POVERTY MAPPING

A Situation Analysis of Poverty Pockets in Jabalpur

UN-HABITAT

Jabalpur Municipal Corporation

WaterAid

Foreword

The Government of Madhya Pradesh has accepted the Municipal Action Plan for Poverty Reduction (MAPP) as an instrument for slum level intervention. A city wide poverty mapping exercise for identifying the poor and creating a data base of their condition is a primary requirement for this purpose.

I am happy to learn that on the request of Government of Madhya Pradesh, UN-HABITAT and Water Aid India in Partnership with our Municipal Corporation has for the first time carried out a city wide Poverty Pocket Situational Analysis (PPSA) for mapping the poverty and environmental infrastructural deficiencies in each poverty pocket for prioritizing interventions in our cities in Madhya Pradesh. This survey assumes greater significance for the reason that it takes into account all poverty pockets of the city instead of only those slums that exist in municipality records. This has resulted in the identification of a large number of Poverty Pockets which are still not notified and presently therefore not entitled for municipal services provisions. There is a large concentration of the poor in these areas, which underscores the importance of formalizing the non-notified and the urgent need to take the facilities and entitlements to the large concentrations of poor in these pockets.

It is understood that this survey is part of the Slum Environment Sanitation Initiative (SESI), jointly implemented by UN-HABITAT under its Water for Asian Cities Programme, along with Water Aid India, its local counterpart NGOs and our city Municipal Corporation. The overall purpose of this project is to demonstrate and develop approaches for slum improvement (with focus on water, sanitation and hygiene education), which could influence investments in these areas resulting in access to services for the marginalized. The PPSA will serve as a very useful planning tool for the preparation of proposals under the Integrated Housing & Slum Development Programme of Government of India as well as for preparing the Municipal Action Plan for Poverty Reduction (MAPP).

On behalf of our Municipal Corporation, I reaffirm our commitment to extend all possible cooperation to the collaborative efforts of UN-HABITAT and Water Aid India for making interventions in selected poverty pockets totaling five thousand households in our city with a target of achieving zero open defecation in these selected pockets. It is my hope that this tool, lessons learnt and the follow up interventions will be an eye opener for the citizens of the city and thus help promote the full and active participation of all stakeholders in the attainment of the Millennium Development Goal 7, target 10 of halving by 2015 the proportion of people without sustainable access to drinking water and basic sanitation.

Smt. Susheela Singh
Mayor
Jabalpur

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ABBREVIATIONS

ADB	:	Asian Development Bank
BPL	:	Below Poverty Line
DFID	:	Department for International Development
FGDs	:	Focus Group Discussions
GoI	:	Government of India
GoMP	:	Government of Madhya Pradesh
JMC	:	Jabalpur Municipal Corporation
HH	:	Households
ICDS	:	Integrated Child Development Services
MDGs	:	Millennium Development Goals
MDM	:	Mid-Day Meals
MP	:	Madhya Pradesh
MoU	:	Memorandum of Understanding
NGO	:	Non Government Organisation
PP	:	Poverty Pockets
PLA	:	Participatory Learning and Action
PPSA	:	Poverty Pocket Situation Analysis
SSEI	:	Slums Environmental Sanitation Initiative
ULBs	:	Urban Local Bodies
UPAI	:	Urban Poverty Alleviation Initiatives
UN-HABITAT	:	United Nations Human Settlements Programme
WAC	:	Water for Asian Cities
WAI	:	WaterAid India

Section 1

CONTEXT OF POVERTY

The Water for Asian Cities (WAC) Program is a collaborative initiative between the United Nations Human Settlements Program (UN-Habitat), the Asian Development Bank (ADB) and Governments of Asia. Launched in March 2003 via a Memorandum of Understanding (MoU) between ADB and UN-HABITAT in Madhya Pradesh WAC is expected to leverage its experience in urban water governance and capacity building as well as ADB's operational experience and lessons from evaluation of impact in other cities. Under this program UN-HABITAT is mandated to develop a strategy for Pro Poor Water and Sanitation Governance in Madhya Pradesh for contributing to attain the Millennium Development Goals (MDGs) on water and sanitation and slum upgrading with a special focus on the urban poor. In India, Water for ASIAN Cities Programme is supporting the Madhya Pradesh Urban Water Supply and Environment Improvement Project in the cities of Bhopal, Gwalior, Indore and Jabalpur.

1.1 Slums Environmental Sanitation Initiative: (SESI)

A Workshop on Pro-Poor Urban Water and Sanitation Governance was organized in March 2005 in Bhopal with the key objective to bring together primary and secondary stakeholders to discuss and decide on the approach and strategy to be adopted by UN-HABITAT in the implementation of the Water for Asian Cities Programme in Madhya Pradesh. The main actions with regard to environmental sanitation to be taken by UN-HABITAT based on the workshops recommendations are as below: -

- Citywide integrated environmental sanitation and waste management programmes, including need based low-cost sewerage and on-site sanitation, aiming at improved health and hygiene behaviour change. This will be through initial assessments of the sanitation situation followed by demonstration pilots and scaling up to city wide programmes
- Mapping the urban poor in its entirety, generating high quality GIS maps and development of a city specific pro-poor water and sanitation governance strategy

As a follow up of these recommendations a pilot Slums Environmental Sanitation Initiative (SESI) in the slums of the four project cities was proposed to be executed. The project would demonstrate an integrated approach to environmental sanitation, waste management, low-cost sewerage and/or on-site sanitation, for improved change in health and hygiene behaviour.

This pilot project is being executed in a tri-partite partnership model, bringing together resources and expertise from the UN-HABITAT, Water Aid India, Kshitij and ACT as local NGO partners and Jabalpur Municipal Corporation for approximately 5000 households which are lacking in infrastructure viz. access to water supply, improved sanitation, grey water disposal etc.

The Government of Madhya Pradesh (GoMP) has accepted the Municipal Action Plan for Poverty Reduction (MAPP) as an instrument for slum level intervention. The MAPP is an instrument to prioritize the slums for investment based on poverty and environmental infrastructure deficiency matrix. On the GoMP's request UN-HABITAT carried out a citywide Poverty Mapping exercise for mapping the poverty and environmental infrastructural deficiencies in each pocket for prioritizing interventions in Jabalpur.

1.2 Poverty Pocket Situation Analysis (PPSA): Purpose and Approach

In the first phase of the UN-HABITAT and WaterAid India's SESI program, a detailed slum enumeration exercise was carried out during April 2006 called **Poverty Pocket Situation Analysis.** The final objective of this exercise was two fold:

1. In consultation with the Jabalpur Municipal Corporation (JMC) select Poverty Pockets (PPs) covering 5000 households which were poorly placed on the Millennium Development Goal 7 target 10 i.e. halve by 2015, the percentage of households with access to improved water source and percentage of households with access to improved sanitation.

2. To collate the data on all PPs on availability of environmental deficiency parameters for kick starting the MAPP process by the Municipal Corporation.

This study is not a household survey but the data under this study has primarily been derived from key informant interviews/ group discussions and reflects the multiple and overlapping perspectives of different stakeholders in poverty pockets. This has been triangulated by qualitative survey using participatory exercises for community's direct feedback from six Poverty Pockets for final analysis.

As far as estimate of 'access' to infrastructures in poverty pockets is concerned, this study does not claim to be one that explores issues of the city in all their complexity and against any benchmark of accessibility. It does not look at differential access to facilities or the current status of facilities as much as the availability of facilities or lack of it, for designing interventions in the most water and sanitation facilities deficient areas. The study, however, understands access to mean the availability of useable and quality infrastructure in any given locality. The following analysis (especially the cross tabulation) and ranking has been undertaken keeping this understanding of access in mind.

Qualitative feedback however uncovers different nuances of 'access', helping us to identify areas of most concern in the perception of surveyed communities. This feedback has been interwoven with quantitative data in order to define issues of access for the following environmental infrastructure deficiency indicators have been considered:

Categorizing PPs on MAPP pockets:

1. Percentage of length not covered with pucca drains,
2. Percentage deficiency of pucca road,
3. Percentage deficiency in street lights,
4. Percentage of households not covered with piped water supply,
5. Percentage of hourly water supply available to population,
6. Percentage of households not covered with toilets and
7. Percentage of households with access to improved way of disposal of grey water.

Categorizing PPs on MDG platform:

1. Access to improved sanitation
2. Access to improved water supply

Section 2

METHODOLOGY

2.1 PPSA Jabalpur : Poverty Pockets Mapping

Stage 1.

The process of slum mapping started in April 2006 in Jabalpur. A format was jointly developed and adopted uniformly by partner NGOs ACT & Kshitij, Jabalpur Municipal Corporation, UN-Habitat and WaterAid India for gathering the necessary data. Field teams comprised of two NGO staff and one municipal corporation staff in each team to carryout the survey.

Stage 2.

An orientation workshop was conducted in early April 2006 with all the team members to discuss and clarify the format of the survey. WAI, UN Habitat, Jabalpur Municipal Corporation and ACT & Kshitij attended the workshop and oriented the teams about the program and importance of the correct information collection through focus group discussions, transect and observations in the PPs.

Stage 3.

The survey covered 324 PPs in Jabalpur. In the process of data collection both NGOs and Jabalpur Municipal Corporation officials verified the collected data with their signatures. UNH and WAI team members also cross-verified the data collected in the forms by NGOs and Municipal Corporation field staff. Each team filled in the survey form and signed on each of them for authenticity. The data was then compiled by the partner NGOs and sent to WaterAid India for analysis and poverty pocket ranking.

The questions asked were mainly bordering on population (no of households, no of families below poverty line, total population etc.), presence of infrastructure (roads, street lights, schools, anganwadi, balwadi, health centers etc), access to water supply (hours of water supply, no of individual and community water connections, quality of water etc) and access to sanitation (individual and community toilets, open defecation practice, solid waste management etc). The data analysis provided information on PPs with least access to water and sanitation and where the number of people living below poverty line was high apart from access to infrastructure. Based on individual poverty pocket's information on these counts, PPs were categorized and ranked.

Stage 4.

In order to triangulate the quantitative data as well as to collect information on quality and status of available infrastructure and basic services impacting quality of life in PPs, qualitative survey was undertaken separately using participatory tools.

Tools used included:

- Focus Group Discussion
- Transect Walk
- Observation
- Individual Interaction

The data analysis provided information on slums with least access to water and sanitation and where the number of people living below poverty line was high apart from access to infrastructure. Qualitative data was collected through transect walks, FGDs, observations and individual transations from the following locations:

- Katiya Ghat; Perphery, big, not upgraded ward no. 60, zone no. 4
- Lal Kuan; Core, small, upgraded, Ward No. 59, Zone No 2
- Basor Mohalla; Core, big, old, Ward Shitalamai, Zone No. 6
- Rajiv Nagar; Periphery, small, recent, Ward No. 12, Zone 7
- Ravidas Nagar, Periphery upgraded, Ward-59, Zone-2
- Chandbari Taliya, Azad Nagar; Core, small, recent, Ward Sant Govindas, Zone No. 4

Section 3

A CITY WIDE ANALYSIS

3.1 Overview

As known, Madhya Pradesh had the highest urban poverty ratio of 48.4% in 199394 among all Indian states, according to the Planning Commission's Estimates of Poverty (1997). Located at the centre of the State of Madhya Pradesh in India, Jabalpur District, is one of the most important cities in the State. The 'Narmada' river flows through the District which is the major drinking water source for the District. Jabalpur City is by far the largest urban area and the only Municipal Corporation in the district under the Municipal Act. Jabalpur District has a proportionally high urban population of about 54 per cent in comparison with MP State and even India. Urbanization has caused changes in the family and social structure of the urban poor and these changes have implications in their quality of life as well as livelihoods. Migration to the cities has created large number of Poverty Pockets in urban areas, especially in the core area of the city. Most of the poverty pockets are settlements established by the urban poor in lands that are not developed for human living.

The city has been divided in 8 zones, which are further divided in 60 wards. These wards together house 324 PPs which have been notified by Municipal Corporation of the City. People inhabited in these PPs are generally for ensuring their livelihoods.

3.2 Scenario in Poverty Pockets

3.2.1 Below Poverty Line Households

According to the 2001 census approximately 26726 households in Jabalpur district have BPL cards or approximately 24% of the households in the district. In comparison the 24% of BPL households in Jabalpur city's Poverty Pockets as estimated in this study is higher at approximately 24%, indicative of the concentration of poverty in this area of the district. Zones 1,3,4 and 5 have the highest concentrations of poverty in Jabalpur.

Table 3.1. Number of Households and Below Poverty Line (BPL) Households

Total Number of PP	Total No. of Households	No. of BPL Households in PP	% of BPL Households in PP
324	109866	26726	24.33

3.2.2 Access to Drinking Water or Coverage ; Sources, Supply and Availability in PPs

The availability of public stand posts in Jabalpur is relatively high with only 25 of the 324 PPs reporting no availability of stand posts. This seems to be indicative of water supply being at a relatively acceptable level in the surveyed PPs especially if this data is combined with findings of the drinking water supply scenario.

Table 3.2: Drinking water supply sources

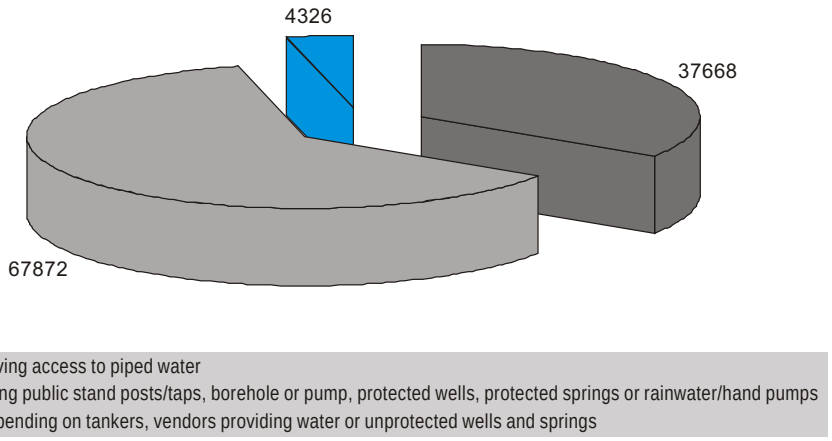
Total Number of PP	No. of Public Stand Posts	No. of Wells	Number of Hand Pumps	Number of Tube Wells
324	2796	294	491	937

3.2.2.1 Drinking water supply:

In the surveyed poverty pockets a large proportion of households depend on public stand posts, boreholes, wells, springs etc for drinking water (62%) which have been designated as a safe source of drinking water. Overall an overwhelming 66% of the households do not have access to piped water supply. But of the 37668 households that do have access to piped water, more than over 64% are in areas where water supply is only available for up to 2 hours and at extremely low pressure, representing again the limited usability of available infrastructure.

Table 3.3: Drinking Water Supply Scenario			
Total Households	No. of households having access to piped water	No. of households using public standposts/taps, borehole or pump, protected wells, protected springs or rainwater/handpumps	No. of households depending on tankers, vendors providing water or unprotected wells and springs
109866	37668	67872	4326

Drinking Water Supply Scenario



In the surveyed PPs an overwhelmingly large proportion of households depend on public standposts, boreholes, wells, springs etc for drinking water (61%) which have been designated as a safe source of drinking water. Only 34% of the households have access to piped water. Only three percent rely on relatively unsafe sources of water such as tankers and vendors providing water or unprotected wells and springs.

However despite the positive situation reflected by the above two tables qualitative data indicates a slightly different picture. According to the qualitative survey scarcity of water is the biggest problem in majority of the PPs. On an average 1,000 numbers of people depend on 1 source of water in the surveyed PPs. In all these PPs major sources of water are municipal tap, tube well and hand pump, however hand pumps were not found to be functioning in all the six sampled PPs.

In terms of water availability and issues related to water, there is not major difference in situation in terms of core and periphery PPs. 'Basor Mohalla' being a core slum and 'Rajiv Nagar' being a periphery slum, continues to face severe water problems. In Rajeev Nagar, the entire population of more than 2500 people depends on a single tube well. Only 2 of the 5 streets are connected with the household level water supply system. The people of the remaining 3 streets, especially the lower caste people, are deprived of water facilities. They go to nearby areas of ITI and Kanchan Vihar, situated as far as 1.5 km for fetching water. The distance they need to cover increases in summer season. People in PPs have also expressed serious doubts over the quality of water being supplied to them.

'Ravidas Nagar' another of the sampled periphery PPs, however receives sufficient supply of water. The slum, despite having only a single water tap for a population of about 1800, does not face much of water problem because of round the clock supply of water. The slum is situated by the side of river Narmada.

The average amount of water availability per household is 15-20 buckets per day, which varies in summer season, because of the reduced water supply from the existing water sources. To cover up the requirement, people need to go farther to other nearby places for fetching water. This is the situation in all the six sampled PPs, except the earlier mentioned Ravidas Nagar, which has the unique benefit of being based near river Narmada.

The supply of water from sources of water, such as tube wells and municipal tap, is comparatively good, which supplies water for 2-3 hours each time (twice in a day) but in the summer this becomes a problem, where water is available for around 1.5 hours only once a day, despite increased consumption during the season.

The average time spent on fetching water is not uniform; it varies from slum to slum. People spend around 30 minutes to 2 hours averagely for fetching water, where they fetch water from sources as close as 100 meters to 2 km. Time spending increases significantly in summers, when people go to nearby areas for getting water. During summers, water is brought/fetched over even over bi-cycles. Rajiv Nagar, among periphery slum and Basor Mohalla, among core slum have major problems.

The problem of water availability is found to have implications on children's education, where they are engaged in fetching water on a regular basis. In quite a few cases, children also have to forgo their classes for the day. Similar is the case with livelihoods of the people, especially with daily wage labour, who also need to forgo their labour for the day indicative of the opportunity costs for fetching water. Such phenomenon is quite common in summer season, where men comparatively spend more time in getting water from distance places.

Basor Mohalla is a non notified core upgraded slum located in Shitalmai ward in zone 6. The slum houses 453 households having a population of 2860. Most of the households are involved in their tradition livelihood of bamboo work and the slum is named after their tradition community name 'BASOR'. With the changing time, people in the slum have started taking up other wage labour activities, riksha and *thela* pulling, *kabadi* works, etc. Majority of the household come under poverty line, however they do not have BPL cards, depriving them of various government welfare schemes.

The slum is situated at a hillock in the middle of the city and faces tremendous problems of water availability. The slum does have boring at the hillock, but does not have water into it. Entire slum draw water from bottom of the hill, where there are 3 municipal taps. Because of problems of lifting water to the top/middle of the hillock, the taps could not be placed over there. This results in huge problems for the residents of the Pps.

3.2.2.2 Water Quality: -

The water supplied thru stand posts or house connections is reportedly of sweet taste and potable. The table shows that very few slums have reported of the presence of hard water or tasteless water. These are generally from hand pumps or in-situ bore wells.

Table 3.4: Water Quality

	Sweet taste	Salty	Taste less
Number of PP 324	288	49	9

The residents, mainly women and children spend a good amount of their time more than 3-5 hours in a day in fetching water, which due to the terrain demands a lot of physical effort from them. It causes major impact on children's education, who are either not cared of because of their parents' engagement in fetching water or are themselves engaged in fetching water.

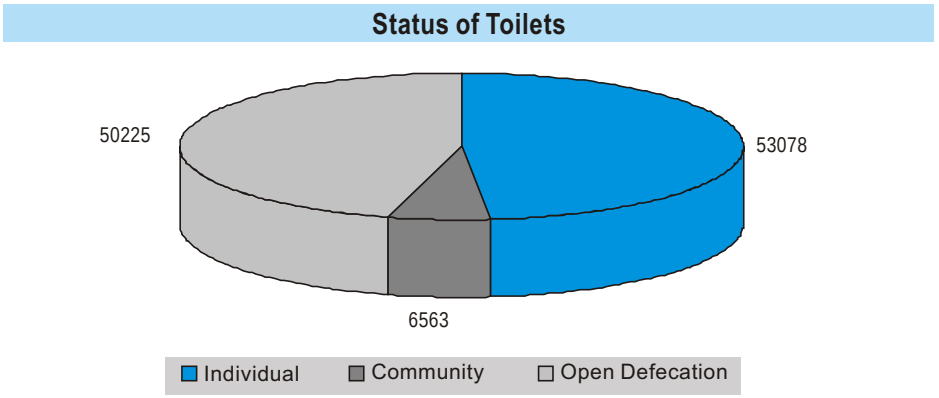
Fetching water also causes serious community level conflicts at the water sources. There are regular cases of daily quarrel and fights, which even result in serious criminal cases in the community.

3.2.3 Status of Sanitation:

3.2.3.1. Availability of Toilets:

45.7% of the households defecate in the open and only 6% use community toilets, showing that community toilets have not really replaced open defecation. A reason for this may be that of the total no. of PP only 28 really have community toilets with water connections (see table below). This is borne out by the qualitative data.

Table 3.5: Status of Toilets			
Total Households	Individual	Community	Open Defecation
109866	53078	6563	50225



3.2.3.2. Availability and Operation of community toilets:

Presently people have space for open defecation but slowly it is decreasing because of new construction in the rapidly expanding urban area of Jabalpur. This is more or less the situation in all the six sampled PPs. Regarding community toilets, there are none in any of the six sampled PPs except in 'Ravidas Nagar', which has got one community toilet. However, this is never used by its residents. All the people, who do not have private toilet, go for open defecation. The community toilet is not used because of lack of water supply and also because of no maintenance in terms of regular cleaning and electricity.

Out of the three sampled core PPs, one namely 'Basor Mohalla' has got comparatively sufficient space at the other side of the hillock for using it for open defecation, however the other one 'Chandmari talaiya' faces a huge problem. Lack of space, means that women, especially girls go out only in dark either very early in the morning or in nights.

Similar is the condition of toilets in periphery PPs, about 50% of the people in the PPs (similar figure for core PPs) go for open defecation. Being situated in the periphery of the city, there was not much of the problem of space till recent past. However, with the recent boom in the constructions and more so around the periphery of the city, the open space available around these PPs are eaten away by the new constructions, posing threats for the people in these PPs (Rajiv Nagar, Ravidas Nagar, Lal Kuan) as well.

The open defection has its inherent problems on the local environment degradation; wastage of time, etc. In particular, it has serious implications on the safety of women, especially girls. The women and girls are seriously teased, harassed, sometime sexually, when they go for attending nature calls. It is one of the very common reasons for conflicts, fights, etc because of abuse by the anti-social elements in the PPs.

Open defecation also causes the wastage of a good amount of time because of distance of the ground or open space from the house/PPs. On an average people spend 1 to 2 hours for this purpose.

Table 3.6: Community Toilets: Availability and Access						
Total No. of PP	Total Number of Community Total/Seats	Total Seats		Have a permanent water supply facility	Have a bath facility	Connected to a septic tank or sewerage
		Male	Female			
324	82/773	415	358	28	14	64

Community Toilets: Availability and Access

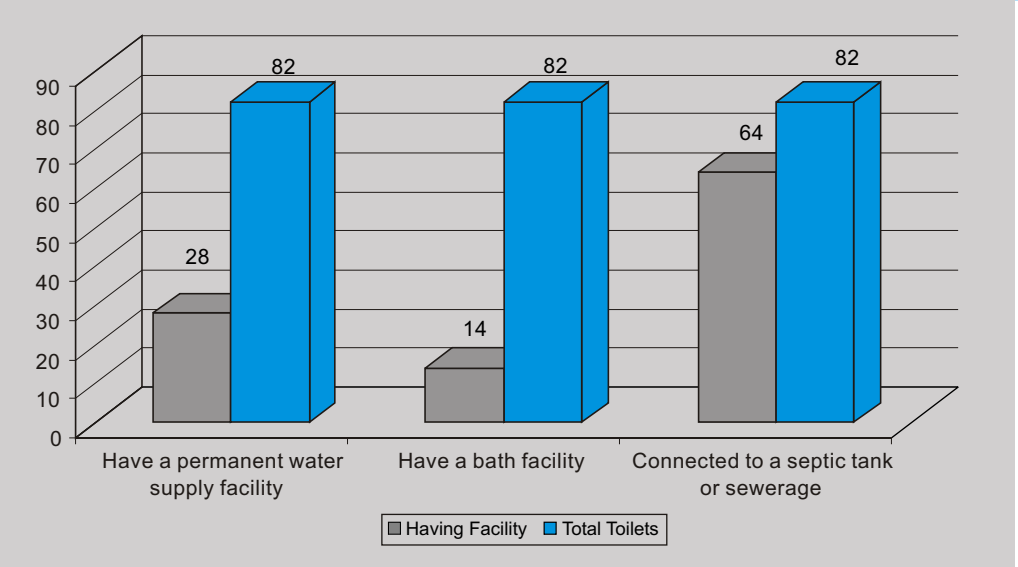
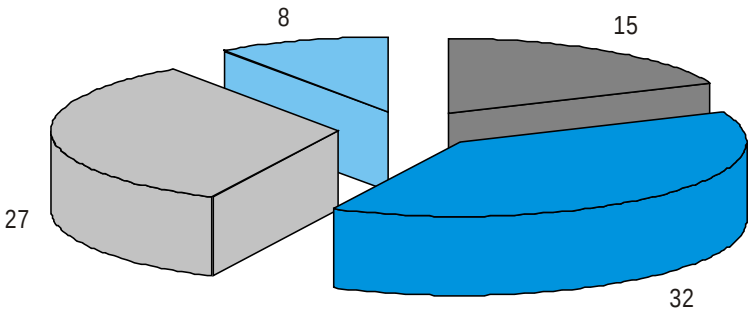


Table 3.7: Community Toilets: Status and Use

Total No. of PP	Total Number of Community Toilet	Not maintained/not usable	Poorly managed but used	Maintained but overcrowded	Maintained and not crowded
324	82	15	32	27	8

Community Toilets : Status and Use



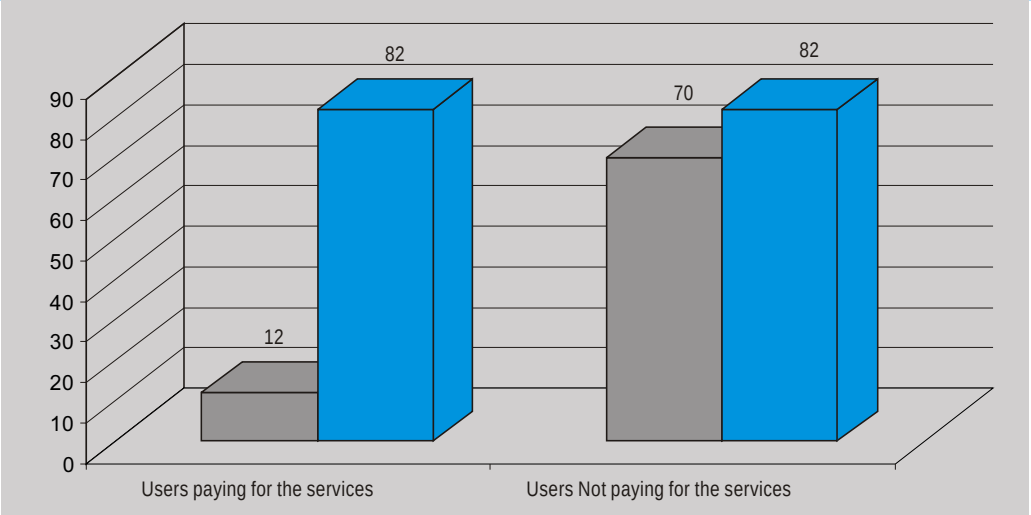
3.2.3.3. Paying for community toilet services:

Users pay for 12 of the 82 community toilets. It was found that 8 out of the 12 pay and use toilets were maintained and less crowded, implying that where users paid for the services, facilities were better maintained. Presently there are only 14% of the community toilets under pay and use category.

Table 3.8: Status of Pay and Use Toilets in PPs

Total Number of PP	Total Number of Community toilet	Users paying for the services	Users Not paying for the services
324	82	12	70

Status of Pay and Use toilets in PPs



3.2.4 Drains and Water Logging Status

3.2.4.1 Drainage:

Nearly 58% of the drains are not lined. This however does not present the overall picture as in fact according to the qualitative data none of the six PPs visited even had a drainage system available in the first place. Some of the people have made temporary internal drainages but the quality of that is neither good nor hygienic. Sewage water not only gets accumulated just outside the house but also flow inside the house from internal drains (Nalis). People focus on their internal drainage system and not external drainage, which is further deteriorating the sanitation condition in the PPs. In some of the PPs, open drains have been laid down by the people themselves.

Table 3.9: Condition of Drains

Total Number of PP	Total Length of Drains in Km	Length of Lined Drains
324	443	187

3.2.4.2 Water Logging:

The prevalence of water logging in 25% of the PPs reflects poor drainage and sanitation systems. Again qualitative data helps to deepen the understanding of related issues.

In rainy season, the problem of water logging intensifies. Water logging in a common phenomenon except in 'Basor Mohalla' and 'Ravidas Nagar', which are situated on the hillocks. Rest of the sampled PPs face this problem of water logging and other issues arising from water logging. Main problem are faced by school going children. They are not able to find their way to schools and attendance levels drop. Due to lack of drainage system people have to leave their work, daily wages, etc, since water reaches a level of at least 2-3 ft above ground level.

Overflowing drainage, and sewerage water clubbed with water logging results in severe attacks of various diseases mainly malaria, diarrhea, food poisoning and migraine. Snakebites also become a common phenomenon in rainy reasons. Slum dwellers reported that there is no support as such from the Municipal Corporation for improving the conditions of external drainage systems in these PPs.

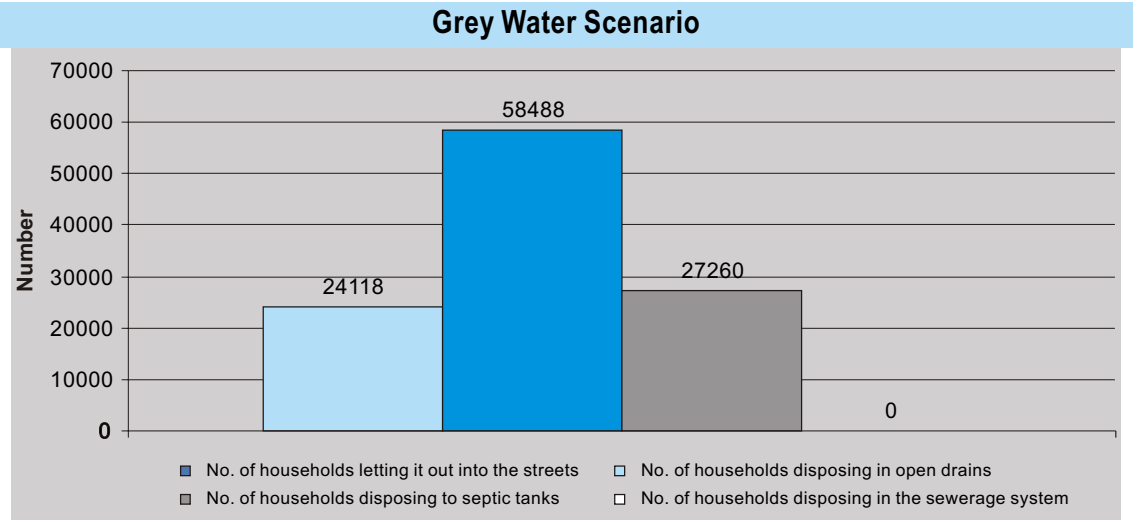
Table 3.10: Areas Prone to Water Logging		
Total Number of PP	No. of Water Logged PPs	No. of PPs free from Water Logging
324	80	224

3.2.5 Status of Grey Water and Solid Waste Disposal

3.2.5.1 Disposal of Grey Water (Waste Water from household Chores)

Only 25% households have access to septic tank to dispose grey water and rest of the households let in on the streets or in open drains and there is no sewerage system in the city.

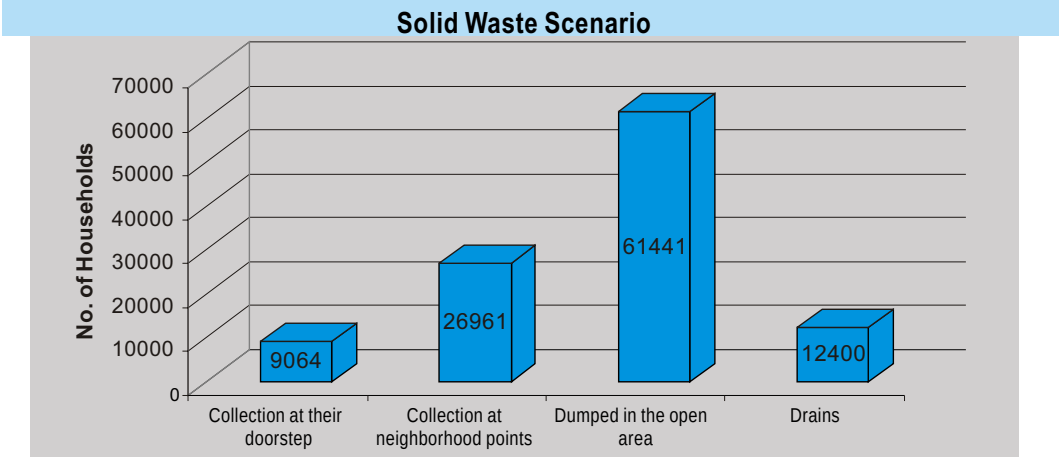
Table 3.11: Grey Water Scenario				
Total Households	No. of households letting it out into the streets	No. of households disposing in open drains	No. of households disposing to septic tanks	No. of households disposing in the sewerage system
109866	24118	58488	27260	0



3.2.5.2 Disposal of Solid Waste Management:

Nearly 56% of the households dump waste in the open and 11% let it flow into drains. Garbage disposal is also a problem in the sampled PPs. The qualitative data revealed that no one is taking any action on the issue of proper disposal of garbage in the PPs, not even Municipal Corporation; while it continues to be a major health and environment issue. All the households discharge their garbage in open space. Majority of these households just throw it outside their own house which results in it re-entering their house with the flow of the wind. This garbage scattered around the PPs further chokes the external drainage system, which is already in poor condition. Setting fire to the accumulated garbage is the only means of disposing it. One such effort has resulted in a huge fire accident in Rajiv Nagar. Dustbins are also not there in these PPs.

Table 3.12: Solid Waste Scenario				
Total House Holds	No. of households having the facility of solid waste collection at their doorstep	No. of households having the facility of solid waste collection at neighborhood points	No. of households dumping solid waste in the open	No. of households throwing solid waste into the drains
109866	9064	26961	61441	12400



It was revealed during the survey that the Rajiv Nagar slum has witnessed one of the serious accident in terms of solid waste disposal. The slum does not have any dustbin or any other such thing for garbage disposal. The garbage is thrown outside in open space. Once a while, someone from the slum put a fire in an effort to dispose of the solid wastes. One such effort resulted in a huge fire accident in the slum, when the fire got aired and took some 10-15 houses into its fold.

3.2.6 Status of Roads, Street Lights and Community Activity Area

3.2.6.1 Roads:

76% of the total road length is metalled. However the lack of lined roads in remaining areas causes real issues for slum dwellers especially women.

Table 3.13: Conditions of Roads

Total Number of PP	Total Length of Roads in Km	Length of Lined Road
324	425.46	323.60

3.2.6.2 Streetlights:

Approximately 70% of roads were not covered by street lights.This is exacerbated by the absence of street lighting and electricity as can be seen from the following analysis.

Table 3.14: Street Light Poles

Total Number of PP	Functional Street Light Poles
324	6112

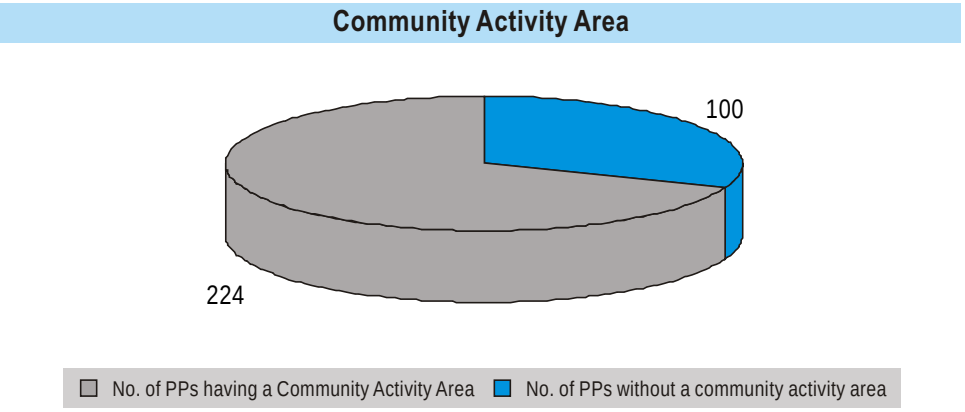
The entire sample of PPs had a total of 6112 functional street light poles. (Data was not available for the total number of electricity poles). The PLA's have revealed that the lack of electricity has led to increased complications especially in the rainy season such as children falling into open drains. Given the direct relation this has to safety and security of inhabitants, particularly women's safety (as has been found in other cities), this constitutes a serious concern in the PPs.

3.2.6.3 Community Activity Areas:

It was revealed that as many as 95 or 29% of the total PPs have no access to community activity areas such as parks and playgrounds. Just as in the case of grounds for open defecation, increasingly construction is likely to in the future further constrain such basic facilities, further deteriorating the quality of life of slum residents.

Assuming that there should be a minimum of 1 street light for every 30 metres.

Table 3.15: Community Activity Area		
Total Number of PP	No. of PPs having a Community Activity Area	No. of PPs without a community activity area
324	100	224



3.2.7 Status of Schools, Aanganwadis, Baalwadis and Public Health Centre Service Status

3.2.7.1 Schools:

The presence of schools in terms of numbers and general quality of schools in Jabalpur is a matter of concern. Only 44% of the PPs have schools. Out of a total of 143 only 75 or approximately half have basic drinking water facilities and even an even fewer number have sanitation facilities. The dismal number having separate toilets for girls and boys (only 30% of the limited schools) further creates a situation ripe for high drop out rates especially amongst girls and low attendance levels.

Qualitative data sheds further light on this issue. Only 2 of the 6 sampled PPs have got government schools. Only 1 slum has a private school. These schools are up to 5th standard. Students have to go 3-4 Km away from their houses. 2 anganwadis also function in two of the PPs. The girls' education rate is comparatively low because of unwillingness of parents to send their girl children to schools, which are situated 3-4 km away from their houses. The drop out rates increases after primary education in cases of both boys and girls. People are also not very interested for better education of their children because of high costs involved in sending them to schools. There is a general preference in engaging them to livelihoods activities than to sending them to schools. However, some households are aware about the importance of education and are sending their children to schools, but it's only a rare phenomenon. The fee charged by the nearby private schools is quite high is not affordable by the slum people.

In terms of infrastructure in the schools, the schools have basic required school building, which are also not sufficient to house the present strength of students. The schools also do not have sufficient supplementary infrastructure like drinking water sources and sufficient numbers of toilets for girls and boys.

There are no schools in the Rajiv Nagar slum and not even in the nearby vicinity of the PPs. The nearest government primary school is 4 km away. The area around slum does have some private school, but all of them are of very high class, having exorbitant fees.

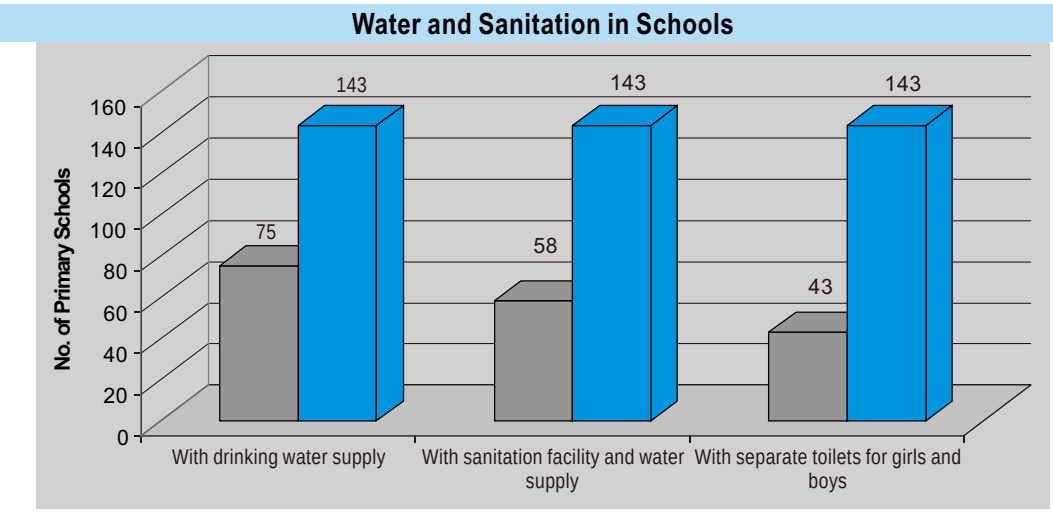
Children from these PPs are not sent for schooling. Girls get engaged in household activities, mainly water fetching, cooking, etc, while boys get engaged in anti social activities from an early age. Gambling, theft, smoking, drinking, etc are common features among boys. Quite a few of the adolescent boys have already been enlisted in police criminal profiles.

There's a government school proposed in the slum for last 5 years, but no action has yet been taken on this front.

Some of the household do want to send their children to schools, but find it financially difficult to do so.

Table 3.16: Water and Sanitation in Schools

Total Number of PP	No. of Primary Schools	No. of Primary Schools having drinking water supply	No. of Primary Schools having Sanitation facility and water supply	Number of Primary Schools having separate toilets for girls and boys
324	143	75	58	43

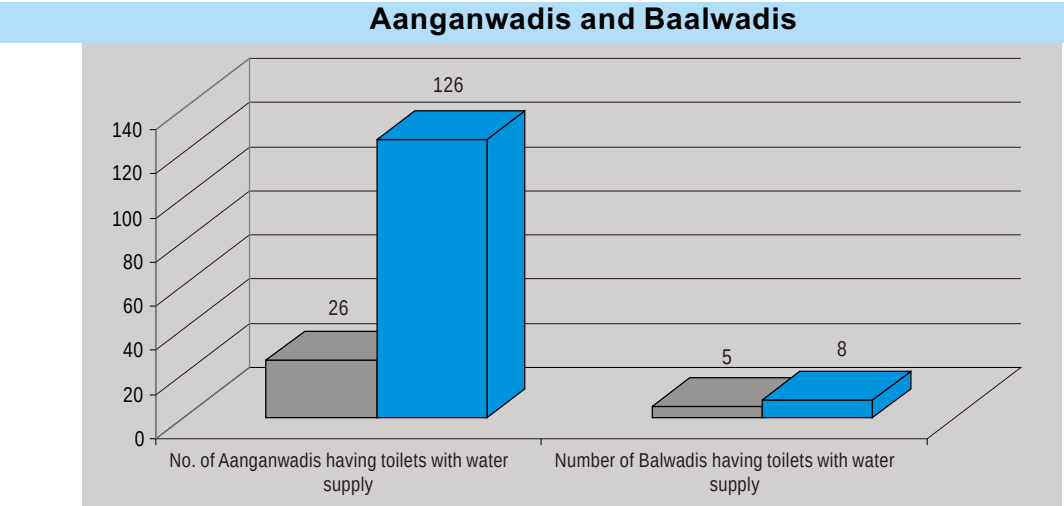


3.2.7.2 Aanganwadis and Baalwadis:

There is a much higher degree of access to aanganwadis in the PPs (39%) as compared to Baalwadis (2%). In both the aanganwadis and baalwadis the lack of toilet facilities (approximately 21% Aanganwadis and 38% baalwaadis lack toilet facilities) can be seen as a major issue of concern.

Table 3.17: Conditions of Aanganwadis and Baalwadis

Total Number of PP	No. of Aanganwadis	No. of Aanganwadis having toilets with water supply	No. of Balwadis	Number of Balwadis having toilets with water supply
324	126	26	8	5



3.2.7.3 Distance to the closest Health Sub-Centre:

Of the total 324 PPs, around 20% had reported to have the health sub center further than 2 Km while 50% of the pockets have it at a distance of less than 0.5 km. Around 29% of the PPs reported to access health sub center at a distance of 0.5-2 kilometer indicating that this is a relatively less serious issue if we look only at numbers. However an enquiry into the quality of health services provided was outside the scope of this study.

Table 3.18: Average Distance of Health Sub Centres from the PPs

Distance	0-0.5 Km	0.5-1 Km	1-2 Km	>2 Km
Number of PP	161	45	52	65

Section 4

INTER POVERTY POCKET DISPARITY STATUS

4.1 Categorisation of Poverty Pockets on MAPP parameters:

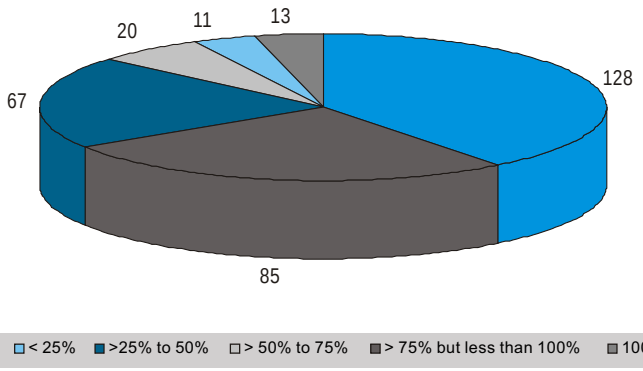
4.1.1. Roads:

The inter PP distribution of lined roads indicates that a large percentage of PPs (40%) have lined roads 100% of total road length. While the presence of lined roads is relatively strong in the area again the issue of lack of street lighting makes the area and its residents vulnerable to a umber of issues as has already been highlighted in the previous section.

Table 4.1: Percentage deficiency of Pucca roads

Percentage deficiency of lined roads	0	< 25%	25% to 50%	50% to 75%	75% but less than 100%	100%	Total
Number of Poverty Pockets	128	85	67	20	11	13	324
Percentage	**40**	**26**	**21**	**6**	**3**	**4**	**100**

Percentage deficiency of Pucca roads



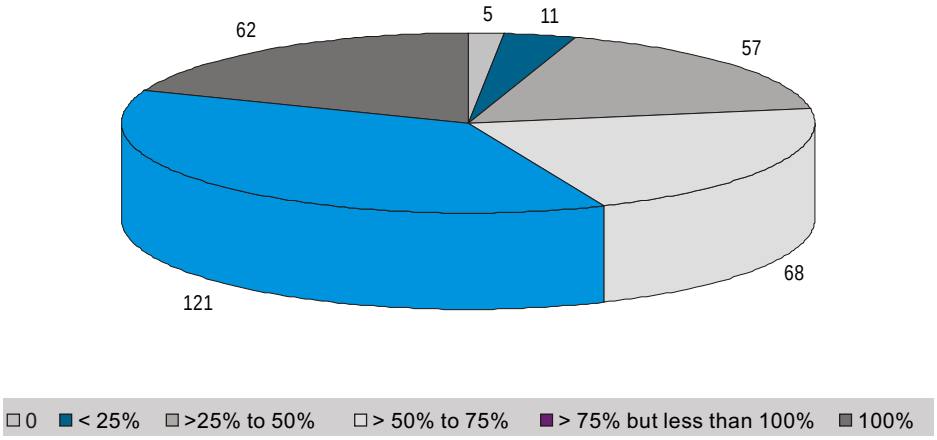
4.1.2. Drainage:

The number of PPs with 0 or less than 25% of drains as lined is an overwhelming 56%. Qualitative data has revealed key issues relating to health and safety of residents in this context and the way in which lack of lined drains makes homes and PPs inhospitable and unsanitary.

Table 4.2: Percentage deficiency of lined drains

Percentage deficiency of Lined Drains	0	< 25%	>25% to 50%	> 50% to 75%	> 75% but less than 100%	100%	Total
Number of Poverty Pockets	5	11	57	68	121	62	324
Percentage	**2**	**3**	**18**	**21**	**37**	**19**	**100**

Percentage deficiency of Lined Drains



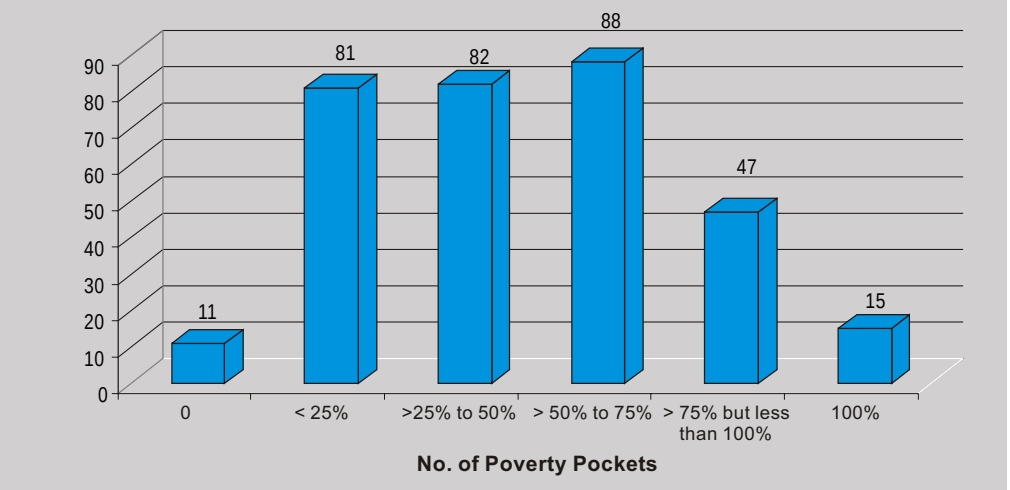
4.1.3 Street lights:

In the context of street lighting we found that 5% of the roads were not covered by street lights. This is not revealed in the inter PP distribution. The number of poverty pockets with 100% deficiency of street lights were 15 and the number of poverty pockets with 0% deficiency were 11. However a number of PPs fell in the above average range - as many as 135 of the total PPs had 42% or more (but less than 100%) deficiency of street lights.

Table 4.3: Percentage deficiency of street lights

Percentage Deficiency of Street Lights	0	< 25%	>25% to 50%	> 50% to 75%	> 75% but less than 100%	100%	Total
Number of Poverty Pockets	11	81	82	88	47	15	324
Percentage	**3**	**25**	**25**	**27**	**15**	**5**	**100**

Percentage deficiency of street lights



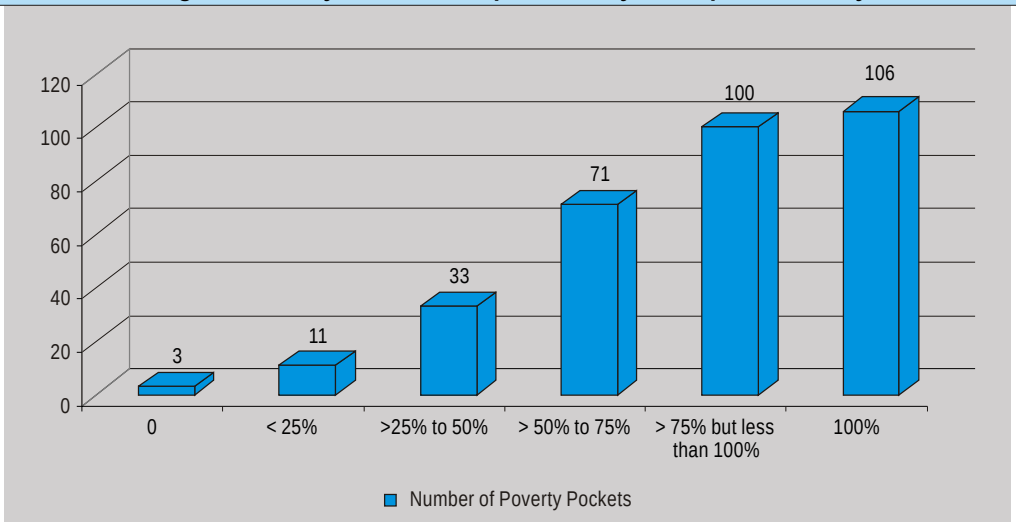
4.1.4 Grey Water Disposal:

Similarly a high percentage of PPs (33%) reported that none of households had access to improved ways of disposing grey water linked to the issue of lack of appropriate drainage systems.

Table 4.4 : Percentage deficiency of grey water disposal:

Percentage defeciency To Improved Way of Disposal of Grey Water	0	< 25%	>25% to 50%	> 50% to 75%	> 75% but less than 100%	100%	Total
Number of Poverty Pockets	3	11	33	71	100	106	324
Percentage	**1**	**3**	**10**	**22**	**31**	**33**	**100**

Percentage deficiency access to Improved Way of Disposal of Grey Water



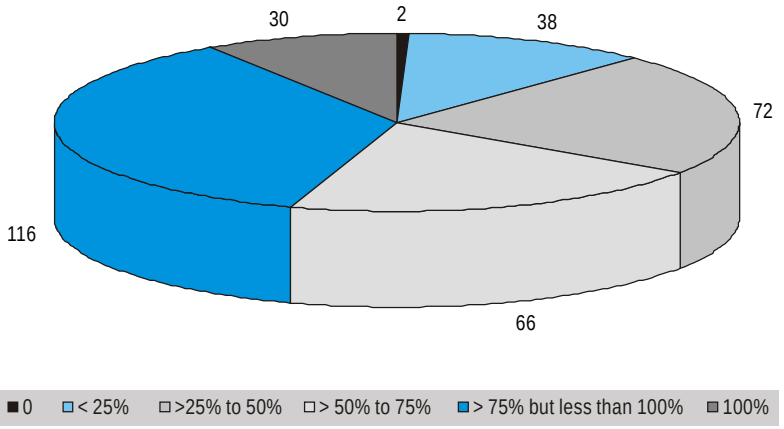
4.1.5 Access to Piped Water Supply

The inter PP analysis brings out issues of distribution in the context of drinking water. 9% of the PPs completely lack piped water. In fact if we look at PPs where 50% or more households are deficient in piped water this comes to a total of 56% of the PPs which is a cause of major concern. Furthermore only 2 of the total 324 PPs or 0.6% reported 100% households with access to drinking water showing how far Jabalpur is from ensuring universal access to a basic need for its citizens.

Table 4.5: Drinking Water Supply Scenario: Inter PP analysis

Percentage Deficiency of Piped Water Supply	0	< 25%	>25% to 50%	> 50% to 75%	> 75% but less than 100%	100%	Total
Number of PPs	2	38	72	66	116	30	324
Percentage	1	12	22	20	36	9	100

Percentage deficiency of Piped Water Supply



4.1.6 Hourly Water Supply: -

While the quality of water available in the PPs is sound (88% of the PPs reported the availability of sweet water) the fact remains that the vast majority (62%) of the PPs are dependent on 0 -2 hrs of water supply and many PPs (20%) have no water supply at all.

Table 4.6: Availability of Water in PPs

No. of Hrs supply per day from stand posts/piped water supply	No water supply through pipeline (assuming 0 -1 hr amounts to no supply)	Between 1 2 hours per day (including 2 hrs)	Between 2 - 5 hours per day (including 5 hrs)	Between 5 - 10 Hrs per day (including 10 hrs)	>10 hours
Number of PP (% of PP)	66 (20%)	138 (43%)	97 (30%)	18 (6%)	4 (10%)

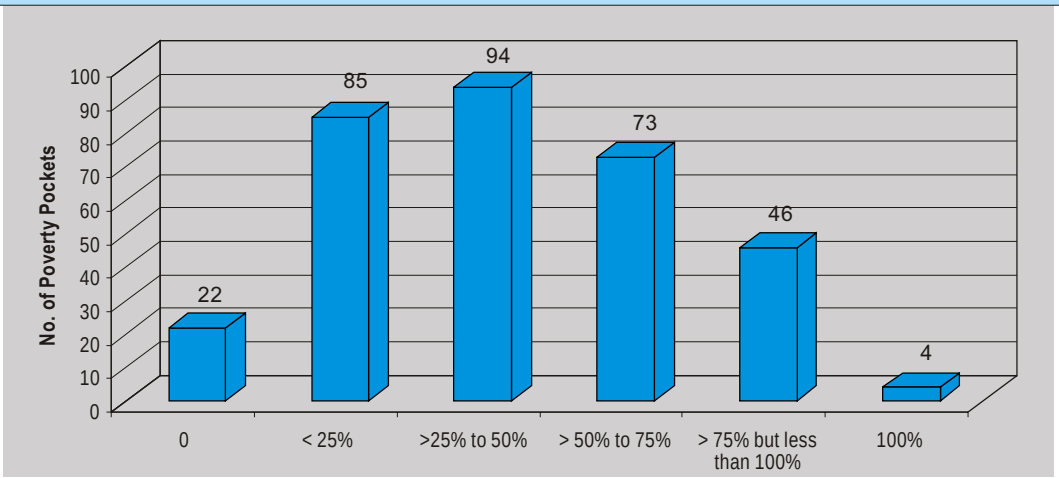
4.1.7 Individual Toilets:

The survey data on the sanitation behaviour of the PPs revealed that nearly 93% of the poverty pockets are 25 to 100 % deficient in toilet facilities. There is need for awareness creation for the behavioural change towards adoption of low cost sanitation units.

Table 4.7: Percentage deficiency of Individual Toilets

Percentage deficiency with Individual toilets	0	< 25%	>25% to 50%	> 50% to 75%	> 75% but less than 100%	100%	Total
Number of Poverty Pockets	22	85	94	73	46	4	324
Percentage	**7**	**26**	**29**	**23**	**14**	**1**	**100**

Percentage deficiency with Individual Toilets



4.2 Categorisation of Poverty Pockets on MDG parameters

4.2.1. Access to Improved Sanitation

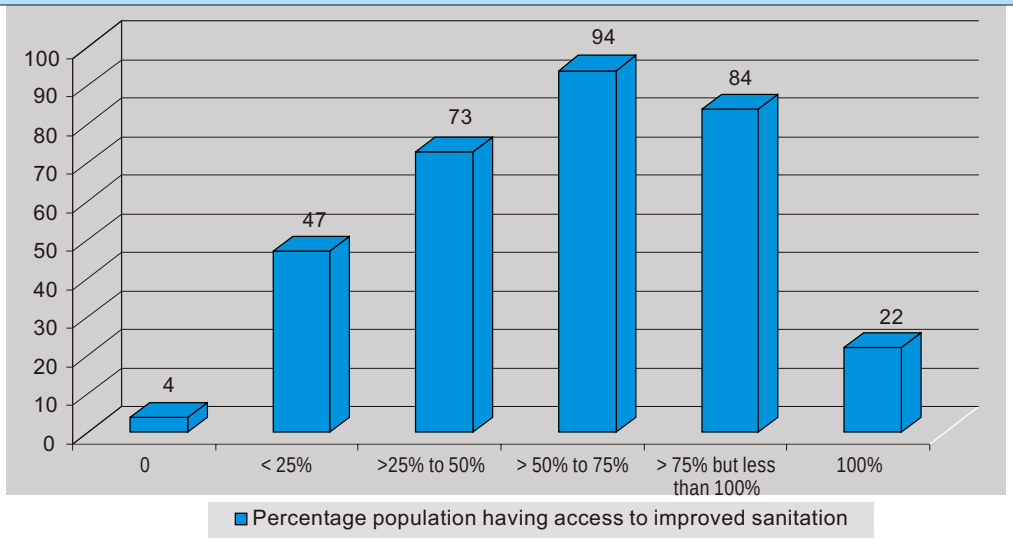
7% of the PPs report that 100% of households have access to improved sanitation. An additional 55% report that more than 50% of the households have access to improved sanitation. This would seem to indicate a relatively good performance on the count of sanitation in the PPs.

However, the issue of sanitation cannot be de-linked from the presence of infrastructure such as lined drains and appropriate arrangements for grey water and other liquid and solid waste and as can be seen from the tables below the performance on these counts is not yet up to the mark.

Table 4.8: Access to Sanitation Scenario: Inter PP Analysis:

Percentage population having access to improved sanitation	0	< 25%	>25% to 50%	> 50% to 75%	> 75% but less than 100%	100%	Total
No. of PP	4	47	73	94	84	22	324
Percentage	1	15	23	29	26	7	100

Percentage population having access to improved sanitation



4.2.2. Access to Improved Water Source

Again the quantitative data presented in the table above belies the findings of the qualitative survey. Here nearly 80% of the PPs reported that all households felt there was access to improved water source. However, the qualitative survey showed that lack of water was a core issue in all Pps with the non functionality of most water sources punctuated by low availability of water from these sources.

Table 4.9: Access to Improved Water Source

Percentage Access to Improve Water supply	0	0 < 25%	25% to 50%	50% to 75%	More than 75% but less than 100%	100%	Total
No. of PPs	1	2	5	9	48	259	324
Percentage	0.3	0.6	2	3	15	80	100

Percentage Access to Improved Water Supply

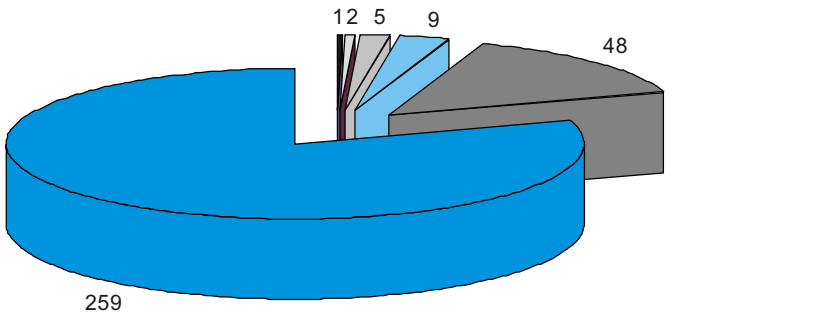


Table 4.10: Deficiency Matrix for Improved Water and Sanitation Facilities

Percentage Access to Improved Sanitation	Percentage Access to Improved water Supply						
	0	1-25	26-50	51-75	76-99	100	Total
0	1	-	-	-	-	3	4
1-25	-	1	-	4	11	31	47
26-50	-	1	3	-	17	52	73
51-75	-		1	5	9	79	94
76-99	-	-	1	-	10	73	84
100	-	-	-	-	1	21	22
Total	1	2	5	9	48	259	324

Section 5

CONCLUSION

Qualitative data provided key leads to understanding access issues in Jabalpur. The PLA revealed that of all issues lack of water is causing major concern amongst the people living in the sampled PPs. The qualitative data also highlighted that sanitation was a major issue with access even to the less desirable option of open defecation shrinking as open spaces were being increasingly consumed by growing urbanization. This, coupled with the virtual absence of drainage systems in the six PPs surveyed was resulting in increasingly poor health and living conditions for the households inhabiting the PPs.

Table-5.1: Over all Analysis of Poverty Pockets in Jabalpur, 2006

Total No of Poverty Pockets Identified	324
Total Households	109,866
Number of Household living in the poverty pockets Below Poverty Line	26,726
% of household living Below Poverty Line	24.33
% hh living in the poverty pockets with access to improved water source (average)	96
% hh living in the poverty pockets with access to improved sanitation (average)	54
% hh living in the poverty pockets defecating in open	45.7
% hh living in the poverty pockets with piped water supply	34.3

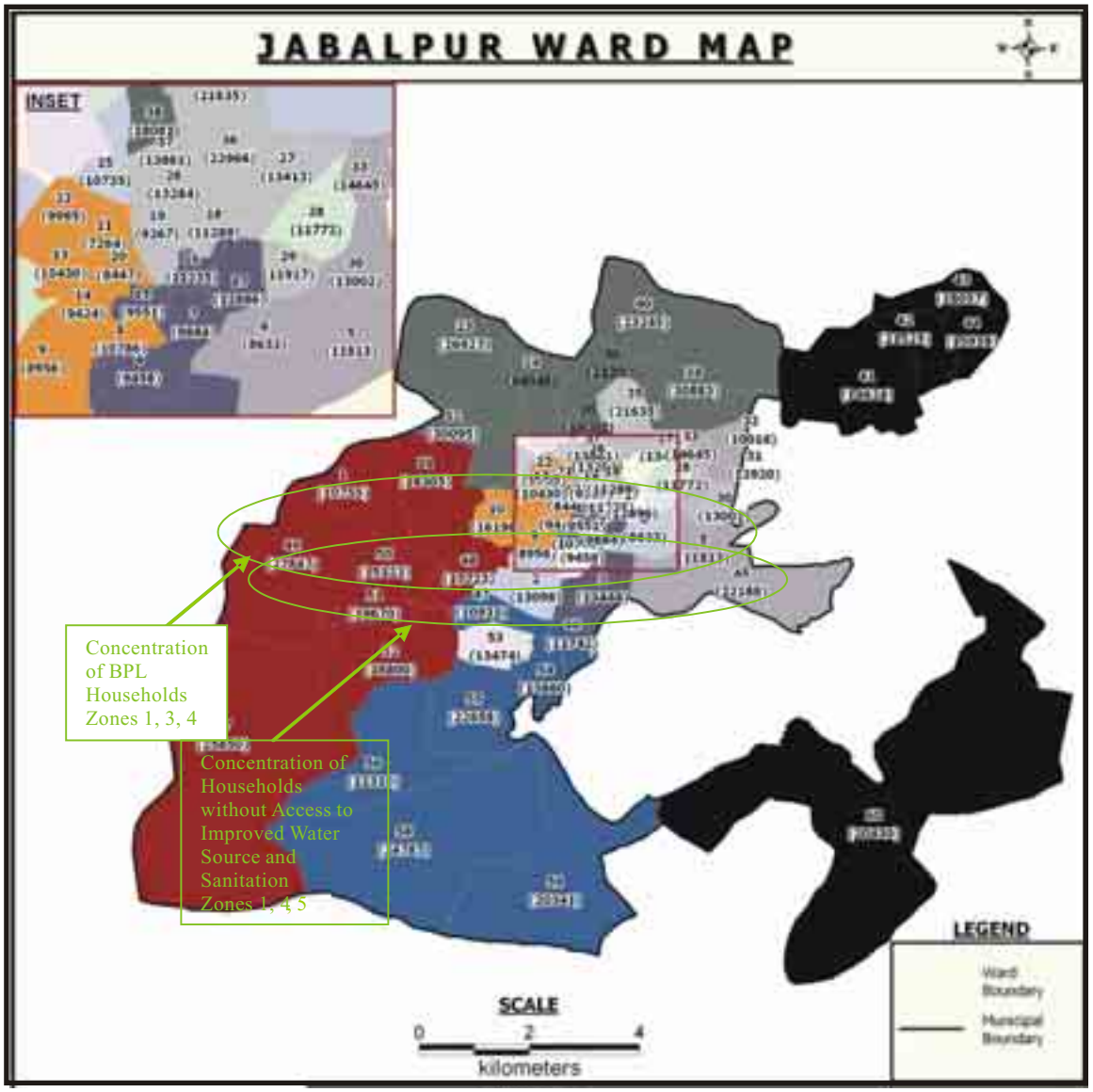
As in the case of cities like Gwalior, in Jabalpur also it is found that the issues of poverty and lack of access to improved sanitation and improved sources of water were correlated. Spatially this translated into zones like 1, 4 and 5 being the most highly deprived (see map).

In terms of the issues it highlights the interrelatedness of infrastructure issues, and as qualitative data has so forcefully brought out, the need to take a holistic approach rather than providing one or the other kind of infrastructure and expecting long term sustainable impact. For e.g. while 41% of the households have access to a safe source of water, water supply itself is limited. Qualitative data brought out that nearly 1000 households on an average make use of the same source which may only supply water for around 2-4 hours everyday. This shows how the mere presence of infrastructure does not translate into its useability. Similarly in the case of community toilets we find that use of community toilets remains extremely limited largely because water facilities are not available. Only 9% of community toilets were being used and only 29 in all were really linked to water sources and were being used effectively.

Qualitative survey reveals that inadequate water supply is the foremost deficiency reported by residents. While available surface water and groundwater sources can meet demand, this water fails to reach residents due to problems of delivery. Sanitation is another major problem, resulting in unhygienic living conditions and public health problems. Residents also perceive the garbage problem as serious, with streets, drainage, and open areas littered with waste.

The map attached also helps highlight the spatial distribution of poverty and access to key services in Jabalpur.

Diagram 1: Jabalpur Zone & Ward Map



Zone no.1	Ward No.s 1,11,48,49,50,51,52,57
Zone no.2	Ward No.s 46,47,54,55,56,58,59
Zone no.3	Ward No.s 8,9,10,13,14,20,21,22
Zone no.4	Ward No.s 5,6,28,30,31,32,33,45
Zone no.5	Ward No.s 3,4,7,15,16,17
Zone no.6	Ward No.s 18,19,26,27,29,35,36,37
Zone no.7	Ward No.s 12,23,24,25,34,38,39,40
Zone no.8	Ward No.s 41,42,43,44,60

5.1 Basic Infrastructure: Road, Electricity, School, Anganwadi, Balwadi and Health Centres, Community Activity Area

Infrastructure Facility

Lack of access to basic services to the residents of PPs such as road, lights, school, health centres and community activity areas bring out the interrelatedness of poverty, lack of basic services and other aspects of human development.

The analysis revealed that 70% of the PPs have no primary schools and where they exist, lower enrolment, poor retention and irregular attendance were pointed out as the key issues. There is a much higher degree of access to aanganwadis in the Poverty Pockets 39% as compared to Balwadis (2%). Of the total 324 poverty pockets, around 13% had reported to have the health sub center within around 0.5 kilometres while 13% of the pockets have it at a distance of 0.5 to 1 kilometre. Around 16% of the poverty pockets reportedly have to access health sub center at a distance of 1-2 kilometer while for 20% of the pockets, it is more than 2 kilometers.

Marginalization of PP areas in a city is also impacted by poor access to road within the slum and the link of the settlement with the main road. Even though 76% of the total road length is metalled, qualitative survey of Choudhary Mohalla shows that even pucca roads are in a bad state. 95% (approximately) of the total road length is covered through functional street light poles. Over 7% of the PPs had five or less functional street light poles indicative of the extreme lack of infrastructure in this area and qualitative survey indicates that 'availability' does not amount to 'usability' or accessibility of a facility.

The absence of facilities is more acute in PPs with smaller pockets. The analysis indicates that a Small Scattered Poverty Pocket is less likely to have Basic Facilities in terms of incidence of facilities.

5.2 Availability of Water in the Poverty Pockets

In the surveyed 324 poverty pockets, more than 91% of the PPs depend on public stand posts to meet their daily water requirements. The hardship of water becomes manifold in many of those slums where neither does community tap work nor is there any other drinking water source. In total, *11% PP settlements, especially smaller ones, do not have water supply services at all.* Out of 109,866 households in 324 Poverty pockets, an overwhelming 65% of the households do not have access to individual piped water supply. This emphasizes the degree of scarcity of water in the poverty pockets of Jabalpur.

Given the pressure of population on each source, this low level of supply affect the quantity of water that each household gets. At places “People have to bring water from other colonies from a distance over a slope of at least 1 kilometer taking more than ½ hour.”

The analysis revealed that poverty, deficiency of access to basic water and sanitation services are spatially clustered in the North West zones of Jabalpur city (Diagram 1). Trends across poverty pockets indicate that the highest co-incidence of BPL households, lack of access to improved water sources and lack of access to improved sanitation occurs across zones One, Three and Ten in the north and North West of the city. The highest individual incidence of BPL households is in zone three while the highest individual incidence of lack of access to water and sanitation is in zones 12 and 14 respectively. In terms of concentration of population however Central Jabalpur is most populated with an average population of nearly 3500 persons per PP in zone no. 5. Any intervention planned at addressing these concerns should therefore keep in view the above distribution of access and poverty.

5.3 Sanitation: Access and Availability

Status of access to sanitation facilities sanitary conditions seems to be far worse than water. Nearly half the households (48%) in 324 surveyed Poverty Pockets have no access to individual toilets and 46% households, in fact, still defecate in the open. Not more than 6% households use community toilets. This is indicative of the limited use of the community toilets in improving the sanitation environment in the area. Its limited use is also explained by the lower availability and accessibility, apart from poor maintenance in terms of irregular or no water supply, bad sanitary condition and lack of proper drainage, among many. As low as approximately 25% households in the surveyed PPs claim to have access to the 82 community toilets that exist in 324 PPs of Jabalpur While only 34% of these toilets are linked with the secured water supply source. It sufficiently explains why 15% community toilets are not in use and 27% are maintained but overcrowded.

5.4 Water and Sanitation in Schools (Including Aanganwadis and Baalwadis)

Lack of infrastructure contributes further to lower retention rate, especially of the girl child/adolescent, in the fewer schools (only in 44% PPs) that are available there. Almost 48% of the primary schools do not have drinking water facilities and 55% schools (among all categories) are without toilet facilities. Nearly 70% of the schools do not have separate toilet facilities for girls and boys. The major issue of concern in both the aanganwadis and baalwadis is the lack of toilet facilities as approximately 50% of both lack the same, despite both these programs being central to the government's mother and child health care policies and gender equity.

5.5 Sanitary Condition of PPs: Solid Waste and Waste Water Disposal

Absence of planned development of PPs is a major reason for absence of waste disposal facilities (both liquid and solid waste). In the absence of sewer facilities 75% of the households let waste water flow into open drains and streets, causing a major health hazard, as only 25% of the total households have access to a sewer or septic tank in which to dispose grey water.

Like any other slums of the city, the availability of dustbins, their regular cleaning and user's waste disposal behaviour are not very different here. Lack of a defined garbage dump point or designated areas for solid waste disposal and inefficient municipal services could be responsible for more than 56% households dumping waste in the open making the area vulnerable to diseases borne by flies and mosquitoes and other such parasites. Only 8% households in 324 PPs receive a doorstep facility for solid waste disposal and only 25% are taking the garbage to neighborhood points. A matter of serious concern is that 11% of the households are letting the garbage flow into drains.

A large percentage of poverty pockets (58%) remain totally deficient in terms of coverage by lined drains. Worse still, where stagnant water was reported, garbage was being thrown in the drainage channels of the slum implying a serious cyclical problem of water logging. As a result over 75% of the Poverty Pockets reported the incidence of water logging.

In the perception of PLA (qualitative survey) respondents the open drainage system and water logging were serious problems and contributed directly to unhygienic and unsanitary conditions in the slums. Another concern related to unlined drains emerging from qualitative survey was the contamination of water sources such as taps were lines crossed unlined drains. The PPSA thus calls for planning interventions for improvement of basic services in PPs with emphasis on water and sanitation facilities.

Annexure - 1

PPSA Questionnaire

NOTE *TO THE ENUMERATOR AND MUNICIPAL CORPORATION STAFF: RECORD GENERAL OBSERVATIONS ABOUT THE NEIGHBOURHOOD ENVIRONS. THE PURPOSE IS TO CAPTURE FEATURES OF THE POCKET THAT ARE COMMON TO ALL DWELLINGS AND PERSONS LIVING IN THE AREA AND DEPICTING IT ON A MAP.*

Q 1. Name of the Poverty Pocket

A. WARD NUMBER: .....
B. NAME OF THE WARD SUPERVISOR (HEALTH DEPARTMENT): .....
C. NAME OF THE SUB ENGINEER (WATER SUPPLY DEPARTMENT): .....

Q 2.

a. Number of Households ----------
b. Population----------

Q 3. Number of BPL Households

Q 4. Physical boundary landmarks for demarcating the North, South, East and West Edges for the pocket :

a.Distance from North to East Landmark .....
b.Distance from East to South Landmark .....
c.Distance from South to West Landmark .....
d.Distance from West to North Landmark .....

Q 5. Condition of roads:

a. Total Length of road.....
b. Length of kucha road .....
c. Length of pucca road .....
(In Kilometre)

Q 6. Condition of drains:

a. Total Length of drains .....
b. Length of pucca drains .....
c. Length of kucha drains .....
(In Kilometre)

Q 7. Is the area prone to water logging: **Yes/No**

Q 8. Number of Street light Poles

Q 9. Is there a community activity area (Common places for gathering of people): Yes/No

Q 10. Condition of Schools:

a. Number of Primary schools
b.Number of Primary Schools having drinking Water facility
c.Number of Primary Schools having Sanitation facility with water supply
d.Number of Primary schools having separate toilets for boys and girls

Q 11. Condition of Anganwaris / Balwadis:

a.Number of Anganwari?
b.Number of Anganwari having toilets with water supply?
c. .....Number of Balwadi?
d.Number of Balwadi having toilets with water supply?

Q 12. Distance to the closest health sub centre (in Kilometre)

Q 13. Drinking water supply source:

a. Number of public stand posts .....
b. Number of Wells .....
c. Number of hand pumps .....
d. Number of Tube wells.....

Q 14. Water quality:

a. Sweet taste
b. Salty
c. Taste less

Q 15. Availability of Water Supply:

No. of hours supply per day from standposts/piped water supply

Q 16. Community Toilet

a. Is there a community toilet in the area? Yes/No
b.Number of total seats for male/female: ------/-------
c.Does it have a permanent water supply facility? Yes/No
d. Does it have a bath facility? Yes/No
e.Is it connected to a septic tank or sewerage? Yes/No

Q 17. Operation of the existing community toilet:

1. Condition:
a. Not maintained, not useable
b. Poorly managed, but used
c. Properly managed, but overcrowded
d. Properly managed, not crowded

2. Are users paying for the services (Yes/No)

Q 18. Solid waste scenario:

Either of:

a.Facility of solid waste collection at the doorsteps
b.Facility of solid waste collection at the neighbourhood points
c.Solid waste is dumped openly in the area
d.Solid waste finding its way into the drains

Q 19* Disposal of Grey water (waste water from household chores):

a.Number of households letting it out on the street
b.Number of households disposing to open drains
c.Number of households disposing to septic tanks
d.Number of households disposing by sewerage system

Q 20*. Sanitary facilities scenario:

a. Number of Households having individual toilets,
b.Number of Households using community toilet……..
c.Number of households defecating in the open……..

Q 21*. Drinking water supply scenario:

a.Number of Households having access to Piped water supply ……..
b.Number of households using public standposts/taps, borehole or pump, protected wells, protected springs or rainwater/ handpumps ……..
c.Number of households depending on tankers, vendor provided water or unprotected wells and springs…… .....

*** Note 1: In items 19, 20 and 21 the number of Households in various categories should add up to the total number of households in the area as given in 02**

Note 2: Except Q : 1, 2, 3, 7, 12, 15, 17, 18, 19 the remaining physical features should be depicted on a map prepared on a scale of 1 : 600 (1" = 50') with clear boundary demarcations.

Municipal Corporation Staff 1

Name……...

Designation ……

Sign…….

Municipal Corporation Staff 2

Name……...

Designation…….

Sign…….

Enumerator 1

Name……...

Sign…….

Enumerator 2

Name……...

Sign…….

REPORT FORMAT

[ALL IN KILOMETRES]

Length of roads (pucca and kucha)	Length of pucca drains	% of length not covered with pucca drains [1-{(b)/(a)}] * 100
(a)	(b)	(c)
Q.05 answer code=1	Q.06 answer code=2	

Length of roads (pucca and kucha)	Length of pucca road	% of deficiency of pucca road [1-{(b)/(a)}] * 100
(a)	(b)	(c)
Q.05 answer code=1	Q.05 answer code=3	

Length of roads (pucca and kucha)	No. of existing streetlights	% of deficiency in street lights [1-{(b)/((a)/30)}]*100
(a)	(b)	(c)
Q.05 answer code=1	Q.08	

Total Number of Households	Households served by Piped Water Supply	% of households not covered with piped water supply [1-((b)/(a))]* 100
(a)	(b)	(c)
Q2.0 answer code=1	Q.21 answer code=1	

No of hours supply per day	% of hourly supply available to population (% of hours supply) [(b)/24] * 100
(a)	(b)
Q.15	

Total number of Households	Households covered with toilets	% of households not covered with toilets [1-(b)/(a)]* 100
(a)	(b)	(c)
Q2 answer code=1	Q 20 answer code 1	

Total number of Households	Number of households disposing to septic tanks and sewerage system	% of households with access to improvedway of disposal of Grey water [(b)/(a)]* 100
(a)	(b)	(c)
Q2.0 answer code=1	Q.19 answer code=3+4	

Total number of Households	Number of Households dependent on tankers,vendor provided water or unprotected wells and springs	% of households with access to improved water source [1-(b)/(a)]* 100
(a)	(b)	(c)
Q2. answer code=1	Q.21. answer code=3	

Total number of Households	Number of Households defecating in the open	% of households with access to improved sanitation [1-(b)/(a)]* 100
(a)	(b)	(c)
Q2.0 answer code=1	Q.20 answer code=3	

Suggestion: may be good to put the source question/answer code numbers in the above matrix for the benefit of easy calculation, also useful to cross check the quality of field data in field itself by the supervisors

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