mention of women directly in the scheme despite the funding mechanism being explicitly laid out.

II. Service-level benchmarking is another initiative by the Ministry of Urban Development (MoUD) as part of the urban reform agenda for enhancing accountability for service delivery through various Centrally Sponsored Schemes.[5] (CSS) like JNNURM. It is to be tried out on a pilot basis and envisages a shift in focus from infrastructure creation to delivery of service outcomes in order to introduce accountability in service delivery. Service-level benchmarking is surely a positive step but it remains to be seen to what extent the basic issues of access and availability of safe water and sanitation services are addressed.

III. National Urban Sanitation Policy 2008 aims to transform urban India into community-led healthy and liveable cities and towns that have universal sanitation coverage. It has an ambitious plan focussing on the urban poor and women whereby the vision for Urban Sanitation in India is that 'all Indian cities and towns become totally sanitised, healthy and liveable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women' (Ministry of Urban Development, 2008). With regard to the budget component, the government plans to explore possibilities of providing assistance for funding projects, proposed as part of City Sanitation Plans, through schemes like JNNURM, Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT), BSUP, 10% Lump Sum for North-East (NE) States, and Satellite Township Scheme. The government plans to provide budgetary assistance to projects that are a part of the City Sanitation Plans, through schemes like JNNURM, Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT), BSUP, 10% Lump Sum for North-East (NE) States, and Satellite Township scheme. However, the emphasis will be on improving the efficiency of existing sanitation infrastructure and service delivery. This will be in addition to the state government's own resources. The policy states that at least 20% of the funds under the sanitation sector should be earmarked for the urban poor but it is not clear as to what extent it has been implemented.

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5. In case of a centrally sponsored scheme, the central government provides a part of the funds and the state government provides a matching grant for the scheme. The ratio of contributions by the centre and a state is pre-decided through negotiations between the two.

The main goals of the policy are awareness generation and behavioural change; open defecation-free cities, integrated city-wide sanitation, sanitary and safe disposal, and proper operation and maintenance of all sanitary installations. Here too, the policy rests on the assumption that the states would draw up State Urban Sanitation Strategies and City Sanitation Plans. The urban poor are confronted with the issue of land tenure which creates uncertainty and insecurity regarding their place of residence. There is the constant threat of eviction and the areas lack basic services such as safe water and sanitation facilities where the burden of collecting water and maintaining household hygiene falls on women who suffer the most from inadequate and inappropriate services in slums. The sanitation policy dwells on these issues but does not suggest ways to deal with the multiplicity of agencies and stakeholders involved in the implementation of water and sanitation services.

IV. National Urban Habitat and Housing Policy 2007 'intends to promote sustainable development of habitat in the country with a view to ensuring equitable supply of land, shelter and services at affordable prices to all sections of society'. It also plans to involve women at all levels of decision making to ensure participation in the formulation and implementation of housing policies and programmes. Further, it aims to address the special needs of women-headed households, single women, working women and women in difficult circumstances in relation to housing serviced by basic services, which would include water and sanitation. This is the only policy which tries to include women in its guidelines.

V. Mid-term Appraisal of the Eleventh Plan stresses ULB level reforms such as 100% cost recovery on Operation and Maintenance (O&M) for Water Supply, 100% cost recovery on solid waste management and, internal earmarking of funds for services to the urban poor. The appraisal brings to light the finding that nearly 80% of the funds under UIG and more than 90% of funds under UIDSSMT have been committed to projects in water supply, sewerage, drainage and solid waste management which shows that most cities still have a significant backlog in the provision of basic urban services to their residents. Further, in some states, less than 30% of the funds allocated have been claimed. In Delhi itself, less than 6% has been claimed showing the extent of under-utilisation of funds.

1.5. Policies and Schemes at the state and local government level

I. City Development Plan under JNNURM

II. Master Plan of Delhi Development Authority (DDA)

III. The Delhi Urban Shelter Improvement Board (DUSIB) Act, 2010

IV. Member of Legislative Assembly Local Area Development Scheme (MLALADS)

V. State level Schemes for JJ Colonies

I. City Development Plan (CDP) that comes under the JNNURM, the Delhi Development Authority (DDA) Master Plan and MLALADS – have a vision to develop Delhi into a highly liveable city with reliable infrastructure. The CDP is ambitious in its vision whereby it outlines strategies for economic development, civic infrastructure development, slums and urban poor development as well as recommendations on urban governance. Although it recognises the fact that 'women find it unsafe and embarrassing to defecate in the open and in community toilets', (Department of Urban Development, 2006) it does not chart out solutions to address this issue. A review of the CDP for Delhi undertaken by Centre for Civil Society (2007) concludes that the proposals for the urban poor and housing make up just 16% of the total planned investments in the city, an amount that does not match demand in terms of numbers or level of services needed.

II. DDA Master Plan has no clear policy on slum relocation despite the fact that it is a growing problem. This is even more pertinent when seen in the light of the fact that the DDA was engaged in toilet construction in the project area of Bawana as well as the sole authority involved in land/plot allotment to the slum dwellers.[6]

III. Delhi Urban Shelter Improvement Board (DUSIB) Act, 2010 was passed by the Legislative Assembly of Delhi on April 1, 2010 since a need was felt for a supportive body with statutory powers. This was followed by the Delhi Urban Shelter Improvement Board coming into existence. As per the Act, the Board has the authority to implement the provisions of the Slum Areas (Improvement and Clearance) Act, 1956. It states that the Board may prepare a scheme for the improvement of any *jhuggi jhopri bastis* which may include provisions of toilets and bathing facilities, improvement of drainage, provision of water supply, street paving, and provision of dustbins or sites for garbage collection, and street lighting. The scheme may include provisions for payment or for contribution of labour by the residents of the *jhuggi jhopri basti* individually or collectively, and may also include provision for recovery of charges for the use of toilets and bathing facilities which in essence means that user charges may be levied on the slum dwellers.

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6. Discussions with Jagori staff revealed that DDA had initially constructed the CTCs in Bawana which were later handed over to the MCD.

One can clearly note that there is no specific mandate on water and sanitation service provision as well as nothing specifically for women. It only lays out duties and directions on what the Board may do on basic services provision and not what it should do. Although there is a provision for an 'urban shelter consultative committee' to be constituted as part of the Board, the onus on basic services provision is at the Board's discretion. A State Audit Report of Delhi on MCD (CAG, 2003, p 91) showed that the Slum and JJ Department 'failed to provide the intended minimum basic amenities like jan suvidha[7] complexes, potable water, Basti Vikas Samiti Kendras,[8] community toilet/bathrooms to beneficiaries due to its lax attitude and achievement of targets ranged between 29% and 42% only. This goes to show that the Slum and JJ wing was unable to achieve its targets in 2001–02 as well as suffered from careless implementation.

IV. The MLALAD scheme (Government of NCT of Delhi, 2009) enables each MLA to undertake small developmental works in his or her constituency through the allocated funds of Rs 20 million (US $0.44 million) per year, which has been increased to Rs 40 million (US $0.88 million) in 2011.[9] The MCD Councillor Fund has also been raised to Rs 10.5 million (US $0.23million).[10] The works related to water and sanitation that can be taken up under this scheme are public toilets at different locations, construction of tube wells and water tanks for drinking water provision, construction of roads and drains including roads, approach roads, link roads, approved by lay-outs, sanitation, street lighting, provision of common services including maintenance of community toilets, courtyard, common path and similar other services (Centre for Civil Society, 2009) The scheme has a lot of scope for provision of water and sanitation services for the urban poor, but only if they come under the radar of the politicians. One is well aware that the urban poor, especially evicted population are the last priority for politicians except as valuable vote banks.

V. State level schemes[11] (Details of the schemes are given in Annexure II) dealing with water and sanitation in JJ and relocation colonies are as follows.

➤ In-situ upgradation of JJ Clusters and Informal Shelter (DUSIB)

➤ Environmental Improvement in Urban Slums (DUSIB)

➤ Construction of Pay and Use *Jansuvidha* Complexes (DUSIB)

➤ Additional Facilities in *Jhuggi Jhopri* Relocation Colonies (JJRCs) (MCD)

➤ Sanitation in JJ Cluster (MCD)

➤ Augmentation of water supply in JJ Clusters (DJB)

7. Community toilet complex.

8. Community development centres.

9. See URL http://articles.timesofindia.indiatimes.com/2011-06-15/delhi/29660991_1_delhi-govt-hikes-sheila-dikshit-fund

10. See URL http://www.delhielections.com/2011/01/21/786867/mcd-councillor-fund-hiked-to-rs-2-crore/index.html

11. Annual Plan 2009–10.Department of Urban Development, Government of NCT, Delhi.

Schemes at the level of the state government pertaining to JJ colonies are not as many as they should be keeping in mind the water and sanitation situation in the slums. There is no direct intervention benefiting women and girls in the schemes. However, the schemes do have objectives that aim to improve the living conditions of slum dwellers.

At the state government and local body level, certain state level and ULB reforms have been initiated under the JNNURM. It is envisaged that the states would ensure meaningful engagement with ULBs in managing parastatals as well as delivery of services. This is also to focus on effective decentralisation as envisaged in the 74th Constitutional Amendment Act. Reforms at the ULB level include, among other things, earmarking within local body budgets for basic services to the urban poor and provision of basic services which includes security of tenure at affordable prices, improved housing, and water supply and sanitation. These reforms, if effectively implemented could go a long way in addressing many of the issues and minimising the hurdles among different agencies. The measures would benefit the overall population and not specifically poor urban women.

The above analysis of the policies and schemes throw light on the extent to which the urban poor and, more specifically, poor urban women are prioritised in the context of provision of water and sanitation services. Other than the National Urban Sanitation Policy (2008) and the National Urban Habitat and Housing Policy (2007), which recognize women and their disadvantaged position in water and sanitation services, none of the schemes and policies mention women. Clearly their absence at the level of policies and schemes shows how invisible they are in the planning process. The next section highlights the budgetary aspects of water and sanitation services and how these influence and impact women's and girls' lives in the two re-location colonies studied.

2. Budgets for Water and Sanitation: Allocations and Utilisation

2.1. Budgets for Water and Sanitation

Water supply, sanitation, sewerage and drainage are essential components of urban infrastructure. However, as per the recently conducted 65th round of the National Sample Survey (2008–09), there is a considerable shortfall of these amenities for people living in slums and re-location colonies. The Delhi state sample suggests that 88% of slums largely depend on piped water supply followed by around 9% that are dependent on hand pumps and tube-wells as a major source of water while the remaining 3.5% are served by other sources. Sixty-three per cent of slum dwellers use tanks/flush type of latrine facility for sanitation. Underground sewerage is found to exist only in around 23% of slums, while 2.8% of slums have underground drainage systems, 3.4% have covered (*pucca)* drainage system and 11.1% open (*katcha)* drainage system. Around 16% of the slums have no drainage system. Local bodies collect garbage from 66% of the slums. Of the slums where garbage is collected by local bodies, the frequency of collection was 43% on a daily basis. In 13% of the slums, the garbage was collected at least once in two days; in 24 % slums, the garbage collection was once in 3 to 7 days, while it was once in 8 days and above in 20% of the slums. That apart, 24% of the slums do not have any regular mechanism for garbage disposal (Government of NCT Delhi, 2010). Intermittent and inequitable distribution of water supply is a regular feature of urban metropolises. For instance, the per capita supply ranges from 20 to 400 lpcd (litres per capita per day) in different parts of Delhi (Ministry of Urban Development, 2011).

The Water and Sanitation sector was part of the First Five-year Plan and has since been accorded outlays by the Planning Commission. With the enactment of the 73rd[12]and 74th Constitutional Amendments, relevant state legislations were amended in order to decentralise certain responsibilities, including water supply and sanitation to municipalities. Since the assignment of responsibilities to municipalities is the state's obligation, different states have followed different approaches. Financing of water supply and sanitation is through a number of different national and state programmes. In urban areas, municipalities and State Boards (ULBs) are in charge of operation and maintenance.

In such a scenario, it would be natural to assume that water and sanitation service provision does not get much priority in re-location colonies. Budgets are not only crucial to implement policies and schemes, but also show the political will and intention of the government.

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12. The 73rd Constitutional Amendment Act was passed by the Parliament of India in 1992 and came into force in April 1993 to provide constitutional sanctity to grass-root democracy in the country. It provides recognition to the constitution, powers and functions of the rural local bodies for the first time in the history of India. It introduced Schedule Eleven (XI) in the Constitution, which lists 24 subjects coming under the jurisdiction of Rural Local Bodies (RLBs). Under the allocated subjects falling under the jurisdiction of RLBs, Drinking Water is a one of the subjects. Rural sanitation does not fall within the ambit of the RLB's jurisdiction.

2.2. Spending on Water and Sanitation at the Union Budget

Initial investment in water and sanitation is a pre-requisite for improved standard of life as demonstrated by conditions in developed countries. Women and children are the most affected when water and sanitation provision is inadequate. As seen in the previous section, women and girls in relocation and slum colonies are the most affected, given the low priority that is accorded to gender issues on the policy agenda. Despite water and sanitation significantly affecting women's health, safety and time, the Department of Drinking Water and Sanitation[13] still does not report in the Gender Budget Statement.[14] This itself shows how water and sanitation has never been viewed from a gendered perspective. A look at the allocations and expenditure by the government on water and sanitation at the Union, state and local body levels gives an indication to the government priority for the water and sanitation sector. It also examines whether allocations have increased or remained stagnant.

At the Union Budget level, the government's flagship JNNURM is one of the key programmes for coverage of water supply, sanitation and sewerage in urban areas. A look at the budgetary allocation of some schemes at the central level shows the funds that the Centre has allocated in the past four years (Table 2.1). The Sub-Mission on Urban Infrastructure and Governance was allocated Rs 30.67 billion (US $680 million)[15] in 2010–11 which has been reduced. The Sub-Mission on Basic Services to Urban Poor witnessed a slight increase in allocation from 2009–10, although during 2007–08 to 2010–11, the outlays have been almost stagnant. The outlays for Integrated Housing and Slum Development Programme (IHSDP), which has a component of slum improvement and rehabilitation projects and provision of community toilets and water supply, has been drastically cut down. From Rs 7.7 billion (US $177 million) in 2009–10, it has come down to Rs 5.8 billion (US $5.8 million) in 2010–11 Revised Estimate (RE).[16] Since 2007–08, the allocation has decreased, barring in 2008–09 when it rose to Rs 12.9 billion (US $287 million). An encouraging feature has been the massive jump in allocation for the Rajiv Awas Yojana from Rs 600 million (US $13 million) to Rs 10 billion (US $222 million) in successive years. While this is undoubtedly a major increase in budgetary allocations, the fear is the implementing agency may not have the required capacity to handle such huge amounts of money for one programme.

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13. Department of Drinking Water and Sanitation is the nodal functional Department at the Union Government level entrusted solely for implementing two flagship programmes for rural drinking water and sanitation. It falls under the overall jurisdiction of the Ministry of Rural Development.

14. In Union Budget 2005–06, the government for the first time included a statement on gender budgeting, which presented the magnitude of allocations for various programmes/schemes under ten demands for grants of the union government that were expected to benefit women substantially (and hence eligible to be a part of the gender budget).

15. Note: 1 billion is 1,000 million (Rs 100 crore).

16. Revised estimates is commonly referred as RE is the first nine months actual expenditures and next four months projected expenditures based on first nine months actual expenditures. Henceforth, the figures considered as revised estimates would be referred as RE.

Table 2.1

Expenditures on selected Union Level Schemes relating to Urban Development

(Figures in million)[d]

S.No	Name of the Scheme[a]	2007–08AE[b]	2008–09AE	2009–10 AE	2010–11 RE[c]
1.	Sub-Mission on Urban Infrastructure and Governance	Rs 24740.00 ($548.71)	Rs 44004.00 ($975.96)	Rs 37765.00 ($837.59)	Rs 30679.00 ($680.43)
2.	Sub Mission on Basic Services to Urban Poor (BSUP)	Rs 10220.00 ($ 226.67)	Rs 14727.00 ($ 326.63)	Rs 12345.00 ($ 273.80)	Rs 14140.00 ($ 313.61)
3.	Integrated Housing and Slum Development (IHSDP)	Rs 7880.00 ($ 174.77)	Rs 12952.00 ($ 287.26)	Rs 7771.00 ($ 172.35)	Rs 5781.00 ($ 128.21)
4.	Rajiv Awas Yojana (RAY)	–	–	Rs 600.00 ($ 13.30)	Rs 10000.00 ($ 221.79)

Note:

[a] The five schemes in the table are covered under JNNURM, Ministry of Urban Development, Government of India

[b] Actual expenditures

[c] Revised expenditure

[d] Figures in million are in Indian Rupees(Rs) which has been converted into USD ($) with a conversion rate of Rs 45.0875 for $1 as on 27 June 2011.

Source: http://www.x-rates.com

Source: Compiled from various union budgets document of various years; it can be accessed at *www.indiabudget.nic.in*

2.3. Spending on Water and Sanitation at the level of State

Water and sanitation are state subjects.[17] Implementation of water and sanitation services for urban areas in Delhi is managed by implementing agencies such as the MCD, Slum and JJ Department (which is now Delhi Urban Shelter Improvement Board-DUSIB), Delhi Jal Board (DJB) and New Delhi Municipal Council (NDMC). DJB has the sole responsibility for specifically dealing with Water and Sewerage. On the other hand, MCD, JJ and Slum wing of Municipal Corporation of Delhi (MCD now DUSIB), and NDMC are implementing specific programmes dealing with the problems of sanitation and solid waste management in Delhi. As Table 2.2 highlights, MCD and DJB have been allocated higher plan outlays in the Annual Plans and are consistently being prioritised in the annual plan exercises. On the other hand, the annual plan outlays for the Slum and JJ Wing of MCD (presently DUSIB), have been inadequate to meet the requirements of the slum dwellers in JJ clusters, relocation and unauthorised colonies.

17. India is a federal country in which there is distribution of power between the union and the 28 states and 7 union territories. As per the Seventh Schedule of the Constitution of India, there are three lists of jurisdiction: (1) Union List with 97 items in which Union Government has exclusive jurisdiction; (2) State List with 66 items in which States have exclusive jurisdiction; and (3) Concurrent List with 47 items in which both Union and States have shared responsibilities. The subject of water and sanitation falls within the State List of the Seventh Schedule of the Constitution.

Table 2.2
Budgetary Expenditures of Implementing Agencies of the Department of Urban Development, Government of Delhi (figures in million rupees)[a]

Sl. No	Implementing Agency	Expenditures under Annual Plans[b]			
		2007–08	2008–09	2009–10	2010–11
1.	MCD	Rs 14119.00 ($ 313)	Rs 11913.00 ($ 264)	Rs 14379.00 ($ 319)	Rs 13754.00 ($ 305)
2.	Slum and JJ	Rs 904.00 ($ 20)	Rs 194.00 ($ 4.3)	Rs 136.00 ($ 3)	Rs 667.00 ($ 15)
3.	DJB	Rs 13423.00 ($ 298)	Rs 14503.00 ($ 322)	Rs 16489.00 ($ 366)	Rs 16081.00 ($ 357)
4.	NDMC	Rs 405.00 ($ 9)	Rs 114.00 ($ 3)	Rs 1549.00 ($ 34)	Rs 965.00 ($ 21)

Note: [a]Figures are in million Indian Rupees (Rs) which has been converted into USD ($) with a conversion rate of Rs 45.0875 for $1 as on 27 June 2011.
Source: http://www.x-rates.com
[b] Each Five-year Plan is classified again as five Annual Plans. The Eleventh Five-year Plan (Periods between 2007 and 2012) consists of five Annual Plans. The expenditure figures reflected here are from first four Annual Plans of the Eleventh Five-year Plan for Government of Delhi.
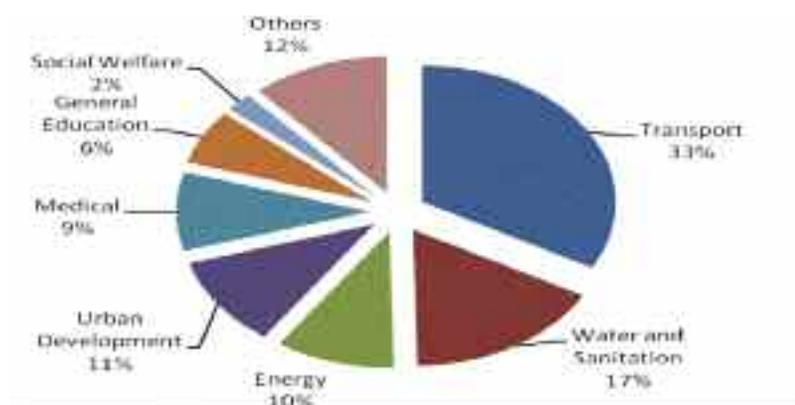Source: Compiled from various Annual Plans (2007-08 to 2010–11), Planning Department, Government of Delhi. http://delhi.gov.in/wps/wcm/connect/doit_planning/Planning/Home/Plan+Outlay+and+Expenditure

The Water and Sanitation sector has assumed considerable priority in the five year planning cycle of Delhi. An analysis of Eleventh Five-year[18] Plan budget[19] of Delhi (Chart 2.1) shows that it is the second most important area of intervention. In absolute numbers, the budget for water and sanitation in the plan period is approximately Rs 91 billion (US $2 billion) (Table 2.3) which is 17% of the total plan outlays. The total approved plan outlay for Eleventh Five-year Plan (FYP) is approximately Rs 548 billion (US$ 12 billion). Actual expenditure of the plan budgets for water and sanitation in absolute numbers is around Rs 77.52 billion (US $1.7billion). This constitutes 85% of the total plan outlays for water and sanitation sector. It further indicates that even if the sector has been given priority at the state planning level, the expenditure levels are not encouraging. It can be observed from Table 2.3 that the level of spending also varies in the annual plans. While almost 49% of the total approved five year plan budgets have been spent in the first three years of the annual budgets, the remaining two annual plans of the Eleventh FYP have managed to spend only 36% of the total approved budgets. The allocations in the last three annual budgets have also stagnated and Rs 13.72 billion has remained unspent in the water and sanitation plan outlays.

18. The socio-economic development of India is based on the five year developmental planning that is developed, executed and monitored by the Planning Commission, which is an autonomous, non-Constitutional body that carries out planning in the country. The Chairman of the Planning Commission is the Prime Minister of India. Plans are formulated and executed for a five year period. Every state also prepares a Five Year Plan. The First Five Year Plan was made for the duration1951-1956.

19. Plan expenditure is meant for financing the development schemes formulated under the given Five Year Plan or the unfinished tasks of the previous Plans. Once a programme or scheme pursued under a specific plan completes its duration, the maintenance cost and future running expenditures on the assets created or staffs recruited are not regarded as Plan Expenditure. Any expenditure of the government that does not fall under the category of Plan Expenditure is referred to as Non-Plan Expenditure.

Chart 2.1
Share of Water and Sanitation in Eleventh Five-year Plan Outlays for Delhi

Source: Compiled from Eleventh Five-year Plan Document for Delhi, Government of Delhi and Annual Financial Statement (AFS), Union Budget document, Government of India, various years.

Table 2.3
Analysis of Eleventh Five-year Plan — Water and Sanitation Budget in Delhi
(Figures in million rupees)[a]

	Total Eleventh FYP Approved Outlays for Water and Sanitation	Rs 91250.00 ($ 2024)
Budgets for Water and Sanitation in the Annual Plans	2007–08 AE	Rs 13460.00 ($ 299)
	2008–09 AE	Rs 14569.00 ($ 323)
	2009–10 AE	Rs 16489.00 ($ 366)
	2010–11 RE	Rs 16508.00 ($ 366)
	2011–12 BE	Rs 16501.00 ($ 366)
Total Expenditure in the Eleventh FYP period		Rs 77526.00 ($ 1719)
As % of Total Plan Outlays		85 %

Note: [a] Figures in million are in Indian Rupees(Rs) which has been converted into USD ($) with a conversion rate of Rs 45.0875 for $1 as on 27 June 2011.
Source: http://www.x-rates.com
Source: Compiled from Eleventh Five Year Plan Document for Delhi, Government of Delhi and Annual Financial Statement (AFS), Union Budget document, Government of India, various years.

The provisioning for the water and sanitation sector in Delhi mainly comes from the Plan Budget. An analysis of the Delhi state budget suggests that the overall budgetary allocation for water and sanitation has increased over the years. In 2007–08, the total budget for water and sanitation was Rs 13.46 billion (US $299 million) which went up to Rs 16.51 billion (US $366 million) in 2011–12 (BE) with an average growth rate of approximately 5%. If the increased budget of the sector in 2011–12 (BE) is compared with Budget 2010–11, it shows no change. This contrasts with the increased budgets for water and sanitation in 2009–10 and 2008–09 over the previous years, wherein the increased budget was Rs 1.92 billion (US $43 million) and Rs 1.11 billion (US $23 million) respectively. This indicates that the budget for water and sanitation has shrunk in the successive budgets of the Eleventh Plan period. In this regard, the total budget expenditure also has shown a sharp decline. In 2007–08, the share of actual expenditure on the sector compared to the total budgetary expenditure was 7.4% which dipped to 6.1% in 2011–12 BE (Table 2.4). Taking inflation into account, when the sector is compared with the Gross State Domestic Product (GSDP) of Delhi, it is found to be only 0.9% in 2007–08 and even lower at 0.6% in 2010–11 (Chart 2.2). The declining trend of budgets for the water and sanitation sector is to be understood in the perspective of the diminishing share of the Delhi State Budget to Delhi's GSDP since 2007–08. It was approximately 13% in 2007–08 which, over the years, has dropped to 10% of GSDP[20] in 2010–11 RE.

Table 2.4
Budgeting for Water and Sanitation in Delhi
(figures in million rupees)[d]

Items	2007-08	2008-09	2009-10	2010-11 RE	2011–12 BE
Total Budgetary Expenditure (TBE)[a] in Delhi	Rs 181600.00 ($ 4028)	Rs 203620 ($ 4516)	Rs 249260 ($ 5528)	Rs 270280 ($ 5995)	Rs 270670 ($ 6003)
Gross State Domestic Product (GSDP)[b] of Delhi	Rs 1443030 ($ 32005)	Rs 1659480 ($ 36805)	Rs 2178510 ($ 48317)	Rs 2588080 ($ 57401)	NA
Budgeting for Water and Sanitation [c]	Rs 13460 ($ 299)	Rs 14570 ($ 323)	Rs 16490 ($ 366)	Rs 16510 ($ 366)	Rs 16500 ($ 366)
Water and Sanitation as % of TBE	7.41	7.16	6.62	6.11	6.10
Water and Sanitation as % of GSDP	0.9	0.9	0.8	0.6	NA

Note:
[a] TBE is calculated from the Annual Financial Statements (AFS) of Delhi Budget (various years).
[b] GSDP of Delhi has been sourced from the Budget Speech of Delhi Budget (various years)
[c] Budgets for water and sanitation have been calculated from the AFS of Delhi Budget (various years)
[d] Figures are in million Indian Rupees(Rs) which has been converted into USD ($) with a conversion rate of Rs 45.0875 for $1 as on 27 June 2011.
Source: http://www.x-rates.com
Source: Calculated from Annual Financial Statement of Delhi Budgets of various years

20. Government, private firms, and households are important contributors to GSDP. When the government's share to the GSDP decreases, it implies that the government has withdrawn from provision of certain welfare responsibilities and sought private players to fulfill these. Privatization of water and sanitation should be looked at from this perspective.

Chart 2.2
Share of Water and Sanitation to Total Delhi Budget from 2007–08 to 2011–12
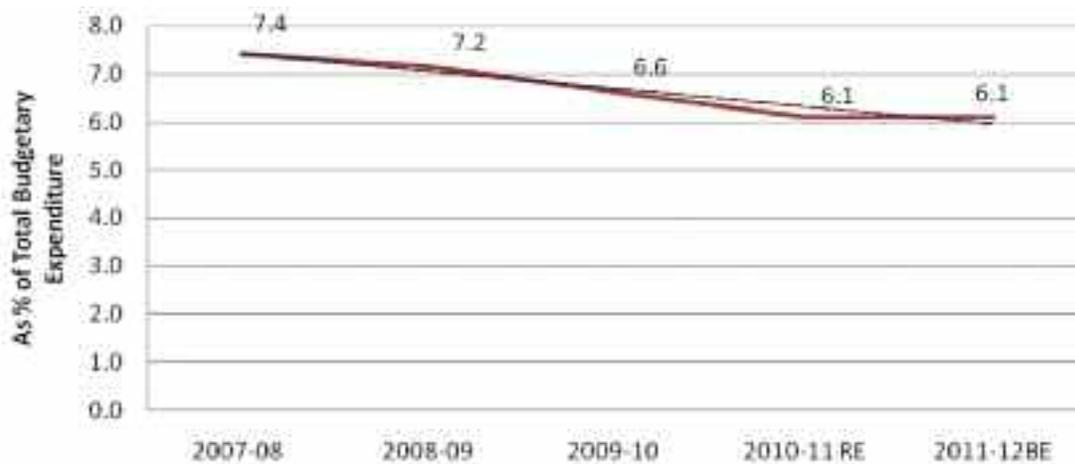
Source: Calculated from Annual Financial Statement of Delhi Budgets of various years

Furthermore, the inadequacy of provisioning for water and sanitation is reflected in the per capita expenditure of the government of Delhi. Based on the latest population projections for Delhi, the government has spent only Rs 880 ($20) per person in 2011–12 (Revised Estimates) for provision of water and sanitation facilities.[21] The indication is that even though the Five-year Plans for Delhi have underscored water and sanitation to be a significant issue, the public provisioning remains insignificant.

2.4 Spending on Water and Sanitation at the Urban Local Bodies

The responsibility of urban water and sanitation is given to municipalities by the states. States generally plan, design and execute water supply schemes and operate them through their State Departments and State Water Boards (in the case of Delhi, it is the MCD and the DJB).

The DJB's stated vision is 'to be an environmentally sensitive provider of quality, reliable, and reasonably priced drinking water and waste water collection and treatment system services. They aim at providing safe drinking water and efficient sewerage services in an equitable and sustainable manner and to become an accountable service provider. Realization of this vision would promote a virtuous circle in terms of greater supply reliability and service quality, leading to greater customer satisfaction, improved willingness to pay and enhanced cost recovery. It would also include 24/7 water supply and financial sustainability and accountability, improved services to the poor, customer orientation and human resources development, environmental sustainability and enhancing operational efficiency.'[22]

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21. Per capita spending on a person for availing water and sanitation facilities has been obtained by dividing Total Budgetary Spending on Water and Sanitation by the Total Projected Population in Delhi in a given year.

22. Vision of the Delhi Jal Board can be obtained from the website, see URL
    http://www.delhi.gov.in/wps/wcm/connect/doit_djb/DJB/Home/About+Us

DJB supplies treated water in bulk to the New Delhi Municipal Corporation (NDMC) a municipal government in a particular part of Delhi and to the DCB (Delhi Cantonment Board), both of which are responsible for the distribution of water within their own territories. The water supply infrastructure in these territories is owned by them and, consequently, is not the responsibility of the DJB; the MCD area is the responsibility of DJB.

The Slum and *Jhuggi Jhopri* (JJ) Department under the Municipal Corporation of Delhi was responsible for implementation of various schemes and programmes to provide minimum basic civic amenities for the re-location of squatter families. Effective from 2010–11, the department has become a Board called Delhi Urban Shelter Improvement Board (DUSIB). Prior to 2010–11, the Slum and JJ Department was under the overall charge of the Commissioner of the MCD. The Additional Commissioner who was appointed by the state government was responsible for implementation of various schemes. S/He was assisted by deputy commissioners, directors, joint directors and other officers of the engineering wing. Primarily, the schemes were targeted at re-location of squatters and *in situ* upgradation (Delhi Citizen Handbook 2009). However, the DUSIB is under the Delhi State government.

Funds to ULBs are usually grants-in aids that are given by the state. Grants-in-aid are given by the Union to state governments and by the state governments to the local bodies discharging functions of local government under the Constitution. They are given for the specified purpose of supporting an institution including construction of assets. Grants-in-aid (GiA) released by the Union to state governments are paid out of the Consolidated Fund of India.[23] The GiA received by the local bodies from the state governments are used for meeting their operating as well as capital expenditure requirements. The ownership of capital assets created by local bodies out of grants-in-aid received from the state government lies with the local bodies themselves.[24]

Coming to the analysis of budgetary allocation for water and sanitation service provision in JJ colonies, one finds a similar situation at the state level. There are at least 1,080 JJ colonies[25] in Delhi with an approximate population of 3.5 million. The analysis of Detailed Demands for Grants of the Department of Urban Development suggests that a negligible Rs 90 million (US $2 million) is being spent in 2011–12 out of the Delhi Budget for providing water to these colonies. There is only one plan scheme for JJ areas, i.e., Grants–in-Aid for Augmentation of Water Supply in JJ Clusters implemented by DJB with an allocation of Rs 90 million (US $2 million). The non-plan budget of the DJB does not have any reference or allocations for providing water facilities in JJ colonies of Delhi. It is seen in Table 2.5 that the Grants-in-Aid to DJB in the past four years has remained stagnant. The Grants-in-Aid to MCD for sanitation in JJ colonies has also neither increased nor decreased. The budget for construction of CTCs has, in fact, gone down in the past four years, which is a very telling observation on the status of CTCs in JJ and re-location colonies. Funds for provisions of additional facilities in JJ colonies have registered no increase in all the last four years.

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23. This is supreme account of Government of India duly recognised by the Constitution of India. All revenues received by Government by way of taxation like income-tax, central excise, custom, land revenue (tax revenues) and other receipts flowing to Government in connection with the conduct of Government business like receipts from Railways, Posts, Transport (non-tax revenues) are credited into the Consolidated Fund. All expenditure incurred by the Government for the conduct of its business and providing services is debited against this Fund. It is equivalent to Budgets of the Government.

24. See the URL:http://www.cgaindia.nic.in

25. Socio-economic profile of Delhi, Planning Department, Government of National Capital Territory of Delhi, September 2008.

Table 2.5
Expenditure for water and sanitation in *Jhuggi Jhopri* Colonies in Delhi
(Figures in million rupees)[a]

| Sectors	Budgetary Heads	2007–08	2008–09	2009–10	2010–11RE	2011–12
For Water Supply in JJ Colonies	Major Head 2215 (Water Supply and Sanitation): Grants-in-aid to DJB for water supply in JJ clusters	Rs 80.00 ($ 1.8)	Rs 80.00 ($ 1.8)	Rs 90.00 ($ 2.00)	Rs 90.00 ($ 2.00)	Rs 90.00 ($ 2.00)
A. Total Budgets for Water in JJ Colonies		Rs **80.00 ($ 1.8)**	Rs **80.00 ($ 1.8)**	Rs **90.00 ($ 2.00)**	Rs **90.00 ($ 2.00)**	Rs **90.00 ($ 2.00)**
For Sanitation Facilities in JJ Colonies	Major Head 2217 (Urban Development): Grants-in-aid to MCD for sanitation in JJ Clusters	Rs1025.00 ($ 23)	Rs 164.00 ($ 4)	Rs 164.00 ($ 4)	Rs 164.00 ($ 4)	Rs 164.00 ($ 4)
	Major Head 2217 (Urban Development): Grants-in-aid to MCD (slum) for the construction of Pay and Use *Jan Suvidha* complexes	Rs 40.00 ($ 0.88)	Rs 40.00 ($ 0.88)	Rs 27.00 ($ 0.60)	Rs 25.00 ($ 0.55)	Rs 30.00 ($ 0.67)
	Major Head 2217 (Urban Development): Grants-in-aid to MCD for sanitation in JJ Clusters and Unauthorised Colonies (Yamuna Action Plan Phase II)	Rs 0.0	Rs 0.0	Rs 0.0	Rs 10.00 ($ 0.22)	Rs 10.00 ($ 0.22)
	Major Head 2217 (Urban Development): Grants-in-aid to MCD for sanitation in JJ Clusters (Scheduled Caste Sub Plan)	Rs 225.00 ($ 5)	Rs 36.00 ($ 0.80)	Rs 36.00 ($ 0.80)	Rs 36.00 ($ 0.80)	Rs 36.00 ($ 0.80)
B. Total Budgets for Sanitation in JJ Colonies		Rs **1290.00 ($ 29)**	Rs **240.00 ($ 5.32)**	Rs **227.00 ($ 5)**	Rs **235.00 ($ 5.21)**	Rs **240.00 ($ 5.32)**
For Up-gradation, Environmental Improvement and Providing Additional Facilities in JJ Colonies	Major Head 2217 (Urban Development): Grants-in-aid to DJB for water supply in JJ clusters	Rs 80.00 ($ 1.8)	Rs 80.00 ($ 1.8)	Rs 90.00 ($ 2.00)	Rs 90.00 ($ 2.00)	Rs 90.00 ($ 2.00)
	Major Head 2217 (Urban Development): Grant for Provisions of additional facilities in JJR colonies	Rs 410.00 ($ 9)	Rs 445.00 ($ 10)	Rs 410.00 ($ 9)	Rs 410.00 ($ 9)	Rs 410.00 ($ 9)
	Major Head 2217 (Urban Development): Grant to NDMC for Environmental Improvement in JJ clusters	Rs 7.5 ($ 0.16)	Rs 0	Rs 0	Rs 0	Rs 0
	Major Head 2217 (Urban Development): Grants-in-aid to MCD for additional facilities in JJR colonies (SCSP)	Rs 90.00 ($ 2)	Rs 90.00 ($ 2)	Rs 90.00 ($ 2)	Rs 90.00 ($ 2)	Rs 90.00 ($ 2)
	Major Head 2217 (Urban Development): Grants-in-aid to MCD (Slum) for in-situ up-gradation of JJ Clusters	Rs 0	Rs 0	Rs 0	Rs 0	Rs 20.00 ($ 0.44)
C. Total Budgets for Up-gradation, Improvement and Providing Additional Facilities in JJ Colonies		**Rs 588.00 ($ 13)**	**Rs 615.00 ($ 14)**	**Rs 590.00 ($ 13)**	**Rs 590.00 ($ 13)**	**Rs 610.00 ($ 14)**
Total Budgets for JJ Colonies (A+B+C)		Rs1958.00 ($ 43)	Rs 935.00 ($ 21)	Rs 907.00 ($ 20)	Rs 915.00 ($ 20)	Rs 940.00 ($ 21)

Notes: [a] Figures are in million Indian Rupees (Rs) which has been converted into USD ($) with a conversion rate of Rs 45.0875 for $1 as on 27 June 2011.
Source: http://www.x-rates.com
Source: Compiled from Detailed Demands for Grants, Demand No-11- Urban Development & Public Works and Budgets of Delhi Jal Board, various years

The Delhi government has allocated a negligible Rs 240 million (US $5.3million) for providing sanitation facilities in the JJ clusters. The two important agencies that are involved in providing sanitation facilities to JJRCs to JJ re-location colonies are MCD and DUSIB. The MCD implements a scheme called "Grants-in-Aid to MCD for Sanitation in JJ Clusters" under its plan budget whereby resources are allocated for sanitation facilities in JJ colonies. Similarly, DUSIB (formerly JJ and Slum wing of MCD) also implements a plan scheme called "Grants-in-Aid to MCD (slum) for the Construction of Pay and Use *Jan Suvidha* Complexes" for the construction of CTCs in the JJ colonies. In both the cases, the amount allocated is woefully little when compared to what is required for water and sanitation in the colonies. If one compares the overall budgets for JJ re-location colonies, the water supply component constitutes 11% of the total budget, followed by 28% for sanitation (Chart 2.3). Nonetheless, upgrading, environmental improvement and provision of additional facilities in JJ colonies constitute a significant 66% of the total allocation.

Chart 2.3
Budgeting for JJ Clusters in Delhi in 2010–11
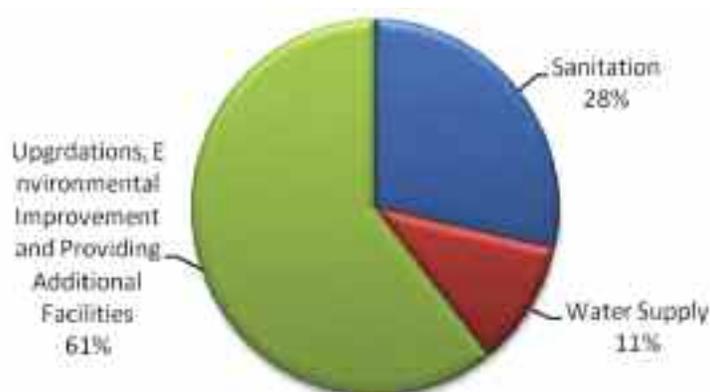
Source: Compiled from Detailed Demands for Grants, Demand No-11- Urban Development and Public Works and Budgets of DJB, Government of Delhi, various years.

Such low levels of allocations and spending for the JJ colonies has also affected the level of per capita expenditure of the JJ colony residents. Table 2.6 shows the per capita expenditure of one JJ colony resident in the Delhi Budget 2011–12 to be a mere Rs 30 ($0.66) for provision of water and Rs 80 ($ 1.78) for sanitation respectively, which are woefully inadequate amounts that need to be enhanced. Another critical gap is the absence of planning to improve the level of water and sanitation facilities in these colonies.

Table 2.6
Amount spent on one *JJ Colony resident*
for Water and Sanitation in 2011–12

Head	Per capita Expenditure on Water and Sanitation*
Water	Rs 30 ($0.66)
Sanitation	Rs 80 ($1.78)
Slum Development	Rs 173 ($3.83)

Note:* *Per capita* Expenditure on Water and Sanitation for a JJ Colony has been obtained by dividing the sectoral budgets on Water, Sanitation and Slum Development as cited in Table 2.5 with the projected slum populations (JJ Clusters) in Delhi. As per data cited in *Socio-Economic Profile of Delhi (2007–08)* published by Planning Department, Government of Delhi, the approximate slum population (JJ Clusters) is 3.5 million.

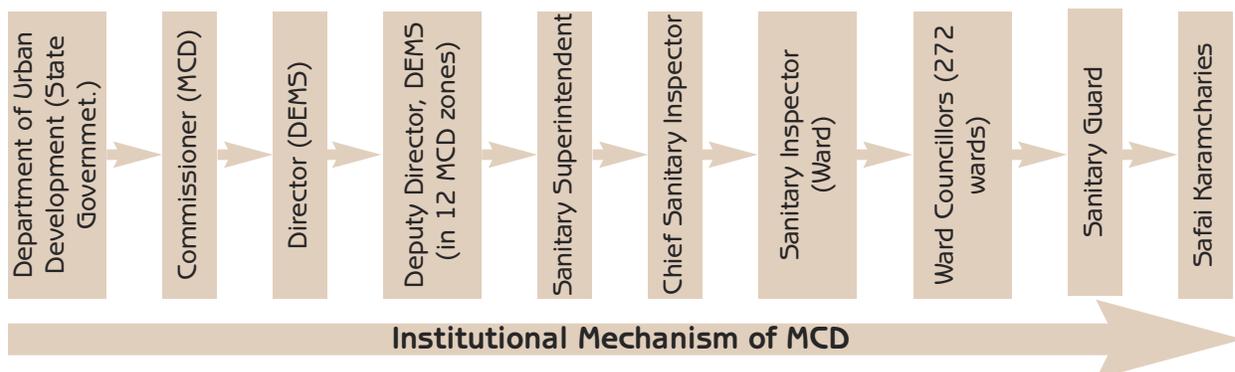# 3. Constraints to Effective Service Delivery and Its Impact on Women

Policies and schemes for water and sanitation backed by adequate budgets is not the only pre-requisite for effective service delivery. At the implementation level, various constraints impede smooth delivery of services. To better understand the constraints to effective service delivery of water supply and sanitation services, there is a need to look into the budgetary processes and the institutional framework through which the implementation of the programmes and schemes pertaining to water supply and sanitation are carried out.

3.1. Budgetary processes in JJ Re-location Colonies and the Institutional Structures

The budget for water and sanitation in JJ re-location colonies is routed from the centre to the state government, which in turn are transferred to ULBs (MCD, DUSIB, DJB). Utilisation certificates are submitted by the MCD to the Delhi State Urban Development Department. A similar process is adopted for DUSIB and the DJB. Funds come in three instalments on a quarterly basis in one financial year; 50% of the funds are provided in the first instalment, 25% in the second and the remaining 25% are released through the third instalment. There are instances where the money is released even on the last day of the financial year. Hence it gets carried forward to the next financial year, in which case adjustments are made in the following year's budget based on the allocations made in the previous year. For the Non-plan budget, the Ward Committee prepares its Non-plan budget and sends it to the Standing Committee of the MCD to be compiled and finalized. The Grants-in-Aid (GiA) and loans are components of the Plan budget. As reported by officials, funds from MCD are electronically transferred to the zonal offices without any delay.

Chart 3.1 presents the institutional framework of the MCD through which planning and implementation of the various schemes take place. However, discussions with officials reveal that all schemes for JJ re-location colonies are ad-hoc interventions and are not included in the planning agenda for the city. Even though the institutional framework exists in some cases, the funds allocated are inadequate; a case in point being the DUSIB, which has been formed but the financial allocations for some of the interventions are inadequate. With regard to the reporting related to planning of the interventions, these are sent annually and sometimes bi-annually to Department of Environmental Management Services (DEMS), under MCD.

Chart 3.1
Institutional Framework of MCD

| Department of Urban Development (State Government.) | Commissioner (MCD) | Director (DEMS) | Deputy Director, DEMS (in 12 MCD zones) | Sanitary Superintendent | Chief Sanitary Inspector | Sanitary Inspector (Ward) | Ward Councillors (272 wards) | Sanitary Guard | Safai Karamcharies |

Institutional Mechanism of MCD

3.2. Constraints at the level of Planning and Implementation

Budget Adequacy

It is evident from the analysis that the overall budget for water and sanitation at the central and state level remains inadequate. This is further exemplified by the fact that the budget for water and sanitation in JJ re-location colonies is the lowest among all the other budget heads. Meetings with DUSIB officials revealed that there is no separate Non-Plan budget for JJ re-location colonies and no special budget for 'slum improvement'. All transfers are through GiAs which indicates one-time plan expenditure. The Non-plan budgets are own source revenue (tax) that are regulated by the Delhi Municipal Corporation (DMC) Act. There is also no separate budget line for sanitation in the departmental budget of DUSIB. Most of the JJ re-location were previously being handled by the JJ and Slum Wing and now by the DUSIB. They have a separate budget and are managed autonomously since they are not categorised as regular colonies and are generally owned by DDA. The MCD has no specific allocation for JJ re-location from their Non-plan budget. The Ward Committee of MCD has the authority to approve works amounting to Rs 10 million (US $0.22 million) while the MCD can approve more than Rs 10 million (US $0.22 million) from the Non-plan budget.

Planning

Planning for water and sanitation in JJ re-location colonies is more a matter of procedure rather than a consultative process whereby opinions of women and men from JJ re-location colonies ought to be taken into account prior to planning. Annual plans are prepared by the MCD and then submitted to the Delhi State Urban Development Department, which checks it, modifies and finally approves it. These are usually submitted in the month of January, the last quarter of the financial year.

In this regard, problems of institutional structures have also arisen in the study area where, for instance, the MCD is in charge of implementation of water and sanitation programmes in the core Narela zone while DDA and DUSIB handle the peri-urban area. As stated by an MCD official, 'since DDA does not have the necessary wherewithal to construct sanitation infrastructure, the MCD has to oversee the construction and the Operation and Maintenance (O&M). Wherever DDA has constructed sanitation facilities, it has been outsourced to private companies. With regard to provision of water supply, the plans are made at the DJB with inputs from zonal offices. The Delhi State Urban Development Department plays a significant role in the overall planning and expenditure of funds in authorized colonies but this is not the case in the unauthorized colonies.

Human Resource

Field reports show that staff constraint is a nagging issue in provision of water and sanitation services. Owing to this, the sanitation services provided through CTCs are not adequately staffed, with the result that women of Bawana and Bhalswa have to bear the brunt of unsafe and unhygienic toilets. Discussions with officials reveal that there is no separate staff allocated for JJ re-location colonies; it is the MCD staff who maintain the CTCs. As reported by MCD officials, problems have been observed at the zonal level in terms of slackness in work and, in many instances, while cases of corruption have also come up. Within the MCD itself, the tasks are divided where construction and O&M of CTCs is taken care of by the Engineering Department and other tasks such as sweeping are handled by the Sanitation Department of MCD. Officials revealed that while they do not face a staff crunch, they do have a concern regarding the *safai karamcharis'* attitude towards their work. There has also been no training imparted to DUSIB/JJ and Slum Wing staff for the past 5 years. In Bhalswa JJ re-location colony, 28 workers are engaged, 13 workers for the garbage dump and 15 workers for sweeping. As per the figures given by the DUSIB officials, there are 10 CTCs out of which only 6 are in working condition in Bhalswa. Field reports state that there are only 2 CTC in working condition. With close over 20,000 people in Bhalswa, it is surely a matter of concern as to how safe sanitation is maintained.

Issue of Convergence

Several agencies are involved in water and sanitation service delivery. The DDA, DUSIB, MCD and the DJB are all engaged at some level in providing water supply and sanitation in JJR colonies. In many instances, construction of CTCs have been done by DDA which are then run by MCD and in turn contracted out to private companies. The DUSIB is only involved in *in situ* and environmental development of JJ colonies; they do not oversee the CTCs (For more details, refer Annex 2). The O&M is done by MCD and private companies. In Bhalswa JJ colony, owing to a lot of private land, the DUSIB are unable to implement any kind of work. Hence, the multiplicity of agencies handling different components of water and sanitation leads to lack of accountability and ownership of service provision. Convergence of agencies and departments is yet another concern to ensure smooth functioning of water and sanitation service provision. For instance, DUSIB in Bhalswa owes DJB financial dues of around Rs 40 to Rs 50 million. Similarly, in Bawana and Bhalswa, tubewells in CTCs are installed by DJB while it is the MCD that pays for it. The DJB has no responsibility to maintain the water connection that it has provided to the JJ re-location colonies leaving the MCD with the onus of maintenance. Neither Bawana nor Bhalswa have been provided with a sewerage system by the DJB which has led to complaints of sewage backflow, busted septic tanks and water logging.

Issues of Quality and Cost

Officials in both the study areas have raised concerns of poor quality cleaning equipment, which is of crucial importance for proper maintenance of CTCs. Equipment is centrally procured by MCD according to demands made by the zonal offices. In both the JJRCs, although no user fees are charged by the MCD, the CTCs run by the private agencies charge some user fees. Women, in addition to paying for themselves, every time they use a CTC, also have to pay for their children.[26] This raises a question as to how can one expect the urban poor to pay for sanitation services when they manage to live on less than a dollar a day. In Narela zone, previously CTCs were maintained by NGOs but since maintenance was faulty, it was transferred to the Engineering Department of the MCD. Poor quality construction and faulty design of CTCs has been one of the findings from the field (the roof of the CTCs is open which puts women in a vulnerable position) and is an example of gross neglect of standards, points to lack of proper supervision and guidance at the implementation level. The larger issue of privatisation of CTCs comes up whereby one questions the role of the government in providing basic services and involvement of private players in service provision.

3.3. Concluding Remarks

Gender–based disadvantages which women face while accessing water and sanitation facilities are greatly intensified in a situation which has a failing infrastructure in terms of poor health facilities, lack of education and income earning opportunities. JJRCs are typically characterised by this. Analysis of the various reasons for dismal condition of essential services is merely not enough, rather solutions to counter them needs to be looked into.

First, policies and schemes for urban water and sanitation as analysed in the first section do not have much to offer to women especially for those residing in JJ re-location colonies. At the outset, these schemes do not have any scope of consultation with women and men users regarding the design of CTCs as well as on the sitting of facilities nor do they recognise the fact that poor water and sanitation services affect women more than men. Although women find recognition in some policies, albeit cursorily (Urban Sanitation Policy 2008, National Urban Habitat and Housing Policy, 2007), this is hardly in the context of water and sanitation. There is surely a need to build in gender-sensitive components in the schemes pertaining to urban water and sanitation. Also, the design and construction of hardware for water and sanitation should be done keeping in mind specific gender concerns.

Second, budgets for water and sanitation in JJ r-location colonies are woefully inadequate as assessed in Section 2. Allocation for schemes at the Union level down to the local body level have either remained stagnant or gone down. Although the water and sanitation sector is the second most prioritised area in the Delhi budget (almost 17% of total Plan outlays) after transport, however, only Rs 240 million (US $5.3 million) has been spent for sanitation and Rs 90 million (US $2 million) for water in 2011–12. Gender Responsive Budgeting for water and sanitation would certainly aid the process of improving water and sanitation services in JJ re-location colonies for women and men. However, one can assess it only when the Department of Drinking Water and Sanitation starts reporting in the Gender Budget Statement. Not only are higher allocations for overall water and sanitation required, but also increased outlays in JJ re-location colonies are needed. In addition, providing allocations for water and sanitation in JJ re-location colonies under Non-plan head (to meet recurring/day-to-day expenses) would greatly improve the outcomes. Clearly, inadequate resources for water and sanitation need to be addressed; this is exemplified when we consider that the Delhi government spends a mere Rs 30 ($0.66) on water supply and Rs 80 ($1.78) on sanitation per JJ colony resident in 2011–12 (Table 2.6).

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26. Children under six years of age are not allowed to use the CTCs and those above six years have to pay.

Finally, in addition to paucity of funds, issues of implementation of the government programmes also make water and sanitation services hard to reach the urban poor. Issues of lack of planning, shortage of human resource, poor convergence among the implementing agencies – need to be effectively surmounted for smooth implementation of programmes and schemes. The mismatch in terms of inadequate planning and budgeting for the sector vis-à-vis the needs of the people with regard to water supply and sanitation makes for poor outcomes in terms of development indicators. In this regard, women's active participation at the planning stage might be able to ensure that their needs are addressed. Successful convergence and collaboration of the various ULBs and parastatals in charge of water and sanitation may solve a large number of implementation bottlenecks. One also needs to look at other macro issues such as land tenure rights in JJ re-location colonies which make schemes and interventions in water and sanitation little more than ad-hoc interventions.

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Annex 1
Schemes, Policies and the Budget in Urban Water and Sanitation

Level	Schemes on Water and Sanitation	Institution/ Deptt.	Objectives	Budget/Funding
Union Government Level	1. JNNURM	Ministry of Urban Development and Ministry of Housing and Urban Poverty Alleviation		
	a) Basic Services for Urban Poor (BSUP)	Ministry of HUPA, National Building Organisation (NBO)	➤ The Sub-Mission is to be implemented in 65 select cities. ➤ The duration of the Mission is 7 years beginning with the year 2005–06. ➤ Focused attention to integrated development of Basic Services to the Urban Poor in the cities covered under the Mission. ➤ Provision of basic services to urban poor including security of tenure at affordable prices, improved housing, water supply, sanitation and ensuring delivery through convergence of other already existing universal services of the government for education, health and social security. Care will be taken to see that the urban poor are provided housing near their place of occupation. ➤ Secure effective linkages between asset creation and asset management so that the basic services to the urban poor created in the cities, are not only maintained efficiently but also become self-sustaining over a period of time. ➤ Ensure adequate investment of funds to fulfil deficiencies in the basic services to the urban poor. ➤ Scale up delivery of civic amenities and provision of utilities with emphasis on universal access to urban poor.	The Central fund is released as Additional Central Assistance (in the form of grant). The financing pattern of BSUP is as under: ➤ 50% percent of the project cost in respect of cities having million plus population or above to be borne by the Central Government. ➤ 90% of the project cost borne by the Central Government for projects from cities/towns in North Eastern States and Jammu & Kashmir. ➤ 80% of the project cost borne by the Central Government for projects from the remaining cities. ➤ A minimum of 12% beneficiary contribution for houses which in the case of SC /ST/BC/OBC/PH and other weaker sections is 10%. ➤ Access of Central assistance predicated upon the State/ Urban Local Bodies/Parastatals agreeing to reforms.

Level	Schemes on Water and Sanitation	Institution/ Deptt.	Objectives	Budget/Funding
Union Government Level	**b) Rajiv Awas Yojna (RAY)**	**Ministry of Housing and Urban Poverty Alleviation, National Building Organisation (NBO)**	➤ Vision of Slum-free States; ➤ Bringing existing slums within the formal system and enabling them to avail of the same level of basic amenities as the rest of the town; ➤ Redressing the failures of the formal system that lie behind the creation of slums; ➤ Tackling the shortages of urban land and housing that keep shelter out of reach of the urban poor and force them to resort to extra-legal solutions in a bid to retain their sources of livelihood and employment. **Reforms** ➤ Internal earmarking within local body budgets for basic services to the urban poor; ➤ Provision of basic services to urban poor including security of tenure at affordable prices, improved housing, water supply, sanitation and ensuring delivery of other already existing universal services of the government for education, health and social security; and ➤ Earmarking at least 20%–25% of developed land in all housing projects (both public and private agencies) for EWS/LIG category with a system of cross-subsidization.	

Level	Schemes on Water and Sanitation	Institution/ Deptt.	Objectives	Budget/Funding
Union Government Level	**c) Integrated Housing and Slum Development Programme (IHSDP)**	**Ministry of Housing and Urban Poverty Alleviation, National Building Organisation (NBO)**	➤ Provision of shelter including upgradation and construction of new houses. ➤ Provision of community toilets. ➤ Provision of physical amenities like water supply, storm water drains, community bath, widening and paving of existing lanes, sewers, community latrines, street lights, etc. ➤ Community Infrastructure like provision of community centres to be used for pre-school education, non-formal education, adult education, recreational activities, etc. ➤ Community Primary Health Care Centre Buildings. ➤ Social Amenities like pre-school education, non-formal education, adult education, maternity, child health and primary health care including immunization, etc. ➤ Provision of Model Demonstration Projects. ➤ Sites and Services/houses at affordable costs for EWS and LIG categories. ➤ Slum improvement and rehabilitation projects.	➤ The sharing of funds is in the ratio of 80:20 between Central Government and State Government/ULB/ Parastatals. ➤ For special category States, the funding pattern between Centre and States is in the ratio of 90:10. ➤ The Central fund will be released as Additional Central Assistance (grant). ➤ As in the case of BSUP, signing of a tripartite MoA is a necessary condition to access central assistance ➤ Revision of cost of a dwelling unit provided under the IHSDP from Rs. 80,000 to Rs 100,000.
	2. Service Level Benchmarking (SLB) Initiative (on a pilot basis)	**Ministry of Urban development, Japan International Cooperation Agency (JICA)**	➤ Part of the urban reform agenda for enhancing accountability for service delivery through various CSS like JNNURM and UIDSSMT ➤ Envisages a shift in focus from infrastructure creation to delivery of service outcomes and benchmarking in order to introduce accountability in service delivery	➤ MoUD plans to align SLB Framework to funding provided under CSS.
	3. National Slum Development Programme (earlier scheme)	**Union government**	Provision for adequate and satisfactory water supply, sanitation, housing, solid waste management, primary and non-formal education. The scheme provided additional central assistance to States to supplement the resources of the State Government for provision of basic infrastructure and services in slum areas.	

Level	Schemes on Water and Sanitation	Institution/ Deptt.	Objectives	Budget/Funding
State Government Level	**4. State level Reforms (under JNNURM)**	**DDA, DJB, Public Health Department**	➤ Implementation of decentralization measures as envisaged in 74th Constitutional Amendment. States should ensure meaningful association/engagement of ULBs in planning function of Parastatals as well as delivery of services to the citizens. ➤ Rationalisation of Stamp Duty to bring it down to no more than 5% within the Mission period. ➤ Enactment of community participation law to institutionalize citizen participation and introducing the concept of the Area Sabha in urban areas. ➤ Assigning or associating elected ULBs into "city planning function" over a period of five years; transferring all special agencies that deliver civic services in urban areas and creating accountability platforms for all urban civic service providers in transition.	
Urban Local Bodies	**5. Urban Local Body Reforms (under JNNURM)**	**MCD, NDMC, Delhi Cantonment Board.**	➤ Adoption of modern, accrual-based double entry system of accounting in Urban Local Bodies. ➤ Introduction of system of e-governance using IT applications like GIS and MIS for various services provided by ULBs. ➤ Reform of property tax with GIS, so that it becomes major source of revenue for Urban Local Bodies (ULBs) and arrangements for its effective implementation so that collection efficiency reaches at least 85% within the mission period. ➤ Levy of reasonable user charges by ULBs/Parastatals with the objective that full cost of O&M is collected within **the mission period**. However, cities/towns in North East and other special category States may recover at least 50% of operation and maintenance charges initially. These cities/towns should graduate to full O&M cost recovery in a phased manner. ➤ Internal earmarking within local body budgets for basic services to the urban poor. ➤ Provision of basic services to urban poor including security of tenure at affordable prices, improved housing, water supply, sanitation and ensuring delivery of other already existing universal services of the government for education, health and social security**.**	

At the level of Policies and Acts

Level	Policies/Acts on water and sanitation	Institution/ Deptt.	Objectives/What is there for women?	Budget/Funding
Union	1. Urban Sanitation Policy	Ministry of Urban Development	**The overall goal** is to transform urban India into community-driven totally sanitized, healthy and liveable cities and towns. **Specific goals** ➢ Awareness generation and behaviour change ➢ Open defecation free cities ➢ Integrated city-wide sanitation ➢ Sanitary and safe disposal Proper operation and maintenance of all sanitary installations ➢ Reaching the un-served populations and the urban poor ➢ National Award Scheme for aanitation for Indian cities: in order to rapidly promote sanitation in urban areas of the country (as provided for in the National Urban Sanitation Policy and Goals 2008), and to recognize excellent performance in this area, the Government of India intends to institute an annual award scheme for cities **For Women** The vision for Urban Sanitation in India is: ➢ All Indian cities and towns become totally sanitized, healthy and liveable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women.	The Government of India, wherever possible, will explore possibilities of providing assistance for funding projects proposed as part of City Sanitation Plans through its schemes like JNNURM, UIDSSMT, 10% Lump Sum for NE States, Satellite Township Scheme, etc. However, the emphasis will be on improving the efficiency of existing sanitation infrastructure and service delivery. The Government of India's JNNURM, UIDSSMT and BSUP are the key programs to source funding resources (others being special programs for the North-East and satellite towns schemes, etc.), apart from State Government's own resources. Planning should be aligned to the above funding sources (as well as what customers are willing to pay by way of connection fees, user charges, etc.), and seek to derive maximum benefits from these sources for achieving 100% sanitation. At least 20% of the funds under the sanitation sector should be earmarked for the urban poor. The issues of cross subsidisation of the urban poor and their involvement in the collection of O&M charges should be addressed. The Ministry of Urban Development, Government of India, will fund the national rating surveys, and bear the expenses for organizing the annual national Award Presentation ceremony. Cities will utilize funds that they are eligible for, following guidelines, under the Government of India assisted (JNNURM, UIDSSMT, VAMBAY etc.). State Government schemes may also supplement funds for the purpose to their cities. c) The Government of India will support the cities and state governments' efforts by: i) launching a national communication campaign for awareness generation; ii) providing technical assistance and guidance (Guidance Notes, training and capacity building, etc.) for cities; iii) Providing funding support from Government of India assisted schemes, where provided for; and iv) Funding the national rating of cities' surveys and annual award ceremony.

Level	Policies/Acts on water and sanitation	Institution/ Deptt.	Objectives/What is there for women?	Budget/Funding
Union	2. National Urban Habitat and Housing Policy, 2007	Ministry of Urban Development	Urban areas in the country are characterized by severe shortage of basic services like potable water, well laid out drainage system, sewerage network, sanitation facilities, electricity, roads and appropriate solid waste disposal. It is these shortages that constitute the rationale for policy focus on housing and basic services in urban areas. This policy intends to promote sustainable development of habitat in the country with a view to ensuring equitable supply of land, shelter and services at affordable prices to all sections of society. **Special Provision for Women** Involving women at all levels of decision making for ensuring their participation in formulation and implementation of housing policies and programmes. Addressing the special needs of women headed households, single women, working women and women in difficult circumstances in relation to housing serviced by basic amenities.	➤ Develop suitable fiscal concessions in collaboration with the Ministry of Finance for promotion of housing and urban infrastructure with special focus on EWS/LIG beneficiaries combined with a monitoring mechanism for effective targeting. ➤ Further, facilitate viability gap funding of integrated slum development programmes with the consent of Planning Commission and Ministry of Finance. ➤ Encourage Foreign Direct Investment in the urban housing and infrastructure sectors. ➤ Develop convergence between urban sector initiatives and financial sector reforms. ➤ The feasibility of a National Shelter Fund to be set up under the control of the National Housing Bank for providing subsidy support to EWS/LIG housing would be examined in consultation with Ministry of Finance. The NHB will act as a refinance institution for the housing sector.

Level	Policies/Acts on water and sanitation	Institution/ Deptt.	Objectives/What is there for women?	Budget/Funding
Union	**3. Mid-term Appraisal of Eleventh Plan**	**Ministry of Urban Development**	Stresses on ULB level reforms such as 100% cost recovery – O&M for Water Supply; 100% cost recovery – SWM and Internal earmarking of funds for services to Urban Poor JNNURM has allowed investments to flow for basic services in cities, particularly for the urban poor. However, does not specifically mention women.	➢ Earmarking of budget for basic services to the urban poor.at both state and ULB level ➢ Nearly 80% of the funds under UIG and more than 90% of funds under UIDSSMT have been committed to projects in water supply, sewerage, drainage and solid waste management, reflecting the reality that most cities still have significant back log in the provision of basic urban services to their residents. ➢ 66% of BSUP funds have been committed to slum redevelopment projects, with the rest targeted at building support infrastructure for slum housing. ➢ Some states have claimed less than 30% of the funds allocated to date, including Goa (–), Delhi (~6%), Mizoram (~10%), Chandigarh (~17%), Nagaland (~20%), Sikkim (~20%), and Manipur (~30 %).
State Level	**1. City Development Plan**	**Delhi State Government**	Delhi's Vision To become a highly liveable city that offers a superior quality of life through a robust, employment generating economy; that is safe and inclusive, environ-mentally and socially sustainable; and is based on reliable infrastructure and offers a transparent, responsive system of governance dedicated to the city's felt needs. The CDP outlines Strategies across sectors to achieve the above vision. ➢ For economic development ➢ For civic infrastructure development ➢ For slums and the urban poor ➢ Recommendations on urban governance **For Women** Issues raised by stakeholders: Women find it unsafe and embarrassing to defecate in the open, in community toilets	

Level	Policies/Acts on water and sanitation	Institution/ Deptt.	Objectives/What is there for women?	Budget/Funding
Union	**2. DDA Master Plan**	**Union government, Ministry of Urban Development**	There is no clear policy on slum resettlement given in the plan despite the figures revealing that it is a chronic and growing problem.	
	3. MLA Local Area Develop- ment Fund (MLA LADs)	**Ministry of Finance, Dept of Urban Development of the state Government**	This scheme enables each MLA to undertake small developmental works in his/her constituency through the allocated funds of Rs 2 crore per year. Works related to Watsan that can be taken up under this scheme are: ➤ Public toilets at different locations ➤ Construction of tube wells and water tanks for providing drinking water to the people in the villages, towns or cities, or execution of other works which may help in this respect ➤ Construction of roads and drains including part roads, approach roads, link roads, approved by lay-outs. ➤ Sanitation ➤ Street lighting Provision of common services/ community services including maintenance of group toilets, courtyard, common path and similar other services.	
ULB	**1. Delhi Urban Shelter Improvement Board Act**	**Delhi State Government**	➤ As per the Act, the Board has the authority to implement the provisions of the Slum Areas (Improvement and Clearance) Act, 1956. ➤ The Board may prepare a scheme for the improvement of any jhuggi jhopri basti which may include provision of toilets and bathing facilities, improvement of drainage, provision of water supply, street paving, and provision of dustbins, or sites for garbage collection, street lighting. ➤ The scheme may include provision for payment or for contribution of labour by the residents of the jhuggi jhopri basti individually or collectively, and may also include provision for recovery of charges for the use of toilets and bathing facilities. ➤ Nothing for women has been specified	
	2. DJB Act	**Delhi State Government**	➤ To provide for the establishment of a board to discharge the functions of water supply, sewerage and sewage disposal and drainage within the NCT of Delhi and for matters connected therewith. ➤ Nothing for women has been specified	

In-situ upgradation of JJ Clusters and Informal Shelter (Under DUSIB)

The DUSIB is in-charge of this scheme where existing JJ dwelling units are upgraded in an improved and modified layout by distribution of land and amenities amongst the squatter families. The land owning agencies have to issue a 'No objection certificate' so that DUSIB can carry out the work. The JJ dwelling unit has to pay a license fee of Rs 180 at the rate of Rs 15 per month for a year in advance for the in-situ upgradation.

Environmental Improvement in Urban Slums (Under DUSIB)

In the Environmental Improvement in Urban Slums programme, the basic amenities to be covered to improve the standard of living of the Slum/JJ dwellers are as follows.

1. Water supply – one tap for 150 persons.

2. Sewers – Open drains with the normal out-flow avoiding accumulation of wastewater.

3. Storm water drains – to drain out the storm water.

4. Community bath – one bath for 20–50 persons.

5. Community latrines – One lavatory seat for 20–25 persons.

6. Widening and paving of existing lanes to make room for easy flow of pedestrians, bicycles and hand-carts etc. on paved roads to avoid mud and slush.

7. Street light-poles 30 metres apart.

8. Community facilities such as community centres, crèche, dispensaries, non-formal education centres, parks, etc.

Construction of Pay and Use Jansuvidha Complexes (Under DUSIB)

The Construction of Pay and Use *Jansuvidha* Complexes Scheme has been continuing since the Seventh Five Year Plan. This scheme was primarily envisaged the combat the issue of open defecation by jhuggi/slum dwellers. The national norm under the scheme envisages provision of one WC seat for 20–25 persons and one bath for 20–50 persons. However, it has not been possible to follow these norms in Delhi due to physical constraints. These complexes are run on 'pay and use concept' and maintained by NGOs/ agencies who are also assigned the responsibility of planning and construction. The estimated cost of construction including department/ administration charges per WC seat on an average basis, depending upon various factors, works out to Rs 50,000 in case of *pucca*/ pre-fabricated structures as per standard specifications and on an average Rs 24,000 per WC seats in case of mobile toilet vans.

Additional Facilities in Jhuggi Jhopdi Relocation Colonies (Under MCD)

The scheme aims to improve the basic civic services and living conditions in JJR colonies which were initially developed by the DDA but were transferred to Municipal Corporation of Delhi (MCD) in 1988. In addition, the MCD is supposed to be provided with adequate assistance for the following works.

1. Funds for annual repair and maintenance of these colonies.

2. One time special repair to make these services of the colonies functional.

3. Strengthening/ augmentation of additional facilities to bring these colonies at par with the standard of the Corporation.

Sanitation in JJ Cluster (MCD)

The main objective of the scheme is to maintain sanitation services in JJ Cluster. In addition, it aims to provide small sized bins within the cluster's dustbin and *dhalaos* outside the clusters. However, since the existing infrastructure available with the department is not sufficient to cope up with the work, hence, it is necessary that requisite number of *Safai Karamcharies*, supervisory staff and other sanitation attendants be made available. Further, expenditure for the following components should be made:

1. Payment towards the water supply, electricity and water charges of *Jan Suvidha* complex (JSC) as well as improvement of *Jan Suvidha* complexes and major repair in JSCs.

2. Purchase of insecticides, tools and plants.

3. Desilting of septic tanks of lavatory blocks of JS complexes and sullage *nallah*.

4. Payment towards improvement and augmentation of pumping station along with civil work including payment of electricity charges & wages for deployment of labour.

5. Payment towards the operation and maintenance of vehicles/equipments.

8. Hiring of trucks, bulldozers/loaders under emergency situation.

7. Construction of *Dhallaos*.

8. Repair and renovation of dustbin and *dalloos*.

Augmentation of water supply in JJ Clusters (DJB)

The scheme on 'Augmentation of water supply in JJ Clusters' is the only scheme of Delhi Jal Board (DJB) that provides bulk water to JJ Clusters. MCD purchases raw water from DJB and supplies to JJ Clusters.