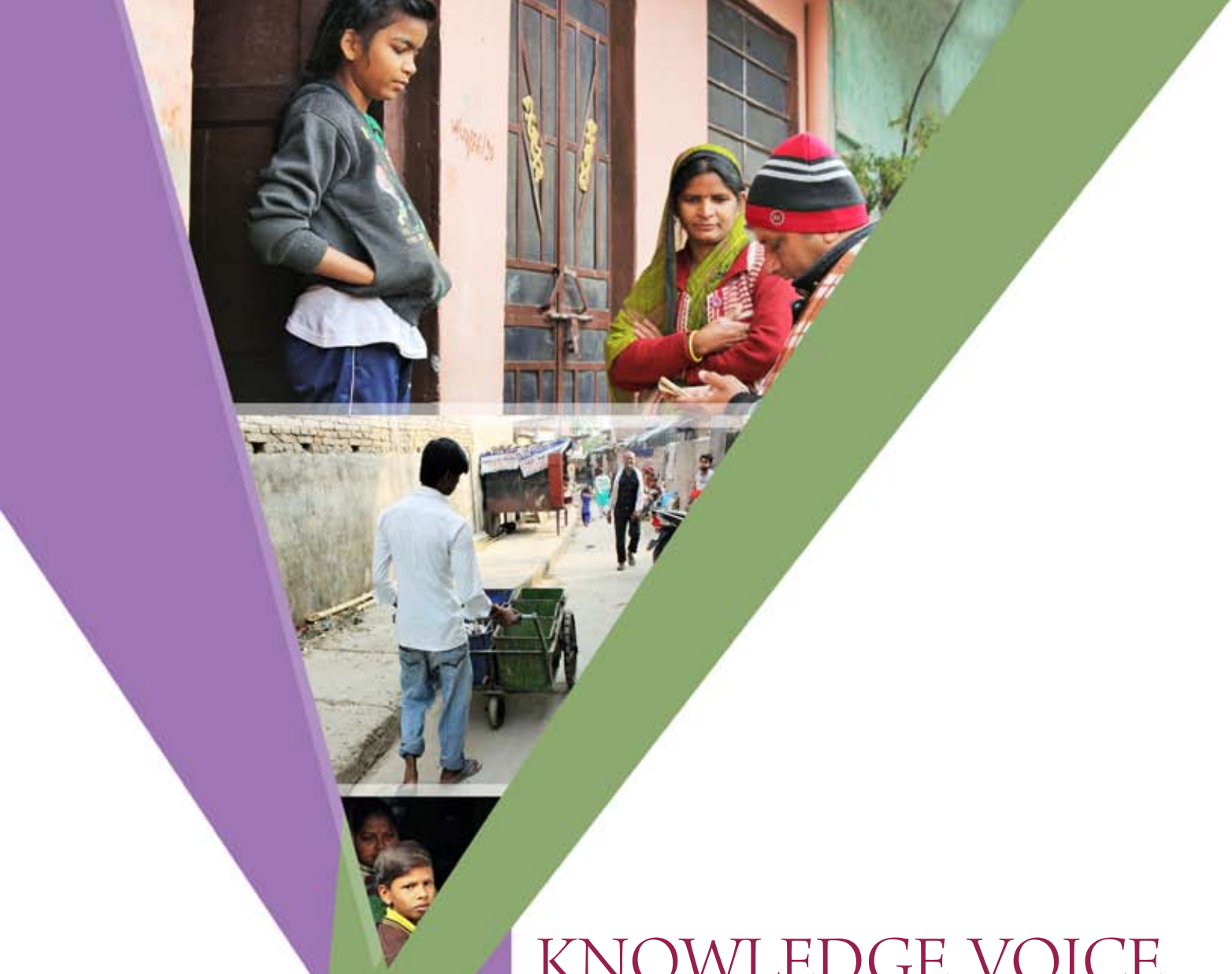


KNOWLEDGE, VOICE, PARTICIPATION

Participatory Settlement Enumeration for SANITATION SERVICES MUZAFFARPUR, BIHAR

EUROPEAN UNION

Knowledge. Voice. Democracy.
PRIA

KNOWLEDGE, VOICE, PARTICIPATION

Participatory Settlement Enumeration for

SANITATION SERVICES IN MUZAFFARPUR, BIHAR

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PREFACE

The Sustainable Development Goals (SDGs) and the New Urban Agenda endorsed by the UN General Assembly in 2016 envisage cities to be inclusive, resilient and sustainable. This inclusivity cannot be achieved automatically, especially given the extent of entrenched inequalities that exist in Indian cities. A vast number of urban poor in Indian cities are deprived of basic services such as water, sanitation, health, education, and so on. A major reason for such continued and perpetuated deprivation is their invisibility or under visibility in the eyes of city authorities which are responsible for providing these services to the urban poor. At times, this oversight by city authorities is due to sheer ignorance, sometimes methodically deliberate, and still other times due to their lack of capacities. The urban poor bear the burden of this invisibility. It means not getting enough income to support family members; lack of access to public health services when sick; limited opportunities for children and young people in the absence of education and skills; insufficient access to safe drinking water and sanitation services – all of which traps them in the vicious cycle of poverty.

How do the urban poor then find a way to make themselves visible to other citizens including the city authorities? Many urban poor communities across the regions have found the answer to this question in self-enumeration. A number of surveys and enumerations by various state authorities, including National Census Survey, often undercount informal settlements in a city and their residents who mostly belong to low-income families. In Participatory Settlement Enumeration (PSE), on the other hand, the residents of informal settlements design and conduct the enumeration, analyse the data generated through the enumeration, and communicate this data to the concerned authorities for participatory planning. Participation and inclusion in PSE thus becomes an empowering experience for the hitherto unaccounted and voiceless urban poor.

PRIA through its “Engaged Citizens, Responsive City (ECRC)” initiative implemented PSE in collaboration with the Settlement Improvement Committees (SICs) formed under the program in three Indian cities – Ajmer, Jhansi, and Muzaffarpur. SICs are organisations of the urban poor. PRIA adopted a number of innovations in PSE, choosing to use mobile smart phone based technology for enumeration. Young girls and boys from the community who were SIC members were trained on mobile based participatory enumeration. This gave them enormous confidence – they now had a new skill, their settlement was visible, and their community had a voice. These youth are now on their way to becoming champion citizen leaders, in their communities.

The report 'Knowledge, Voice, Participation: Participatory Settlement Enumeration for Sanitation Services in Muzaffarpur' presents the consolidated findings of PSEs from 110 informal settlements in Muzaffarpur city. The analysis includes demographics of the households including sex, age, education, and occupation of household members. It also presents data on various legal documents such as, bank accounts, Aadhaar card, ration cards and birth certificates possessed by each household member. Finally, it presents an analysis on the state of access to water and sanitation facilities in these settlements.

The findings of PSE can help the community and the ULB to plan for improved sanitation services and increased access to various legal documents. We sincerely hope that the development actors, concerned with improvements of informal settlements and the urban poor residing in these locations will benefit from this report.

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MESSAGE

Participatory Research in Asia (PRIA) has been working in Muzaffarpur through its European Union supported "Engaged Citizens, Responsive City project "over the last three years. The project has particularly helped the residents of informal settlements get organized and contribute towards the improvements in the city. PRIA has often provided critical input to the municipality and is a member of the City Sanitation Task force (CSTF) set up in order to improve city's sanitation services to the communities.

I am glad that PRIA has conducted an in-depth study on the sanitation facilities available in the city. The identified deficiencies will help the municipality provide a higher quality of service to the citizens. This citizen-generated data is important for city-wide planning, and PRIA's focus on the informal settlements (slums) in the city have helped us provide better sanitation services to them.

I convey my best wishes to PRIA for bringing out this report and congratulate them for this initiative.

28.9.18.

[Sanjay Dubey]
Commissioner
Municipal Corporation, Muzaffarpur

नगर आयुक्त
मुज० नगर निगम, मुजफ्फरपुर





ACKNOWLEDGEMENTS

Society for Participatory Research in Asia (PRIA) is implementing the “Engaged Citizens, Responsive City” project in three Indian cities – Ajmer in Rajasthan, Jhansi in Uttar Pradesh, and Muzaffarpur in Bihar. The project is supported by the European Union. The purpose of this initiative is to strengthen the capacities of urban poor for participating in planning, monitoring and evaluation of sanitation services. This initiative contributes to making ‘Swachh Bharat Mission’ more inclusive and effective from the vantage point of urban poor. It organises the urban poor in Settlement Improvement Committees, which then undertakes community mobilisation as well as interfaces with Urban Local Bodies and other city authorities.

Data is a critical requirement to effectively seek interventions from Urban Local Bodies, but is usually scantily available at the granular level. Data sources like the Census of India are difficult to utilise for planning because collection is decennial, and information at the level of informal settlement/informal settlement is not always provided. Such limitations deter citizen participation, specifically the urban poor, as lack of access to data prevents understanding or monitoring real situations at local level. For cities to develop, and for informal settlements to have better access to basic services, a close coordination between the urban poor, municipality and other stakeholders is critical. PRIA believes that one of the first steps towards participatory planning and decision-making is to empower communities with critical data.

To meet this goal, PRIA designed a mobile-based PSE method and systematically enumerated households from informal settlements across the city of Muzaffarpur. A mix of mobile based as well as paper based enumeration was used to ensure representation from all informal settlements.

The current study was undertaken by PRIA in Muzaffarpur. We are grateful to the community enumeration team which includes Rakesh, Kamaljeet, Ajay, Shabana, Madhu, Sudha, Sumit, Shashi, Pinki, Santosh, Ragini, Gopal, Anupama, Tripurari, Reema, Ravi, Sarita, Anil, Vishwash, Rajiv, Gaurav. Nikhil Desai, as the technical consultant, has provided valuable technical support to mobile-based survey and handling of data. We sincerely acknowledge his contribution. The team at Dimagi enabled us to effectively manage our data with useful support.

We acknowledge the support of the PRIA Muzaffarpur team consisting of Vikash Singh, Anjaney Kumar and Rashmi Ranjan. Shri Sanjay Dubey (IAS), Commissioner, Muzaffarpur Municipal Corporation (MMC) has kindly granted us his time and attempted to understand the significance of settlement enumeration in Muzaffarpur. We acknowledge the unflinching and much needed support from Shri Ravish Chandra Verma, City Manager, MMC.

Dr. Kaustuv Kanti Bandyopadhyay, Director, PRIA provided the overall direction, guidance and leadership for which we are sincerely grateful. Lastly, this report would not have been possible without the direction provided by Dr. Rajesh Tandon, President, PRIA. We sincerely acknowledge his contribution.

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LIST OF ACRONYMS

AAY	Antyodaya Anna Yojana
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
APL	Above Poverty Line
BPL	Below Poverty Line
BRGF	Backward Region Grant Fund
BSUP	Basic Services for Urban Poor
CBO	Community Based Organisation
CPHEEO	The Central Public Health and Environmental Engineering Organisation
CTs	Community Toilets
CSE	Centre for Science and Environment
ECRC	Engaged Citizens, Responsive City
EU	European Union
HH	Household
HRIDAY	Heritage City Development and Augmentation Yojana
IHHL	Individual Household Latrine
IHSDP	Integrated Housing and Informal settlement Development Programme
ITC	Indian Tobacco Company
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
MMC	Muzaffarpur Municipal Corporation
MoUD	Ministry of Urban Development
MRDA	Muzaffarpur Regional Development Authority
NA	Not Applicable
NGO	Non-Governmental Organisations
NOC	No Objection Certificates
OBC	Other Backward Classes
ODF	Open Defecation Free
PHED	Public Health Engineering Department
PMAY	Pradhan Mantri Awas Yojana
PMJDY	Prime Minister's Jan Dhan Yojana
PRIA	Society for Participatory Research in Asia
PSE	Participatory Settlement Enumeration
PUA	Participatory Urban Appraisal
RAY	Rajiv Awas Yojana
SBM	Swachh Bharat Mission
SC	Scheduled Caste
SIC	Settlement Improvement Committee
SLB	Service Level Benchmark
SPUR	State Program for Urban Reforms
ST	Scheduled Tribe
STP	Sewerage Treatment Plant
SWM	Solid Waste Management
ULB	Urban Local Body



SECTION 1

INTRODUCTION

About participatory settlement enumeration

The fast pace of urbanisation across India has provided many opportunities as well as challenges. It provides significant employment opportunities and access to amenities, which the rural counterpart often lacks. More than half of India's population is expected to live in cities by 2030. Alongside these opportunities, the current form of unplanned urbanisation has contributed to the urban sprawl by multiplying informal settlements, increasing poverty, and rising inequalities between the rich and the poor. The consequence of such rapid urbanisation is visible in the large number of urban citizens living in insecure conditions and suffering from the combined impact of social exclusion, inadequate income, limited access to water, sanitation, liveable housing, and other civic services. With such challenges, many organisations have been trying to develop new approaches and innovative responses to bridge the gap between informal settlement dwellers and their local governments.

Invisibility is one of the greatest sources of the powerlessness of a large urban population residing in numerous informal settlements across most Indian cities. Counting is often regarded and used as a tool for public policy making. Yet, more often than not, a large number of urban informal settlements and their inhabitants remain unaccounted for in urban planning and governance.

Participatory Settlement Enumeration (PSE) is an alternative public policy tool, which ensures nobody remains unaccounted for and 'nobody is left behind'. It is a process of gathering information about a community by its own community members. Unlike traditional enumerations, in a PSE method the community is directly and significantly involved in enumerating itself. Right from the inception and design to data collection, data analysis and data utilisation—the entire process is participatory. The origin of the PSE method is rooted in the tradition of Participatory Research. PSE as a methodology is developed on the belief that the experience and knowledge of people are indispensable to inform and guide development policies.

There are multiple features that define the PSE methodology. It creates, strengthens and deepens networks of informal settlement dwellers in the city. It disaggregates data based on informal settlements and their inhabitants and facilitates community networks to establish their priorities. Through this, it enables dialogue between communities and their local governments—re-establishing the voice of the people and their active participation in the urban development all around them. PSE is, therefore, different from traditional enumerations or surveys. Traditional enumerations or data gathered by professionals and external third parties make

communities passive "givers" of information. In such cases, the data gathered remain in the possession of enumeration agencies and is not accessible to the urban poor. Especially in the case of enumerating dynamic informal settlements, the collated data changes regularly and becomes obsolete by the time planning policies are finalised. However, when members of the community step in as active data collectors and analysists through PSE, the community can identify, address, and work towards solving relevant issues in a cohesive and sustainable manner. Standard traditional surveys lack granular data regarding these settlements (concerning boundaries, population, contextual needs, etc.), which result in their exclusion from government policies. However, through PSE, the poor and marginalised communities themselves become the catalysts of change as professionals. They add to their existing local knowledge, which they then use to negotiate and achieve their objectives. A deep sense of ownership of the data emerges, which makes all positive changes sustainable—unlike traditional surveys that merely scratch the surface of communities deeply embedded with multiple contexts.

Information collected by the community produces authentic knowledge regarding the settlement and the issues affecting it. The nature of knowledge becomes very self-instructive and powerful since it is collected by the community itself. PSE becomes an empowering process that lends insights and motivates the community to organise itself into organisations and use the data for its own benefit. The method identifies local leaders, the composition and needs of the settlement. A community-driven enumeration process enables local organisations to create data representing their current challenges and fosters a collective representation—a "we" factor. This encourages greater participation, and since the communities have the same set and levels of information as their local authorities, a sense of confidence to explore and negotiate various entitlements and facilities is instilled. The data is used in different ways by each member of the community and becomes a process of self-transformation for the community and its families. Young boys and girls utilise this as an opportunity to engage with the intervention to learn about the outside world. Non-traditional processes like visual mapping enable the inclusion of illiterates—valuing their voices as much as that of the well-educated. The process of exploring the data through a collective identity is in itself an important education and is not contested by the leading men of the settlement, as it is non-threatening. The inclusion of women's inherent knowledge on some settlement issues ameliorates their status as members of the community as well. The sheer numerical strength involved in this process paves the way for negotiation with the local government with equal weightage on both ends.

Like all processes of development, PSE comes with a set of challenges. It is difficult to build trust since most informal settlements have experienced empty promises of change from external agencies in the past. The lack of access to the data gathered through such past experiences make communities cynical and hinders cooperation. Local leaders and politicians could be hostile and stir up political interferences since informal settlements are often major vote banks. Due procedures in terms of securing agreement to conduct PSE or involving them are sensitive processes that require tact, and maintaining transparency in such situations becomes challenging. Furthermore, informal settlements are often built upon contested land and the fear of eviction is persistent among residents. Wrongful interpretation of the enumeration can raise suspicions of eviction and prevent participation by the community. Nevertheless, steady, transparent engagement with communities by building partnerships with local members can enable trust building.

Believing in the spirit and importance of participation, the Society for Participatory Research in Asia (PRIA) began a PSE process through the 'Engaged Citizens Responsive City' (ECRC) initiative. Supported by the European Union (EU), the objective of the ECRC project is

to enhance capacities of the urban poor to enable and increase their participation in planning and monitoring of sanitation services in the three Indian cities of Ajmer (Rajasthan), Jhansi (Uttar Pradesh), and Muzaffarpur (Bihar).

The ECRC project makes sanitation an entry point to build capacities of the urban civil society, specifically focussing on the urban poor in informal settlements. Following a rigorous mapping of the settlement using tools of participatory methods like settlement mapping, transect walks, trend analysis, and stakeholder analysis, the team holds meetings with community members and involves them in the formation of Settlement Improvement Committees (SICs). The members and leaders of such committees are chosen through democratic processes involving youth, women and men. These representatives converge to identify and represent the needs of residents and articulate their rights and entitlements with Urban Local Bodies (ULBs) and other stakeholders. This process helps in bridging the gap between citizens and ULBs as well as other urban/municipal authorities. SICs allow residents (especially women and youth) to become active participants in the development process by engaging as equal stakeholders in people-centric urban planning and development, instead of remaining passive recipients.

PRIA realises the need to bring stakeholders together and the ECRC project has devised various strategies to incorporate them into the project and to bridge the gap between the middle class and the urban poor. Thus, while discussing the PSE method, this project report also maps Muzaffarpur city by conducting sample enumerations in each ward. This has allowed for a holistic understanding of Muzaffarpur. Through the enumerations, deficiencies in sanitation services have emerged, solutions to which can stem from a coordinated effort between municipalities and residents. These findings and PRIA's efforts could help establish a platform for residents of Muzaffarpur's informal settlements to congregate and pursue a common interest that furthers that of the city as well.

The enumeration initiative is also in line with the objectives of the Swachh Bharat Mission (SBM) and acts as an assessment of the ground realities in Indian cities. It can provide critical feedback and play an essential role in planning, monitoring and evaluation. That apart, the enumeration has identified relevant aspects through Service Level Benchmarks (SLB), which are defined as a minimum set of standard performance indicators that are commonly understood and used by all stakeholders across the country. SLB encourages municipalities and utilities to collect data to report performances; however, the feedback process does not involve citizens. To a certain extent, PSE addresses this gap. PRIA has previously been involved with the World Bank's Water and Sanitation Programme, which was commissioned for this purpose. As a result, lessons from that project have found their way into the enumeration too.

City profile

Muzaffarpur is the administrative headquarters of Muzaffarpur District and is located in the north central part of Bihar, about 70 kms north of the state capital Patna. This district is famous for its production of '*Shahi Litchi'* and is equally reputed for its '*Lac Bangles*'. The city is also the trade hub of North Bihar and is one of the many gateways to Nepal. The renowned temple of Lord Shiva called Baba Garibnath Mandir is situated at Chata Bazar.

Muzaffarpur's municipal boundary covers 26.43 sq kms and comprises of 49 wards. The population in 2011 as per Census of India is 3,54,462; of which males and females are 1,87,564 and 1,66,898 respectively. The total

number of households in Muzaffarpur is 65,523 (Census, 2011) and the average household size is about 5. There are 105 notified informal settlements in Muzaffarpur with a total population of 50,967, which is 14% of the total city population. As per the Census 2011, the number of households in these informal settlements is 9,256.

The average density of the city is 13,411 persons per square kilometre. There are some high-density areas in the inner-city areas that include Saraiyaaganj, Kalyani, Juran chapra, Railway station road, Motijheel. Increasing population has led to development in the outer areas of the city. The newer areas of the city include Bhagwanpur, Bela, Bairiya and Ramdayalau.

The sex ratio of Muzaffarpur city is 890 per 1,000 males. Child sex ratio of girls is 902 per 1,000 boys. Average literacy rate of Muzaffarpur city is 83.07 per cent of which male and female literacy was 86.42 and 79.29 per cent.

Muzaffarpur city is mainly dependent on ground water. The operation and maintenance of the water distribution system in Muzaffarpur is under the Muzaffarpur Municipal Corporation (MMC) and PHED. Under "*Mukhya Mantri Saat Nischay Yojna*", MMC is aiming to provide piped drinking water to all households of the city by 2019.

There is no sewerage system in the town of Muzaffarpur. Some households have their own septic tanks to handle domestic sewerage. Under the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme, MMC is planning to create a sewerage network, however work on this front is still to begin. (SMART Cities Mission, Government of India, 2018)

Under "*Mukhyamantri Nali Gali Pakkikaran Yojna*" MMC is trying to improve coverage of drainage network in the town. For the purpose, municipality is also utilizing fund allocated under 5th finance commission and Backward Region Grant fund (BRGF) scheme. (Government of Bihar, 2018)

For Solid Waste Management (SWM) in Muzaffarpur city, MMC has partnered with two agencies ITC and CSE to provide technical support. Door-to-Door waste collection is being done in all 49 wards of the town, whereas waste segregation process has started in 25 Wards. For processing wet waste, a composting unit has been established in the Muzaffarpur Regional Development Authority (MRDA) ground.



Informal settlement profile of the city

Bihar State informal settlement policy, 2011, defines an informal settlement as "a compact settlement of at least 20 households with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions."

According to 2011 census there were 105 informal settlements with a population of 31,607 with 5,292 households in the city whereas the survey conducted by SPUR Programme of state government in 2011, identified 137 informal settlements having a total of 77,456 population and 7,035 BPL families. However, officially MMC has notified 105 slums as per the definition and characteristics laid out in the State Slum Policy 2011 (PRIA, 2017). The informal settlements in the Muzaffarpur city are mostly located within the city centre and some of them are more than thirty years old. The settlers are engaged mainly in construction work, small vending enterprises, street shops, pottery making, bangle making, working as domestic help, working as sanitation workers, labouring in the local factory etc. With more than fourteen per cent population living

in informal settlements, urban housing deficit is a huge problem in the city. Seventy per cent informal settlements are situated on private land and rest on government land. Informal settlement upgradation is planned under the Integrated Housing and Informal settlement Development Programme (IHSDP) and *Pradhan Mantri Awas Yojana,* Urban (PMAY-U) under the Ministry of Housing and Urban Affairs.







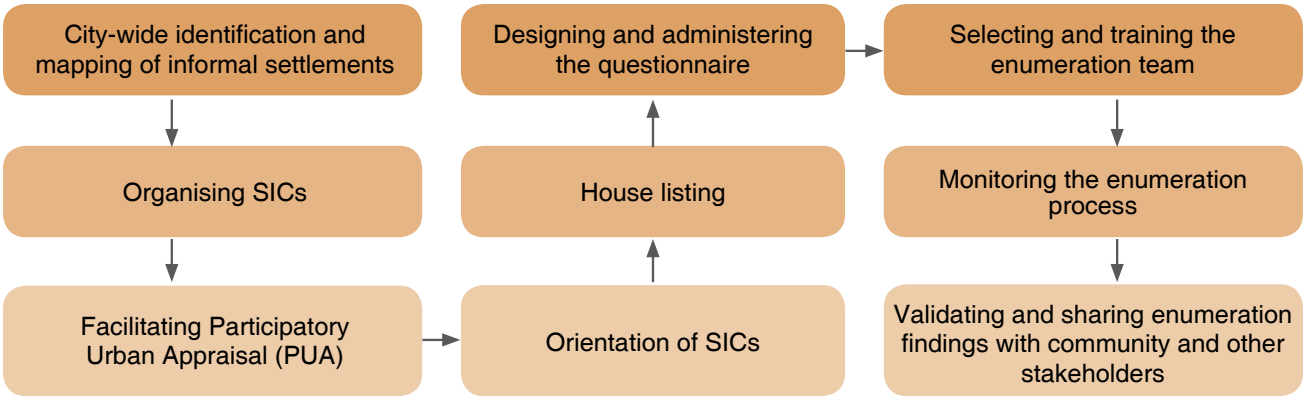
SECTION 2

METHODOLOGY

Participatory Settlement Enumeration (PSE), unlike traditional enumeration or survey, is designed, conducted and managed by the communities living in informal settlements of a city. Traditional enumerations conducted solely by 'outsiders'—whether government personnel or agencies appointed by the government—often appropriate data or information from the community and use it for planning at the city, state or national level. PSE, on the other hand, is managed by 'insiders' in the community, sometimes with facilitation from the 'outsiders', leading to the ownership of data, its analyses and community-led planning at the local level. However, an effective and empowering PSE would require a lot of preparation and facilitation within the community.

The PSE in Muzaffarpur charted the following steps, as shown in Figure 1 below, to prepare the community for assessing sanitation conditions and planning for its improvement in informal settlements.

Figure 1: Process of PSE



City-wide identification and mapping of informal settlements

A process of mapping and listing informal settlements[1] were organised the city. In this exercise, settlements were physically identified and plotted on a map. Basic information regarding

1 Several socially derogatory terminologies are used for settlements of the urban poor in government records and policies (e.g., '*Kutchi Basti*' in Rajasthan, '*Malin Basti*' in Bihar and Uttar Pradesh, and '*Jhuggi Jhopari*'/'*Gandi Basti*' in many other states). This project has named these settlements as 'Informal Settlements' instead of using the local terminology for the dignity of the people living in such areas.

the legal status of the settlement was collected as well. While this exercise began by gathering secondary data and records on the lists of notified and non-notified informal settlements, the PRIA team did not restrict this process to settlements that were recognised by governments and state authorities alone. Information on informal settlements available with city authorities/ agencies is often outdated. As a result, people are often found living in unrecorded settlements. In some cases, this led to a huge variance in the number of 'informal settlements' found by PRIA versus the official records available in enumerations such as the Census. To cite an example, Municipal records suggest the presence of 105 informal settlements in Muzaffarpur whereas PRIA's mapping process identified 124 such settlements. Of these, 110 settlements were mapped using PSE and SICs were constituted in 101 settlements.

The mapping process provided for a first-level interaction with communities living in these settlements. It helped in the identification of active citizens and leaders of the community, along with other Community-Based Organisations (CBOs) and social institutions operational or active in these settlements. Field teams also interacted with relevant stakeholders, such as community leaders, ward councillors, and other elected representatives.

The PRIA team simultaneously adopted various methods of participatory research in rapport and trust building, information collection and secondary data verification with the community. Such methods included transect walks, settlement mapping and timelines, which are explained below.

The community interactions revealed that only a few CBOs existed in these settlements. The team approached the active members of these groups and explained the initiative, by discussing the objectives and the role that these groups can play in the future. The active members then played instrumental roles in reaching out to other community members.



Organising SICs

Community organisation is a prerequisite for designing and executing a PSE exercise. Joining hands with the communities for such processes ensure the inclusion of local knowledge and the collection of authentic data. When a community enumerates, evaluates and monitors itself, the processes of finding solutions to the identified problems is owned by the community. Thus, the sustainability of the positive changes increases. There emerges a sense of ownership, unlike situations where unknown third parties undertake the same processes. Community participation holds high importance for generating real-time, validated data from the field, where the enumerators are themselves inhabitants of the informal settlements being enumerated, apart from being aware of local contexts, formal/informal arrangements and the people.

SICs are representative bodies established with nominated residents of the informal settlement. Each SIC has a total of 8-15 core members. The project made a conscious effort towards a larger involvement of youth and women as member of these committees.

When facilitating the formation of SICs, the PRIA team tried to ensure the engagement of all households in the settlement. To ensure sustainability of the organisation, barriers of caste, class, gender and age needed to be broken. Hence, a conscious effort was made to maintain the diversity of the SIC in all respects. Efforts were made to promote leadership of women and youth in these SICs.

Settlement Improvement Committee (SIC)

SICs are representative institutions established with nominated residents of the informal settlement community. SICs act as bridges between service providers and the community. These SICs work as institutions that speak in unison about the community's needs and rights. They are the focal points through which external stakeholders can connect with the community in question.

Community organisation processes are aimed at the formation of local institutions that advocate for the interests and needs of the urban poor. In Muzaffarpur, 101 SICs have been formed in 101 settlements. These SICs were developed and managed by the residents of these settlements.

This formation was aimed at providing a safe space for discussing and reflecting on the settlement's problems, identifying community needs, and finding solutions to these problems by working with other institutions.



Facilitating Participatory Urban Appraisal (PUA)

The process of mapping was combined with Participatory Urban Appraisals (PUAs), a participatory action research method used for mobilising communities, understanding local context, raising awareness and building a collective understanding on the issues faced by residents. Communities are often hesitant to interact with outsiders. This process, however, was essential because it was a non-threatening, non-extractive approach, which was community-centric and non-directive. It ensured a collective learning process for the community and broke prevalent power barriers. Such a process also offers a chance to the 'outsider' (PRIA, in this case) to understand the local context.

This process helped to a certain extent at ensuring that the PSE questionnaire included all issues relevant to the communities in terms of service provision and social climate. The PRIA team undertook an in-depth understanding of the same through various processes:

Transect Walks: The PRIA team undertook transect walks with members of the community to collectively form an understanding of the informal settlement by identifying its location, geographical spread, housing conditions, and availability of services. Transect walks were used as an entry point, allowing the team to 'observe' through the eyes of local people, and help in building a rapport with the community.

Timeline: This approach provided a historical perspective and helped the PRIA team understand the nature of changes that took place in the settlement. The timeline approach was used with community members to get an overview of key events in a chronological order.

Participatory Social and Resource Mapping: This process allowed the team to work with community members to generate a social and resource map to gather information on the spatial layout, locations of houses, and infrastructure facilities. This process also mapped landmarks, roads, intersecting railway tracks, as well as local social infrastructure such as, schools, health centres, mosques and temples. Public areas such as parks, service points like hand pumps and ration shops were also identified.

Stakeholder Analysis: The SIC core members along with the community members, enumerators and field team conducted a stakeholder analysis of primary, secondary and tertiary level stakeholders to identify the key people in the community. This process charted out the individuals and institutions that could be engaged in community building processes.



Orientation of SICs

After the formation of SICs, the PRIA team provided regular mentoring and coaching support to the core members. Regular meetings were held with each SIC to understand the nature of their problems, priorities as well as ideas on how to solve these issues. Concurrently, the team prepared profiles of each SIC member to assess their learning needs. Based on this, orientation and training programmes were designed to create an understanding of the role of the SIC, as well as the rights of residents of these settlements. These orientations were planned in three to four rounds of short, interaction sessions and were conducted in a participatory manner focusing on topics such as the need for organising community, leadership development, conducting community meetings, etc. The orientation sessions were organised for a cluster of SICs (with three to four SICs in each cluster). These orientation sessions helped SIC members to widen their perspective of the issues/problems faced by informal settlements and to deal with them in a more informed and constructive manner.

As SICs advanced, core members were nominated to participate in orientations held by PRIA. These orientations furthered their understanding and built on their existing knowledge, while providing for leadership development, articulation of problems, and role of municipality and other state agencies. Some SIC members became interested in conducting enumerations along with the selected enumeration team of animators, details of which are mentioned below in the respective sections on enumeration team selection. The SIC members who were trained in the PSE method, became involved in the participatory process of house listing and subsequent steps.



House listing

The PSE included all the households in a settlement. It required a clear demarcation and house numbering or house listing process for each settlement. It was essential for the house numbering activity to be a participatory process to ensure that every household bore a systematically assigned number. The team, comprising the SIC members and community enumerators, were trained by PRIA on the process of house numbering. A full description of the house listing method is presented in Annex 1.



Designing and administering the questionnaire

A total of 11,715 households were enumerated, spread across 110 informal settlements (a list of informal settlements/informal settlements is provided in Annex 2). For these 11,715 households, data was collected through a mobile-based enumeration process. The total population

of household members covered through these enumerations stood at 55,794.

The administered questionnaire was divided into sections (Figure 2) for ease of data filling and analysis. While the thrust of the questionnaire was to gauge the level of sanitation facilities in the informal settlements, it also captured basic information about households, which was often important for correlation analysis. This design was eventually finalised and imported for mobile-based enumeration.

As pointed out before, in Muzaffarpur, there are about 137 informal settlements. However, the municipality has notified 105 informal settlement settlements in the city. PRIA identified and listed down 124 informal settlements out of which the PSE was conducted in 110 informal settlements. On visiting the field, 14 informal settlements spread over ten wards were identified that were marked as informal settlements under the official municipal list, but in reality, did not depict informal settlement like conditions. Out of these 14 informal settlements, 4 informal settlements viz. Darji Tola (ward no. 6), Irani Mohalla (Ward no. 7), Govindpuri Muslim Basti (Ward no. 7) and Mallah Tola (ward no. 8) are situated on private land. In these informal settlements as well as the remaining 10 informal settlements, the enumeration could not be carried out because residents feared that the process might lead to displacement. Some community members were also worried that this would attract conflict with the ward councillor and thus refused to participate. In some of the settlements where the land is under Wakf[2] board, the enumeration couldn't be carried out since the land is managed by the board and they do not want municipality's intervention. One of the reasons behind this could be the fear of eviction.

Figure 2: Various aspects of questionnaire

Registration form	• Classification of settlement • Basic details including name of respondent and head of household, mobile number, address
Basic household information	• Type of house • Ownership and registration • Family income • Religion and caste
Household members' details	• Household members and thier gender, age, level of education, occupation • Access to documents like birth certificate, aadhaar card, bank account, and voter card by household members
Toilet, water, SWM and sewerage	• Type of toilet facility available and its utilisation • Desire and availability of space for toilets and application process for the same • Waste water outlets

Selecting and training the enumeration team

Semi-structured one-day training was organised for community enumerators who were selected from the youth residing in various informal settlements. They were identified during the PUA processes and often played a crucial role in SIC formation. All settlements covered for the

2 The Wakf Act 1995 defines the WAKF as the permanent dedication by a person professing Islam, of movable or immovable property for any purpose recognized by the Muslim law as pious, religious or charitable Wakf" means the permanent dedication by a person professing Islam, of any movable or immovable property for any purpose recognized by the Muslim law as pious, religious or charitable.
The Bihar Waqf Act 1947 was repealed on the enforcement and enactment of the Central Waqf Act 1954 in the year 1973 when a new Board was constituted under the provision of Central Waqf Act 1954 to provide protection, Supervision, better administration and proper utilization of income derived from Waqf properties for charitable social, economic and educational upliftment of Muslim community.

enumeration in the city were divided within these 15 members. Their presence made communities feel more comfortable.

The training session introduced the participants to the questionnaire, followed by an intensive discussion on the rationale and logical flow of various questions. Once an understanding of the questionnaire had developed, the participants were taken through the customised mobile application designed to capture the enumerations. Following this, the key areas of monitoring and verification of the enumeration were discussed. Additionally, an understanding on smart phone-based enumeration was also built. This focussed on basic aspects like the use of GPS, power management, data connections, etc.

These trained enumerators and the PRIA team hosted a half-day orientation session for some SIC members who were keen to work along with enumerators to conduct enumerations in their own settlements. Many enumerators and SIC members had never utilised a smart phone before, and an additional step thus was to demystify technology.

The execution of PSE required a planned delegation of responsibilities with checks and balances. The first step was to define the roles and responsibilities of the three-layered team, as elaborated below.

Table 1: Roles and responsibilities of different team members

Team member	Key responsibilities
Community Enumerator and SIC Members	• Identifying households to be enumerated • Conducting household level enumerations • Responding to all queries raised by the coordinator and administrator for various records
The Survey Coordinator	• Supervising the implementation of the enumeration • Providing guidance in the implementation and monitoring of enumerations • Quality check of enumeration records
Survey Administrator	• Random monitoring and quality checking of enumeration records • Providing support and guidance to supervisors and enumerators • Troubleshooting of errors and any other issues faced • Updating application when required



Monitoring the enumeration process

Enumeration monitoring is an essential part of ensuring data quality. One of the advantages of a mobile-based application lies in the fact that many monitoring aspects can be built right into the application. It is to be noted that the enumeration was created with built in skip logic, which means that subsequent questions were based on previous answers and the selection of certain variables. Additionally, to avoid common mistakes, the application was built to reject and warn against certain errors.

Apart from such back-end precautions, a strict horizontal and vertical division of responsibility with checks and balances was set up as a system. A pre-enumeration planning procedure secured responsibilities into a three-tier system as discussed in Table 1. Once a settlement was

enumerated, a Survey Coordinator checked the data for consistency. The Survey Administrator conducted random evaluations as well. The three-tier monitoring system was further developed. Some of the aspects checked by the Coordinator and Administrator are mentioned in Table 2 below.

Table 2: Checklist used in monitoring data

Form 1	• Check spelling of respondent/Head of the household, and surname. • Check address of house and format for entry. • Check informal settlement name and informal settlement code. • Check date of enumeration. • Check for non-participants, and whether these houses can be visited again. • Check for total number of houses and corresponding number of enumerations. • Since house numbering has been conducted, check to see if all addresses are a part of the enumeration.
Form 2	• Check type of house. • Depending on notification status of informal settlement, check responses received for land ownership (*patta*, etc.). Ensure that responses are in line with others received in the settlement. • Check religion and caste.
Form 3	• Check for total number of members in house (using the definition of household as provided in National Census). • Check for spellings of family members. • Ensure that age is written in complete years. In case of children less than 1 years of age, enumerators are to write 0. • Check to see if the age of members matches with education and occupation profile; Use appropriate filters to check this.
Form 4	• Check for type of toilet. • Check to see if outlets of Bathroom, Kitchen, and Toilet match. If not, probe to understand why. Also check if certain responses stand out from those that are general to that informal settlement. • Check for facility of garbage collection and if it matches with facilities available in the settlement. • Check similarly for drinking water sources. • Check if source of drinking water matches other water sources. If not, probe to understand why.
Form 5	• Check if mobile numbers have been entered.
Form check	• This is elaborated above. Make sure there are no incomplete enumerations and ensure that enumerations are completed in adequate time (neither too fast nor too slow).



Analysis, validation and sharing

The entire enumeration process was completed through the analysis, validation and sharing of the data generated. The analysis consisted of the tabulation of settlement-wise breakdown of the demographics of all respondents and their households. Basic household information, inclusive of cross-tabulation between the type of houses with ration cards and income, as well as ownership and registration of houses were analysed. A few cases included the cross-tabulation of member level details such as gender, age, education and occupation with access to legal documents. The analysis also exhibited the state of access to sanitation facilities, such as toilets, and the kind of structural set up dominant in the settlements.

Keeping in mind the dynamic nature of informal settlements, these analyses were then validated at multiple rounds of group meetings with the community members. Dated information was changed and modified as per changes on the ground. This process kept the community engaged and participative in ensuring that the data reflected the status of their settlements. Once validated, the data was shared with the other stakeholders, including elected councillors and municipal officials. The community and other stakeholders discussed the results of the enumeration for potential solutions and positive changes.





SECTION 3

FINDINGS FROM THE PARTICIPATORY SETTLEMENT ENUMERATION IN MUZAFFARPUR

Demographic and socio-economic profile of respondents

Among 11,715 families surveyed, thirty-eight per cent (4,496) were head of households. The other respondents included members of household, including wife or husband of head of households, including parents, children, sons-in-law, grandchildren and in few cases other relatives.

Religion and caste

According to 2011 census, Hinduism is the majority religion in Muzaffarpur with 78% followers. Islam is the second most popular religion in with approximately 22% following it. PRIA's survey showed a similar trend in informal settlements; 78% (9,064) households predominantly belonged to Hindu religion. Twenty two per cent (2,614) families were Muslim. Only 36 families belonged to Christianity. A few Sikh families existed as well.

In terms of caste, 41% (4,836) of enumerated informal settlement households belong to Schedule Caste (SC). A significant 40% (4,643) belong to Other Backward Classes (OBC). Only 15% (1,813) households belong to the general category. Three per cent (311) households belong to the Scheduled Tribe (ST) category. This indicates that a large portion of informal settlements are inhabited by marginalised classes. Their disadvantaged social and economic conditions also lead to a reduced access to basic services, rights and entitlements.

Chart 1: Religion of household (N=11,715)

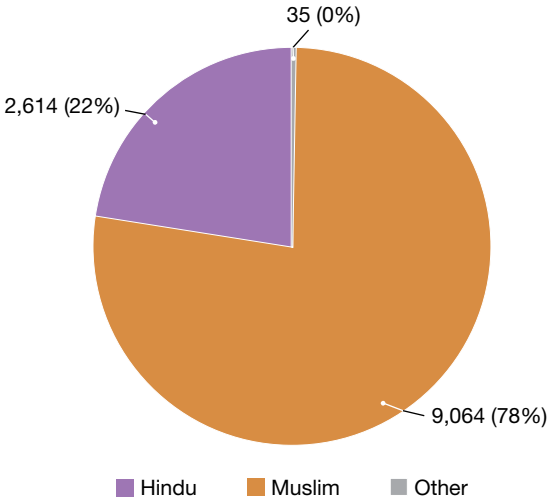
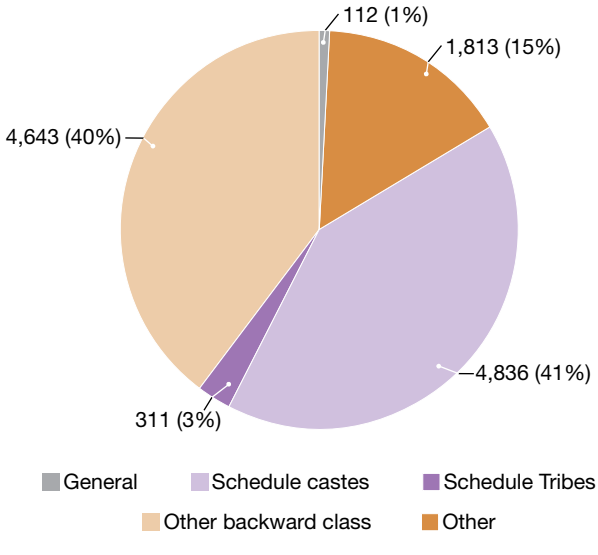


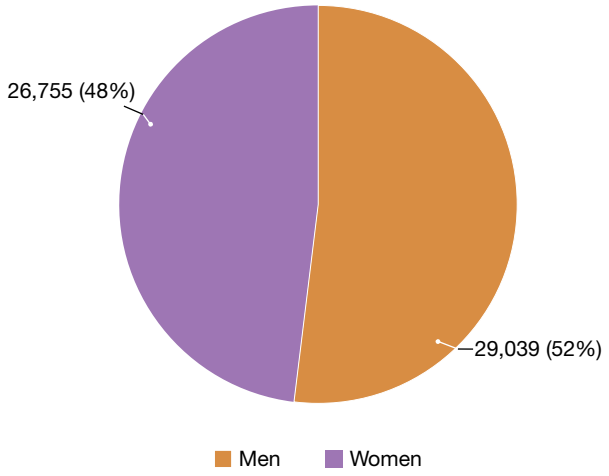
Chart 2: Caste of household (N=11,715)



Distribution of sex

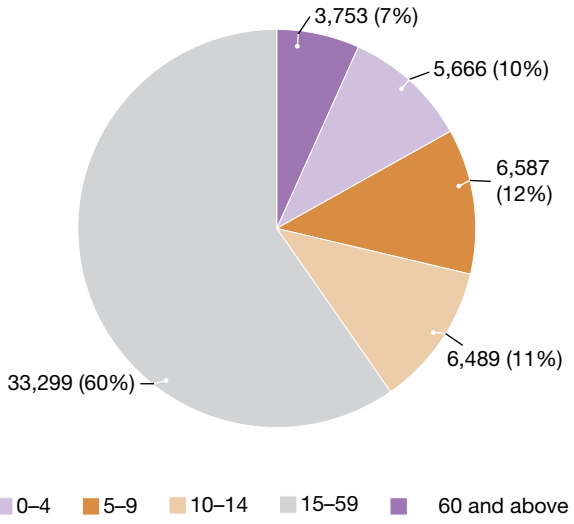
As per Census 2011, males constituted 53% of the informal settlement population in Muzaffarpur town, while females constituted 47%. The analysis generated through the current enumeration exhibited a similar trend of a male population of 52% (29,039) and female population of 48% (26,755). This trend indicates the unfortunate and persistently disparate sex ratio in India. Another possibility is that higher parts of the male population migrate from poor villages to cities for livelihood and the availability as well as affordability of informal settlements makes them an obvious choice of residence. This hypothesis also reflected on the data where a dominant portion (60%) of the informal settlement population belonged to the category of working age group.

Chart 3: Distribution of sex (N=55,794)



Population belonging to the age group of 15-59 years was as high as 60% (33,299) of the total population in the informal settlements. This is the working population, of which a significant portion constituted the youth. It is followed by 33% (18,742) of population aged less than 14 years. Census 2011 in Muzaffarpur informal settlements reflects the population between ages 0-6 is 7,127 which in line with the current enumeration where 10% (5,666) of total population falls between 0-6 years of age. Only 7 per cent (3,753) of the total population belonged to the age group of 60 years and above.

Chart 4: Age distribution of household members (in years) (N=55,794)



Gender and age-wise distribution of educational status

Overall literacy rate in informal settlements reflected the disparity in education status of the informal settlements, with 76.97% literacy rate in informal settlements as compared to 83.07% in Muzaffarpur town. As per 2011 Census, average male literacy of Muzaffarpur town is 83% and female literacy is 79%. PRIA's analysis revealed a similar trend. It is important to note here that this question was not administered to the age group of five years and below. Sixteen per cent (4,252) of the male and 23% (5,521) of the female population in the enumerated settlements were found to be illiterate. Only 14% (3,473) of male population and 13% (3,074) female population have received upper primary education. That apart, only 6% (1,395) of the female population in informal settlements of Muzaffarpur town has received graduation or post-graduation, with condition slightly better for men with 10% (2,524) graduates and postgraduates.

This is a vital area that the MMC could focus on. Government programmes like National Urban Livelihood Mission (NULM), Youth employment and skill development program of Bihar Government, which aims to promote

self-employment, as well as corporations like National Skill Development Corporation (NSDC) that aims to create quality skill training institutes for the youth could be partnered with for improving the skill and education of the youth. Improved and equal access to education will have a bottom up effect in terms of living conditions, social and civil responsibilities and equitable opportunities for women and men. Without these, a large chunk of the youth and working population will dwell in informal economies with unprotected and exploitative jobs, wherein traditional notions of gender roles will remain unchallenged, perpetuating the vicious cycle of unequal right to education between girls and boys.

The analysis of age-wise distribution (in Chart 6) of education suggested that dominantly, 55% of the population in the age group of 60 years and above, and 16% of those between 15–59 years were illiterate. This is largely attributable to a lack of access to education in the earlier generation's childhood, or even to any kind of adult education. The analysis of the 5–9 year bracket is revealing. While 87% of this bracket is in the primary educated category and likely enrolled in school, 4% have been listed as functionally literate, and 6% as illiterate. This highlights the higher dropout rates and substantiates the explanation that many children in these informal settlements end up helping their families in livelihood generation or domestic chores.

Chart 5: Sex wise education status of household members

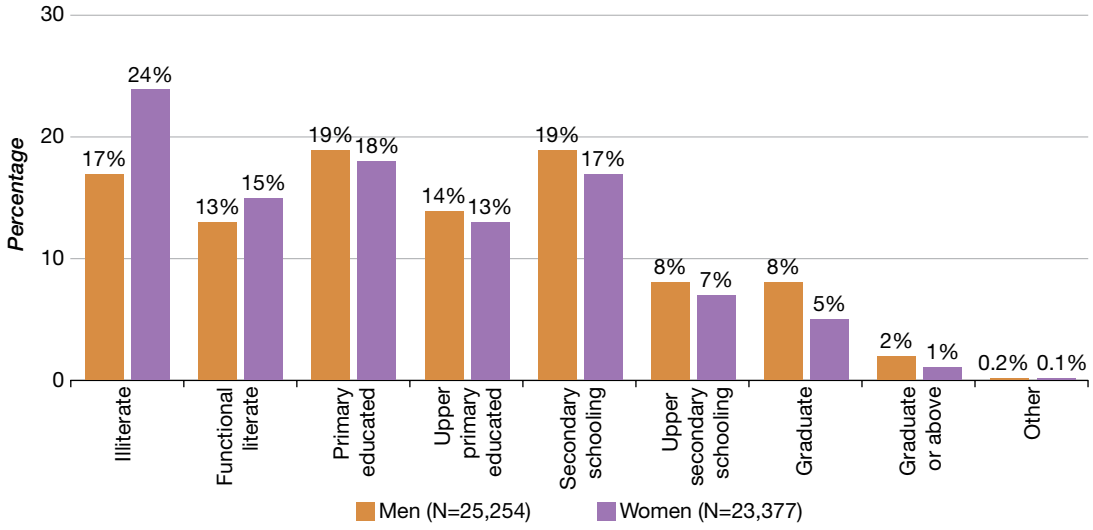
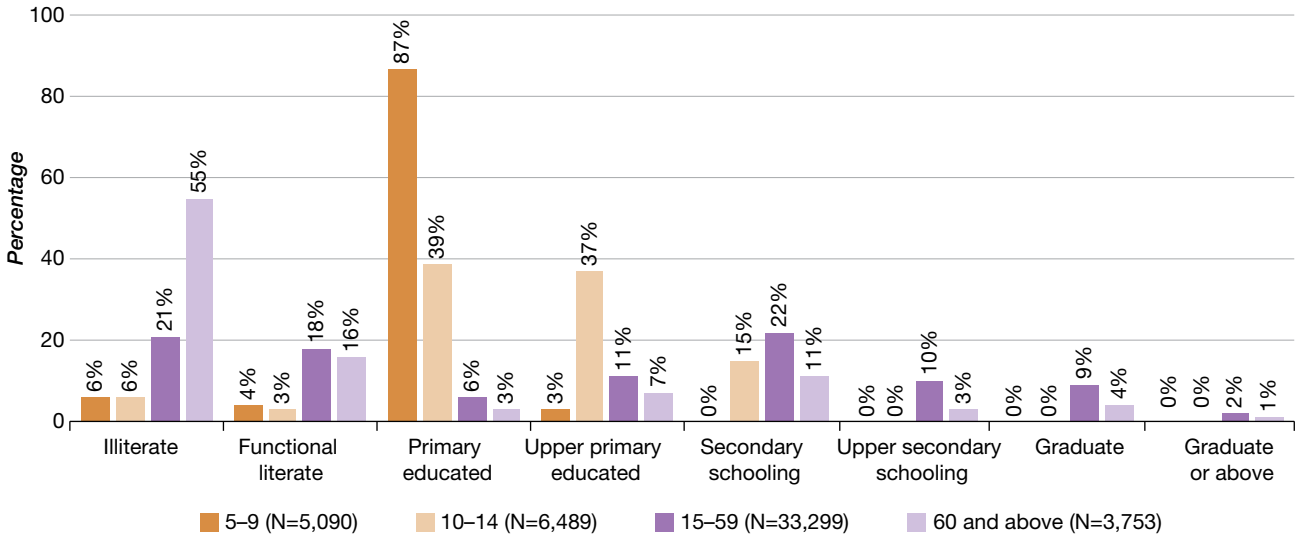


Chart 6: Age wise education status of household members



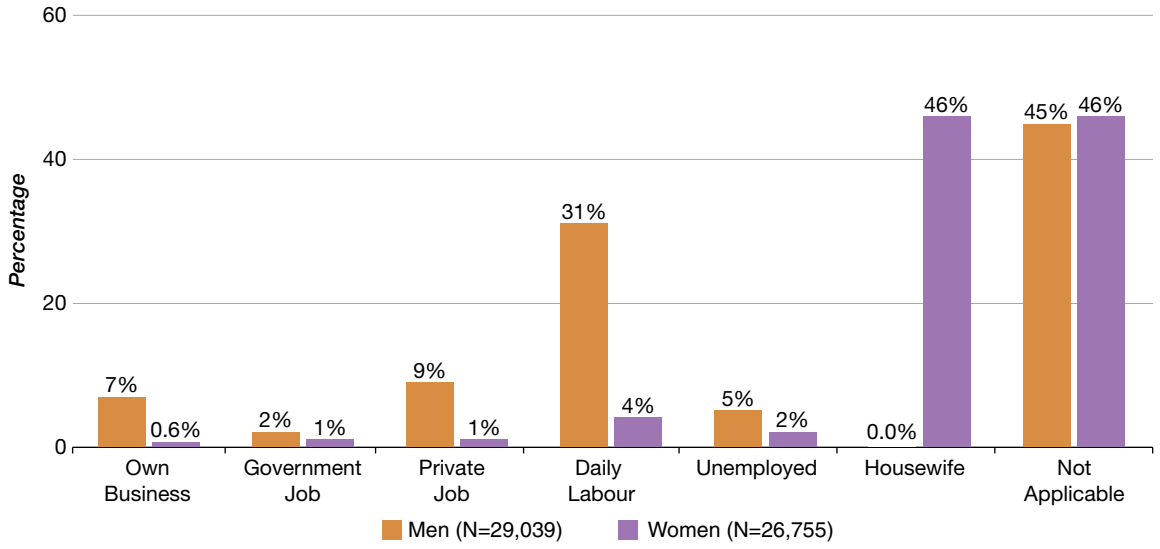
Sex wise distribution of occupation

From the enumeration of 110 informal settlements in Muzaffarpur, a clear pattern of traditional gender roles emerged. As demonstrated in Chart 7, men were engaged in jobs and business, whereas a dominant 46% (1,233) of women were homemakers. 31% per cent (9,145) of men were engaged as daily labourers, followed by a small percentage in private (9%) and government jobs (2%). Apart from being homemakers, 4% of women were engaged as daily labourers.

Apart from traditional notions of gender roles, factors like safety, maternity, access to transport are also factors that limit women's agency to work outside their homes. It is important to note these patterns of gender disparities in educational attainment and remunerative employment as signs of inadequate public policies and programmes.

A cross tabulation of age wise occupation also exhibited, 84 children under the age of 15 working as daily labourers or engaged in their own business. This indicates the presence of child labour and is a grave matter that requires immediate attention at the municipal level. It is essential to raise awareness among settlements regarding the importance of education of children. This finding is also an important pattern of disparities in educational attainment and reiterates the inadequacy of schemes and programs aiming at children's literacy and education programs.

Chart 7: Sex wise occupation status of household members[3]



Type of ration card

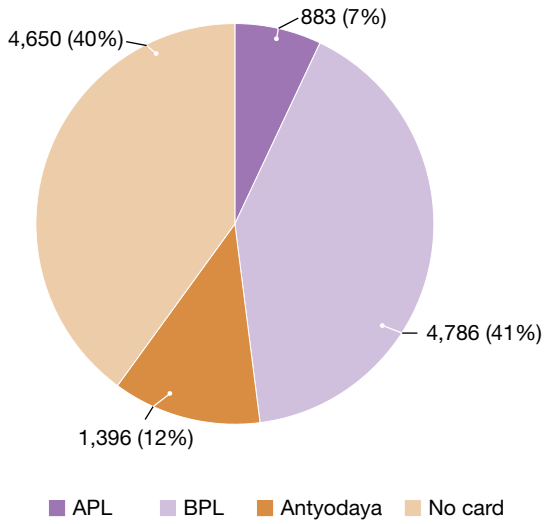
Participatory Enumeration in the informal settlements of Muzaffarpur indicated a jarring disparity; 40% (4,650) of the informal settlement households did not possess ration cards. 12% (1,396) possessed Antyodaya cards[4], while 41% (4,786) possessed Below Poverty Line (BPL) cards. Only 7% (883) households had Above Poverty Lines (APL) cards.

While possessing a ration card, especially for those below the poverty line, is essential for receiving food and other goods such as rice, wheat, and kerosene, at subsidised rates, it is also used as proof of residence for property transaction and ownership issues. It is important to recognise the relationship that exists between ownership of a house and a ration card.

3 The 'Not Applicable' (NA) category contains children attending school, as well as adults who have retired/are past the working age. There is however a possibility of under – reporting, and some cases of unemployed individuals may factor in the NA category.

4 Antyodaya Anna Yojana (AAY) is a Government of India sponsored scheme to provide highly subsidised food to millions of the poorest families.

Chart 8: Type of ration card (N=11,715)



Access to legal documents

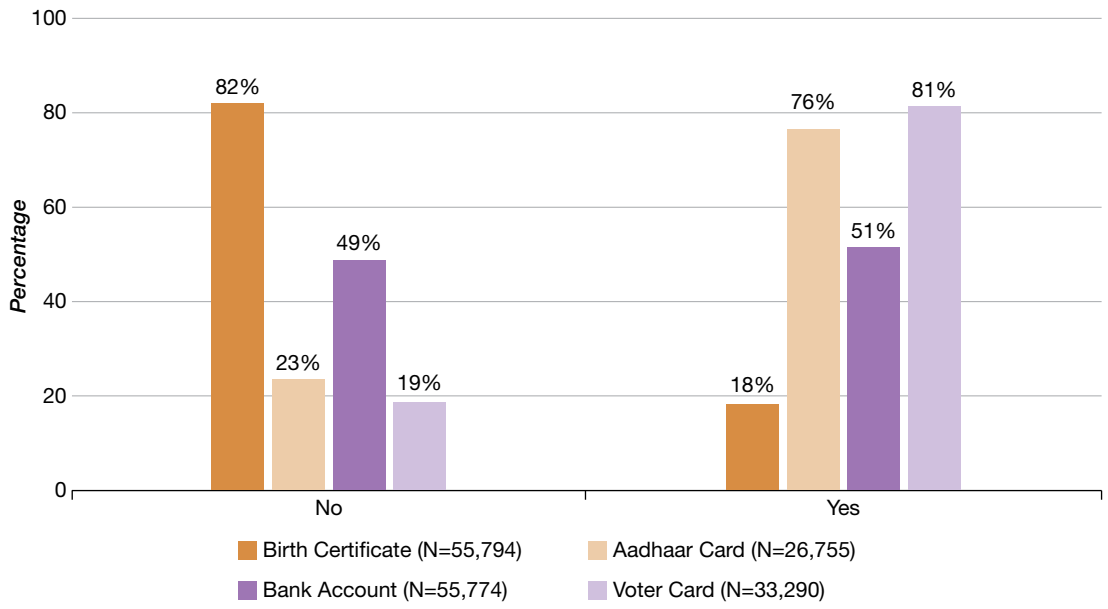
Birth certificate, bank accounts, Aadhaar Cards and voter ID cards determine one's ability to access certain public services, rights and entitlements as a citizen. The enumeration captured these aspects of household members to understand their eligibility to legally demand certain services, particularly in claiming subsidies for individual household toilets.

Birth registration

Of the enumerated population of 55,794, only 18% (10,090) of enumerated had birth registration certificates. A staggering 82% (45,671) do not have birth certificates. That apart, it was unfortunate to note that 65% (12,195) of children below 14 years of age did not have a birth certificate, which clearly indicates the unawareness of informal settlement residents around the issue, as well as lacklustre service provisioning from authorities. Having a birth certificate secures the basic human right to a legal proof of name, parentage, age and most importantly, one's citizenship. Birth certificates are also a requirement for enrolment in schools. The lack of a birth certificate not only leads to social stigma for an already vulnerable urban poor population, but also enables exclusion from basic government services, including education and limited access to justice (Stark, 2016).

When 82% of the enumerated informal settlement residents do not have their birth registered, it disables the government from planning, budgeting, and monitoring its population's access to basic

Chart 9: Access to legal documents[5]



5 A miniscule number of respondents responded saying that they had tried to procure cards but were unavailable too. These figures are not a part of the chart, but are expanded in the section below.

services, especially health. Birth certificates are an essential input for a national vital statistics system, which enables countries to know their fertility rate; a statistic that influences social policy, designs programmes, monitors and evaluates them.

Based on the settlement level data, and with support from PRIA, SIC members were able to pursue MMC to provide birth registrations for several children. However, MMC should look into this severe lag and prioritise the registration of this invisible population, especially for children still under 14 years (12,195) who do not have birth certificates, as it is easier to obtain them for minors.

Aadhaar card

The enumeration showed that access to Aadhaar cards was much better compared to that of birth certificates. 77% (42,665) of the enumerated population had Aadhaar cards, while 23% (13,129) did not. In fact, when the age group between 0-4 was left out, the percentage of the population with Aadhaar cards rose to 83%. It is noteworthy that lesser women (75%) have Aadhaar cards than men (78%).

Table 3: Sex disaggregated access to aadhaar card

Aadhaar Card (N= 55,794)	Male	Female
No	23% (6,800)	23% (6,329)
Yes	77% (22,239)	76% (20,426)

The Aadhaar card is a matter of national identity today. It is required to open a bank account, which is a prerequisite for receiving any direct transfer of benefits from the government, for example, subsidy money from the municipality for construction of toilets. Educational institutions require Aadhaar cards for enrolment purposes as well as for students receiving government scholarships, mid-day meals, ration, etc. All government related subsidies like LPG subsidy and pensions are linked to an Aadhaar card; it is, therefore, essential to provide Aadhaar cards to the 23% informal settlement population who do not have access to it, as the benefits mentioned above are needed the most by the urban poor living in informal settlements.

Many SICs in various informal settlements have made efforts to organise camps for people who did not have Aadhaar cards to get one from the Aadhaar centres. More than 600 Aadhaar cards were issued through SIC efforts. Municipalities have often obliged in response to such requests from SIC members and could continue to facilitate setting up camps in wards that would allow residents to obtain Aadhaar cards.

Bank account

Among the households enumerated in the informal settlements, 51% (28,610) had bank accounts and 49% (27,184) did not. However, on restricting the subset to those 18 years and above, the access to bank account grows significantly to 75%.

Table 4: Sex disaggregated access to bank account

Bank Account (N= 55,794)	Male	Female
No	49% (14,361)	48% (12,823)
Yes	51% (14,678)	52% (13,932)

What emerges as a problematic pattern is that almost 50% of the informal settlement residents do not have access to bank accounts which can limit access to government benefits, subsidies and services. This matter needs immediate attention from Government as well as from Municipal Corporation.

With support from PRIA, the SICs facilitated opening of new bank accounts under Jan Dhan Yojana for some residents, as addressing this issue would improve financial inclusion and the economic agency of these informal settlement residents. This specially also feeds into BPL cases where bank accounts are more vital than others for direct benefit transfer of public subsidy.

Voter card

This question was administered to the population aged 18 and above. As a result, the sample is limited to 33,290. 82% (27,034) of residents in the enumerated informal settlements had access to voter cards. A clear gender discrepancy trend emerged in this analysis as well—while 83% (14,503) of men had access to voter cards, the figure reduced to 79% (12,531) for women.

Table 5: Sex disaggregated access to voter card

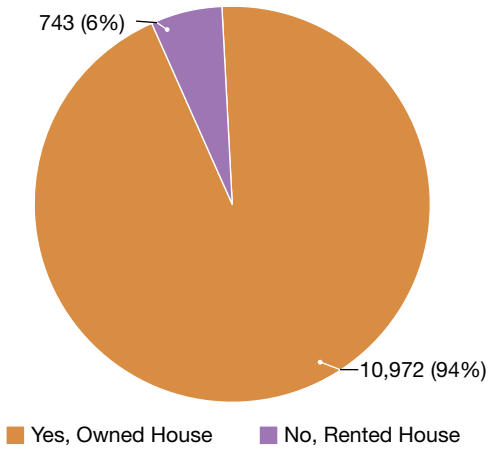
Voter Card (N= 33,290)	Male	Female
No	17% (2,866)	21% (3,390)
Yes	83% (14,503)	79% (12,531)

This difference confirms that a gender bias exists in access to legal documents. This gender gap along with a general lag in access to legal identity-based documents is a huge task that requires immediate attention. Campaigns must be launched to encourage people to register as voters to nourish a two-way relationship between the urban poor and ULBs; one of rights and responsibilities. It is worth mentioning that the SICs, with support from PRIA, were able to mobilize community to prepare their voter cards through Voter Awareness camps.

Household profile

Among the 11,715 households enumerated, 94% (10,972) of the informal settlement respondents owned the houses they lived in, while 6% (743) lived in rented accommodation.

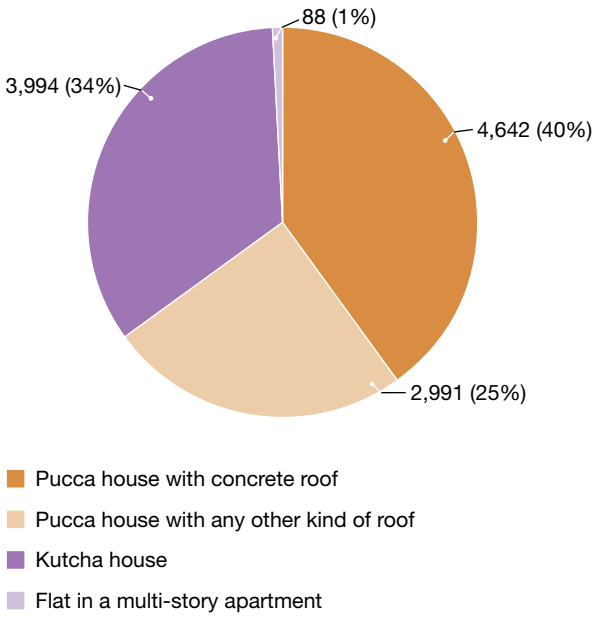
Chart 10: Ownership of house (N=11,715)



Type of housing

65% (7,633) of the households enumerated were '*pucca*'[6], while 34% (3,994) were '*kutcha*'. Areas where migrant populations reside usually have lower quality housing due to their meagre incomes, and transient stay periods. Moreover, houses that are given on rent are not invested in by their owners. Finally, in a few cases, the fear of demolition of houses built on contested land discourages people from constructing better houses. Some households also belonged to areas that were earlier located in the rural outskirts of the city and have now been included into the municipal corporation limit.

Chart 11: Type of house (N=11,715)



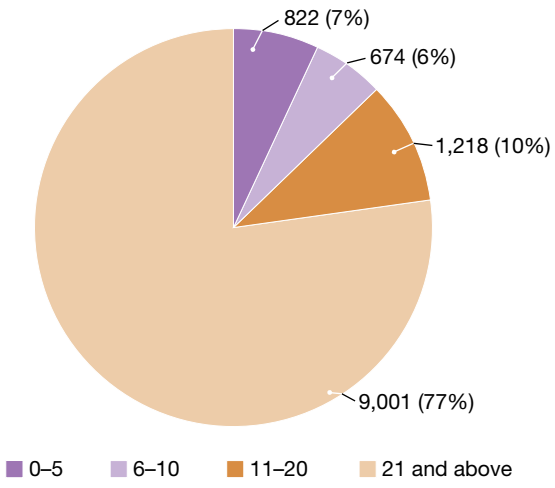
Years of stay

13% (1,496) of the households had been living in their place of residence for up to 10 years. 10% of households (1,218) reported that they had occupied their dwellings for periods between 11-20 years. The remaining majority of 77% (9,001) had been staying in their localities for over 21 years, some having stayed for over 50-100 years as well.

6 Households using concrete and/or other materials of solid nature have been combined, but are separately depicted in the graph.

3,097 (26%) households among 11,715 enumerated owned kuccha houses and have been living in their respective informal settlements for more than 21 years. MMC has been implementing "*Pradhan Mantri Awas Yojana*" in Muzaffarpur and providing housing to all is one of the priority areas of MMC. There is an urgent need of providing *Pucca* Houses to economically weaker section of the society.

Chart 12: Period of stay in informal settlement (N=11,715)



Land ownership

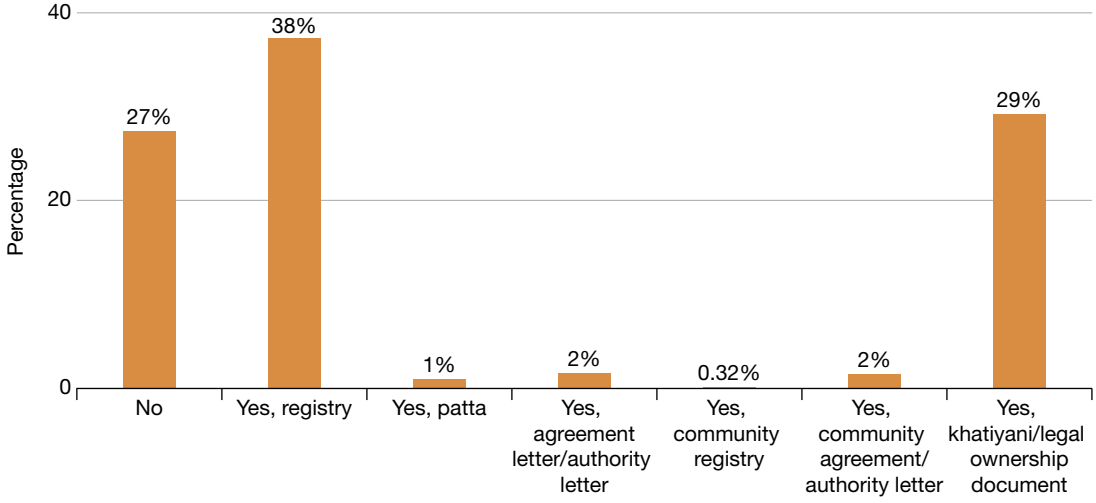
As elaborated earlier, among the 11,715 households enumerated, 94% (10,972) of the informal settlement respondents owned the houses they lived in, while 6% lived on rent.

Respondents who said that they own houses were asked about the status of land ownership.

Among those who owned their houses, 38% (4,115) had registered their lands, while 1% (65) had *pattas* (land tenure); and 2% (242) had *sahamati/adhikar patra* (acknowledgement letters). 29% (3,212) had Khatiyani and said that these lands have been transferred to them form their ancestors. Most of the informal settlements have existed for more than 35 years, and have hosted more than 4 generations. While some of these settlements have been rehabilitated giving the land rights to the residents, rest remain unauthorised. A significantly large percentage—27% (2,998)—of informal settlement households did not have any documents that helped secure tenure rights. Assigning property rights is a critical step in empowering people and helping them live better lives. Without these rights, residents are hesitant to invest in better standards of living since they continuously face the lurking fear of displacement and dislocation. The PSE revealed that 49% households (3,893) received their land *pattas/ sahamati/aadhikar patras* from the government. 56% (943) of the households said they received their documents from an individual or private agency.

Allotting property rights to the urban poor, however, is difficult to implement since informal settlements often come up on disputed land and

Chart 13: Availability of land patta (N=10,972)



a make-shift solution that could thus be applied is the use of 'user rights' that could enhance a feeling of security of tenure. ULBs could bring a no-eviction policy, which would bring about a desire in people to invest in their households, while ULBs take up the role of extending basic services.

In Muzaffarpur, the MMC under PMAY is planning to restructure the households in informal settlements. However, this scheme is prioritised for the informal settlements with at least 60 households or more and hence only 74 of the surveyed settlements out of 110 falls under this category (PRIA, 2017). But the rest are not being recognised for this intervention by the government.

There is a need to integrate the various policies and schemes of the government to recognise the informal settlements despite their size and population.

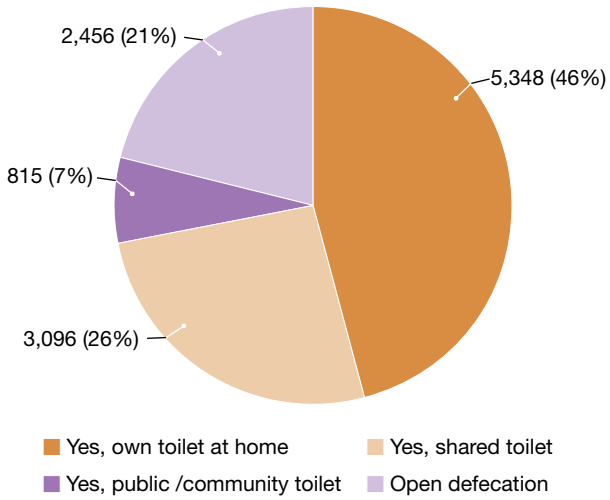
Toilet facilities

Availability of toilets

Access to a sanitary and secure toilet facility is a basic right that goes a long way in building hygiene, as well as ensuring safety and security. In the enumerated informal settlements of Muzaffarpur, only 46% (5,348) of households had a toilet at home. Approximately 26% (3,096) of the informal settlement households utilised shared toilets with household members who live close by. The remaining 7% (815) households utilised community and public toilets. 21% (2,456) of households defecate in the open, exposing themselves to huge risks, both in terms of disease as well as safety. Reports especially showed how vulnerable adolescent girls and women were to molestation and rape, when practicing open defecation. PRIA has been working closely with SICs that help advocate the interests of the community, which advocated for toilets at home. The graph (see Chart 14) highlights the findings.

The enumeration found links between access to toilets, type of ration card, and ownership of houses. It is significant to note that 31% of those holding Antyodaya cards defecate in the open. 21% of those defecating in the open possess BPL cards. In these cases, aside from the behavioural angle, it could dominantly be the lack of funds to construct individual toilets at home or the inconvenience of money coming in

Chart 14: Availability of toilets in informal settlements (N=11,715)



phases from the government making it difficult for the households to afford such financial delay. For the APL households it is perhaps dominantly a behavioural problem despite access to funds. Clearly, targeted policy changes, as well as behavioural campaigns are essential to overcome the issue of funds and behaviour. Chart 15 highlights the findings in more detail.

On cross tabulating the data between access to toilets and having a ration card, the enumeration found that 20% respondents who did not have any of the ration cards were defecating in the open while 31% respondents who were *Antyodaya* card

Chart 15: Availability of toilet and type of ration card (N=11,715)

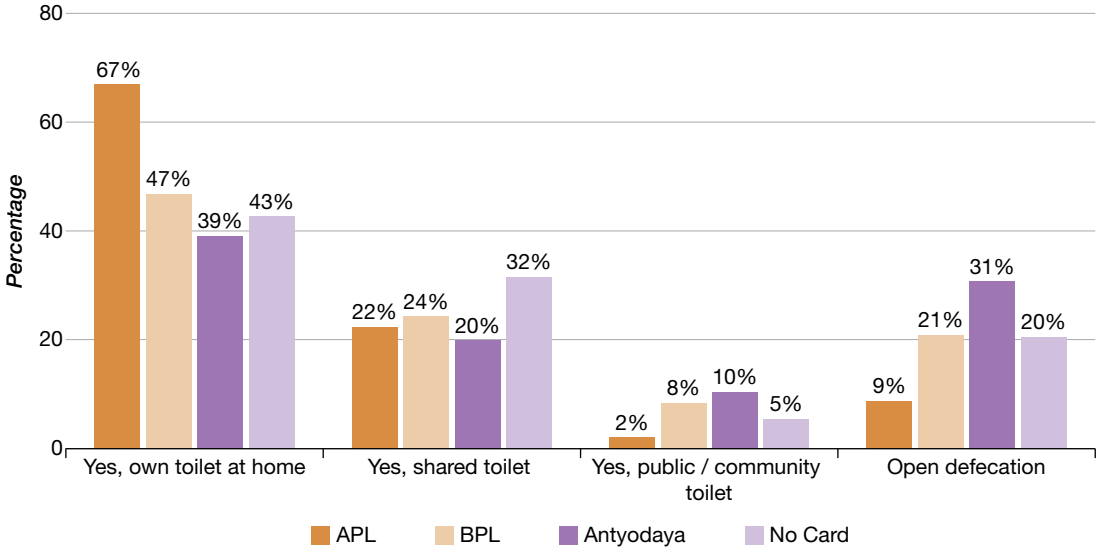
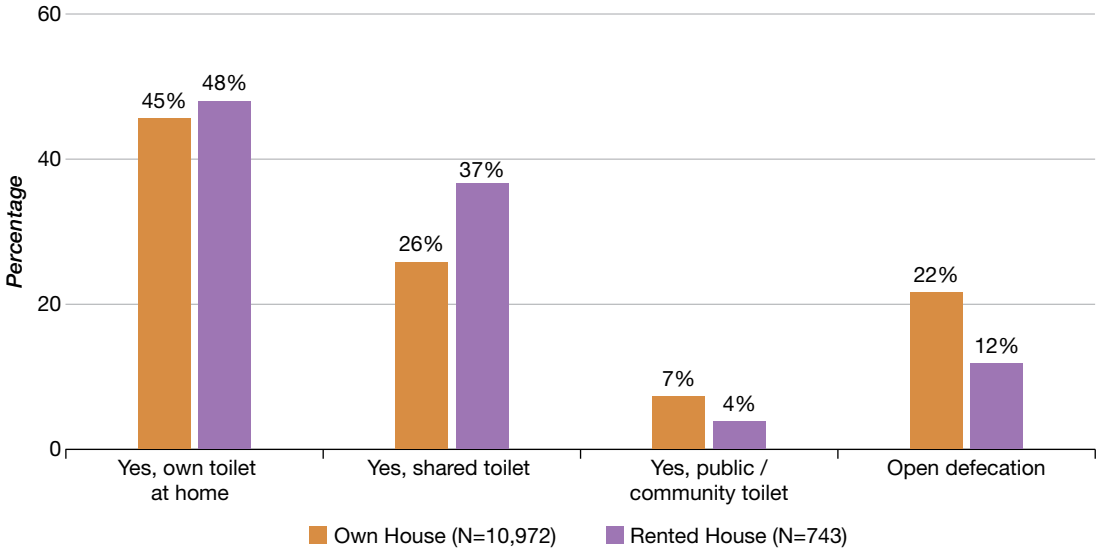


Chart 16: Availability of toilet as per the ownership of household (N=11,715)



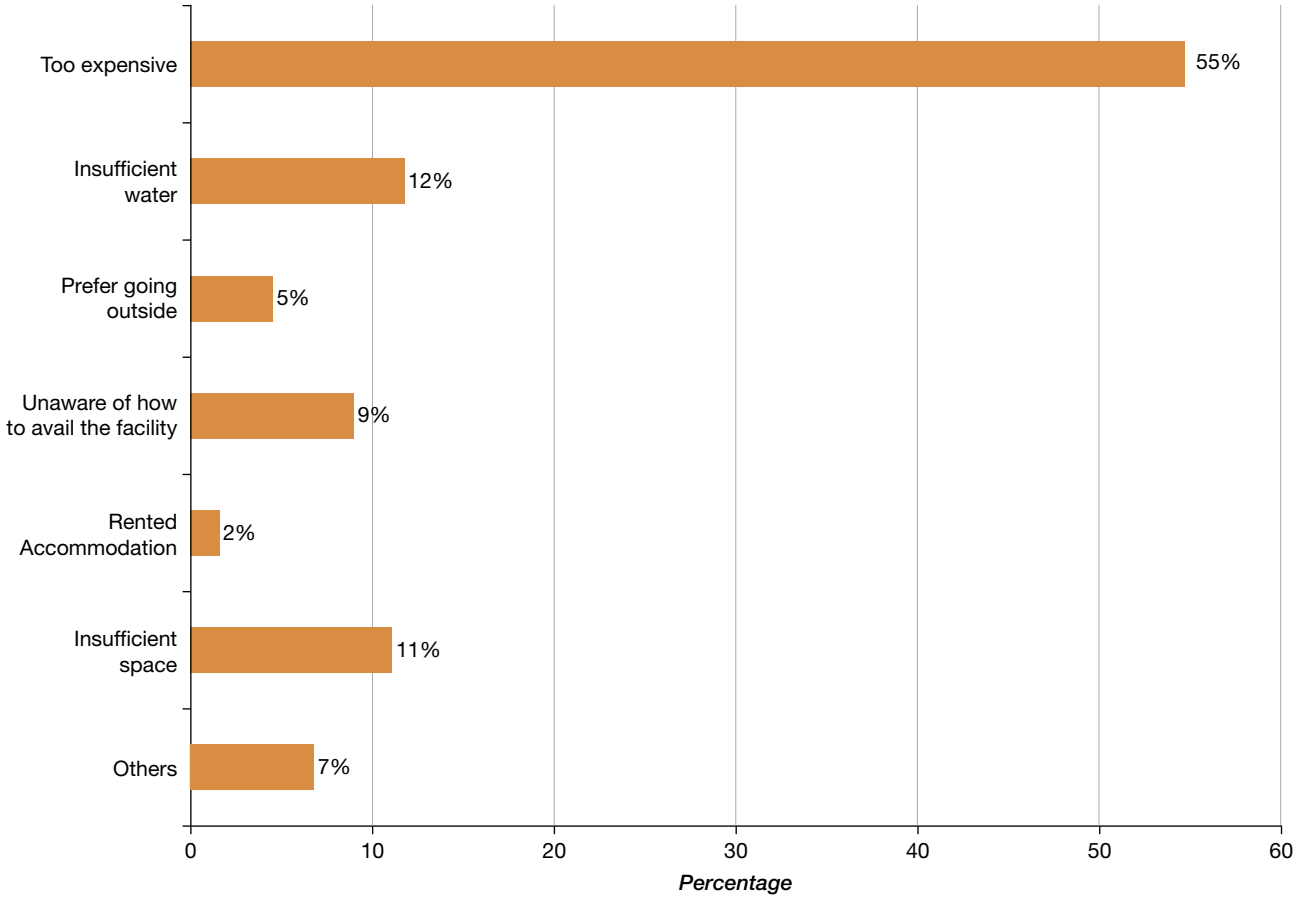
holders defecated in the open. As is also evident from the chart above, people who are BPL, *Antyodaya* card holders or those who have no cards, have minimum access to community or public toilets. The obvious correlation is that these respondents do not have enough financial capacity to build or construct toilets nor do they have adequate land available to get the IHHL from the ULB under SBM. In absence of adequate CT/PT therefore, they have to defecate in the open.

12% of those living in rented houses did not have toilets and defecate in the open. This could be due to the lack of ownership and resistance to spending money on building toilets in houses owned by other people. Among the households that owned their houses, 22% defecate in open.

Reasons for not having toilets

Those utilising community toilets as well as those defecating in the open were asked why they did not have individual toilets. The most prominent reason cited by 55% (4,336) of households was that they were too expensive to construct. 12% (933) cited insufficient water as a reason for not availing household toilets. The third dominant reason claimed by 11% (409) of household respondents was that there is insufficient space. Another reason cited by 9% (714) was the lack of

Chart 17: Reasons for lack of toilet facility at home (N=7,910)[7]



awareness about the procedure to avail subsidised toilet facility from the municipality. These reasons reflect a mix of issues related to funds, linked service provisioning, procedure and availability of space. Many of these reasons can be addressed by MMC to ensure increased number of availability of individual toilets at home.

Use of individual/shared toilets by household members

Those using individual or shared toilets were asked which members of the household used the toilets. 99% (9,218) of the respondents said that all household members used the toilet.

Type of toilets

Respondents from households who chose individual or shared toilet facilities were asked about the types of toilets they utilised at home, as well as outlets these toilets were connected to. A large majority of 68% (5,665) of households used flush/pour flush toilets connected to septic tanks. This was because sewerage system do not exist in the city. 28% (2,321) use toilets connected to soak pit/double soak pits. 4% (326) said their toilets were connected directly to *nallahs* (open drains).

Desire to have individual toilet at home and availability of space to construct toilets

Those defecating in the open were asked about their desire for individual household latrines as it was presumed that those using community toilets would prefer individual household latrines. 95% household respondents desired to have individual toilets at home.

7 This question was posed as a multiple choice question. Total number of responses are thus greater than total number of HH defecating in the open and utilising community/public toilets.

Chart 18: Type of toilet (personal/shared toilet) (N=8,314)

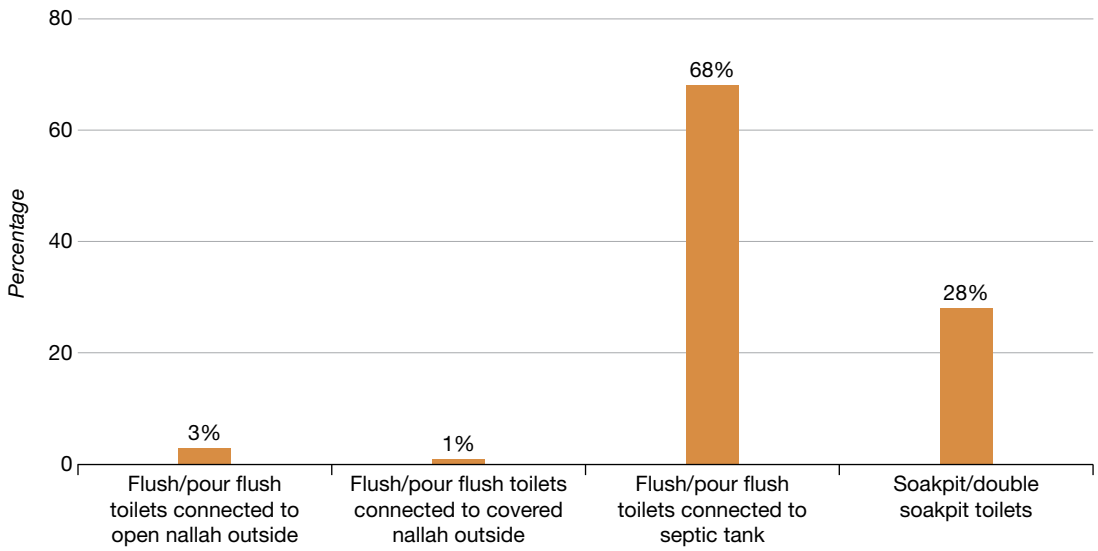
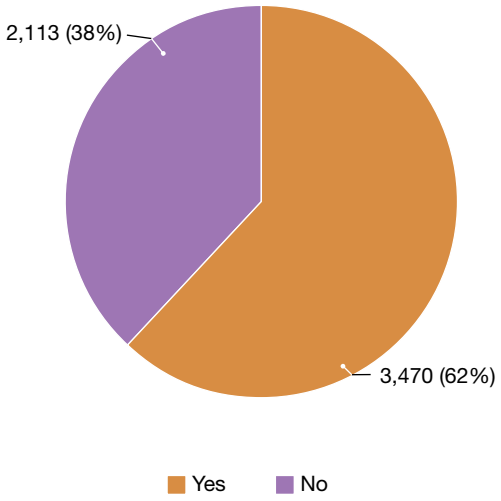


Chart 19: Space available to construct household toilets (N=5,583)



Furthermore, those defecating in the open as well as those using community and shared toilets[8] were asked about whether they had space in their homes to construct toilets. 62% (3,470) of the household respondents said that they did have the space, while the remaining 38% (2,113) did not.

While space for toilets is something that is being tackled through community toilets, it is the desire to have toilets that must be encouraged aggressively as a good practice by the MMC. MMC has heavily invested its resources in constructing Community Toilets (CT) to achieve ODF status. These community toilets are not well maintained in the absence of community ownership or proper operations and maintenance (PRIA, 2018). The CTs are also underutilized because of scarcity of water. Thus, instead of focussing on building more CTs, MMC should encourage building IHHL in informal settlements. This would not only ameliorate hygiene situations for all informal settlements residents, but also help combat the kind of unsafe environments women, girls and children are put in while defecating in the open, especially during the night or early hours of the day.

Application for toilets

Households defecating in the open as well as those using community toilets were asked if they had applied for individual household toilets.

Out of 5,583 households, more than 91% (5,079) said they had not applied for toilet construction, while 8% (423) did apply. The remaining 1% (81) said they had not applied as they lived in rented houses.

8 The question on space as well as the following question on applications was administered to HH who were practicing open defecation and utilising community toilets. 3,271 responses were captured. A total of 3,096 HH reported using shared toilets. It was only midway through the study that the team felt that these questions should be administered to these HH as well. However, houses were not re-surveyed. As a result, the N value here is 5,583, and not 6,367.

Chart 20: Application given to municipality for toilet construction (N=5,583)

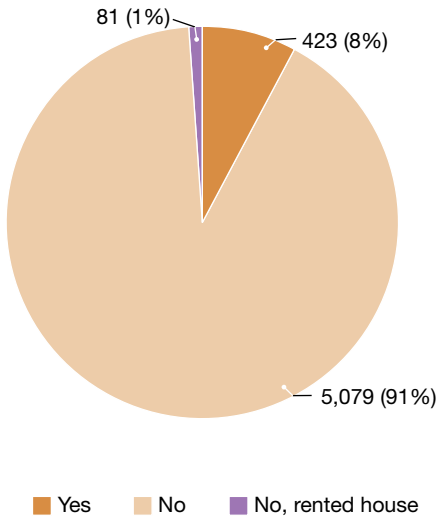
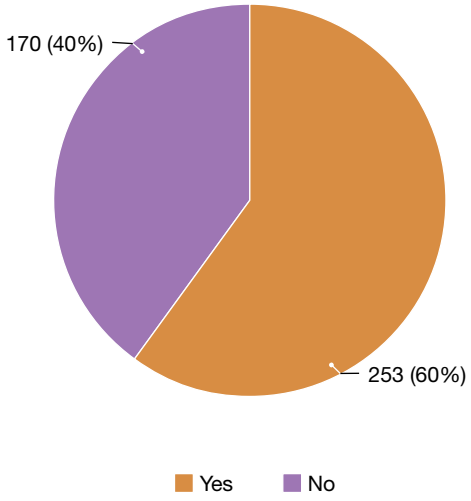


Chart 21: Acceptance of application by municipality (N=423)



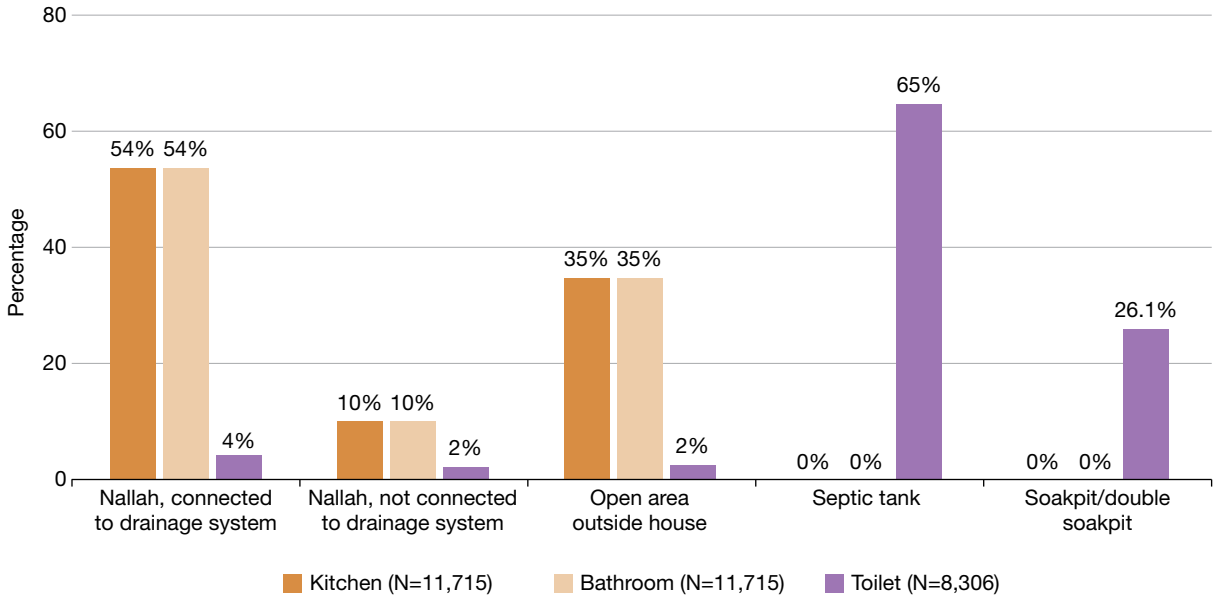
Acceptance of toilet application

60% (253) of the household respondents said that their applications had been accepted, while 40% (170) said otherwise. Most household respondents said that no reason was given for the rejection of their applications.

Water outlet for kitchens/bathing water/ toilets

The households enumerated that had water outlets were asked about their water outlet connection for the wastewater generated from their kitchens, bathrooms and toilets. As is depicted in Chart 22, 54% (6,360) households said that the wastewater from kitchens flowed into *nallahs* that were connected to main drainage facilities. 54% (6,359) of households said the same about the wastewater from their bathrooms. In terms of toilet connectivity, 4% (347) of the households said that waste water from their toilets also flowed into *nallahs* that were connected to main drainage facilities. The drains in Muzaffarpur city are open in most places that results in foul smell and mosquitos. Sometime these open

Chart 22: Water outlet connections for kitchen, bathroom, and toilets



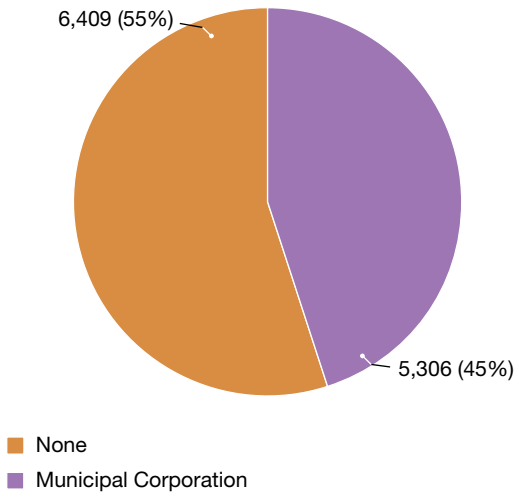
drains also overflow wastewater in cases of choking of drains due to plastic or construction waste. During monsoons, most of these drains overflow bringing the wastewater along with garbage on roads.

35% (4,120) of the households said that the wastewater from the kitchen and bathroom flowed out into the open. 2% (193) of the households said the same about wastewater from their toilets. These households said that water outlets were not connected to any septic tanks, which has serious implications on the health of residents. Stagnant wastewater can lead to a plethora of problems including mosquito borne diseases as well as many forms of infections. As of June 2018, 97 SICs have submitted proposals to MMC for constructions of drainage so that they can connect outlets with the drainage. These proposals included number of households, population of the settlement, as well as current availability of drainage, water, solid waste and toilet facilities. Proposals also included action plans and suggestions for improvements in services.

Solid Waste Management (SWM)

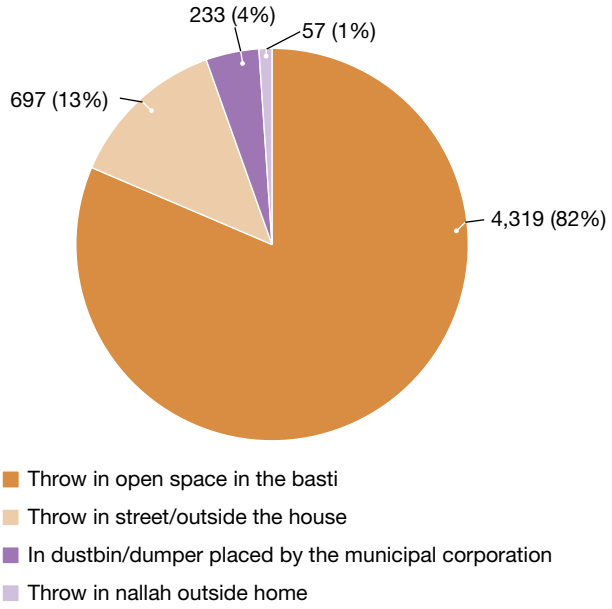
In the enumerated informal settlements, 55% (6,409) households have access to municipal waste collection. In Muzaffarpur, MMC has partnered with Centre for Science and Environment (CSE) and ITC for solid waste management. As of August, 2018, Twenty-five wards are covered through this initiative and dustbins have been distributed to households for waste segregation.

Chart 23: Waste collection facility to households (N=11,715)



45% (5,306) of households do not receive any garbage collection facilities. This severe lag in SWM services is further confirmed through chart 14, which shows that 82% (4,319) of households throw all their waste out into the streets/in *nallahs*/ in the open due to the absence of waste collection services. This indicated that many households were regularly turning to unsanitary and improper waste disposal, which could cause massive hygiene problems.

Chart 24: Disposal of waste if household collection is unavailable (N=5,306)

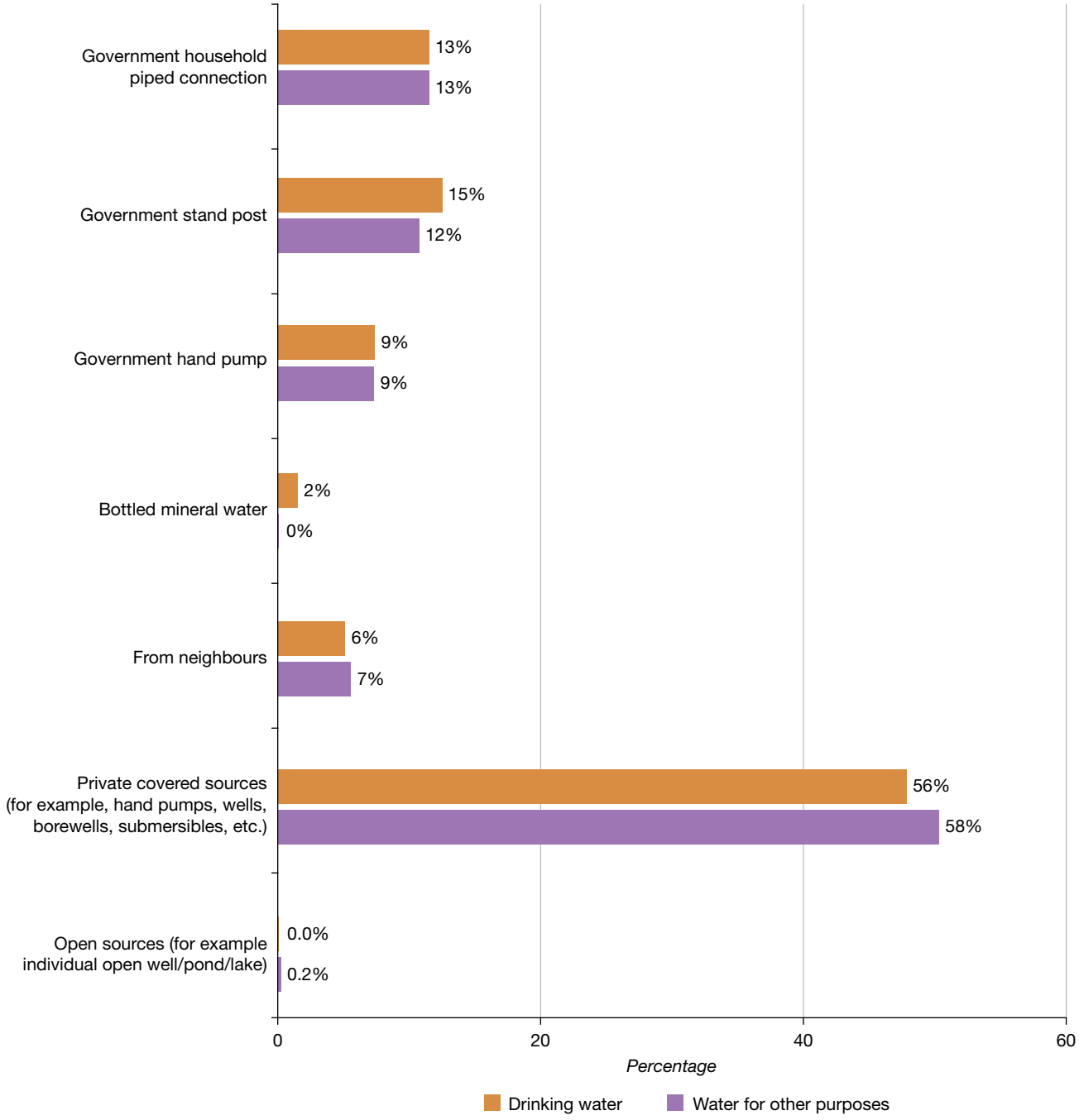


Water

A critical aspect of sanitation and improved health is availability and access to clean water, especially for drinking and cooking purposes. In Muzaffarpur, MMC is primarily responsible for providing water connection in urban areas.

As depicted in chart 25, a meagre 13% (1,562) of the enumerated population said that they

Chart 25: Primary source for drinking water and other purposes (N=11715)



have access to government household piped connection. This group uses piped water for drinking as well as other purposes such as washing clothes, bathing, as well as flushing. 15% (1,707) of enumerated households responded that they use stand post as source for drinking water, whereas 12% (1,461) said that they also use stand post for other purposes as well. 9% (1,016) of household reported dependence on government hand pumps for drinking water as well as for other purposes.

More than half of the household 56% (6,514) were using private sources of water for drinking, whereas 58% (6848) were using private sources of water for other purposes. In Muzaffarpur these private sources are largely privately-owned submersibles. That apart, 2%

of surveyed households use bottled water for drinking purposes. This incurs additional costs for residents. Recently, after agitation and proposal submission by the representatives of SICs, the Minister of Urban Housing and Development in Bihar, Mr. Suresh Sharma, assured installation of mini water pumps in selected wards. The implementation status remains unknown till the date this report was being prepared.





SECTION 4

CONCLUSION, RECOMMENDATIONS AND WAYS FORWARD

The issues contextual to urban poor and their settlements are often characterised with additional complexities compared to other parts or citizens of the city. The major attributes linked to 'informality' include mobile nature of population, settlement's location at the land often not owned by the inhabitants or in geographically vulnerable settings, absence of proof of residence, lack of confidence, low level of awareness etc. Such attributes demand an altered approach with higher level of participation of community in planning and implementation of programs. It has been observed at many instances that the main reason of low buy-in for many government programs is fit-to-all approach and the absence of customization based on the peculiar characteristics of each settlement/ typology of the settlement.

The present report explains the Participatory Settlement Enumeration (PSE), as a participatory research tool and its potential of changing the paradigm of program implementation and the way implementation learnings and monitoring observations are fed back into the policy. The study presented in report, demonstrates the methodology in informational settlements of Muzaffarpur city. Let us have a look at the findings and understand how they possess the potential to make a difference in policy and implementation of social protection programs. Below are the key aspects of Participatory Settlement Enumeration conducted in Muzaffarpur:

- Total number of informal settlements (slums) found during PSE in Muzaffarpur is 124, that is higher than the MMC's figure of 105. This could be due to many reasons including definition of slums, which prohibits listing of settlements below a certain size. However, this kind of exclusion may lead to increased vulnerability of the households that are already deprived. Such exclusion may be prevented by use of Participatory Settlement Enumeration.
- In Muzaffarpur, during Participatory Settlement Enumeration it emerged that a dominant 46% of women were homemakers and 31% of men were engaged as daily labourers. The granularity of the data may help in customization of the benefit type and size of urban livelihood schemes for each settlement type.
- Data on availability of identity documents captured through Participatory Settlement Enumeration may help in designing ancillary programs or sub-programs of the main scheme.
- Land patta is not available with 27% of the households of informal settlements of Muzaffarpur. This data may help in planning and implementing some of the verticals of Housing for all.

- The section on individual toilets, not only counts the availability and typology of toilets, but systematically investigates the reasons of not having toilets, desire to have individual toilet at home, and availability of land for constructing toilet. This makes a handy database for the implementing agency of IHHL and PT/CT under SBM (Urban).
- Similarly using data on availability of water supply, water outlets, drains and solid waste management facility may help significantly in formulating infrastructure augmentation projects, local area revitalization schemes or informal settlement improvement programs.

Below are some of the steps that may be taken to institutionalise PSE tool for development interventions in informal settlements of cities and to improve infrastructure facilities:

Way forward

Participatory Settlement Enumeration (PSE)

- To recognise the Participatory Settlement Enumeration as a formal policy and implementation tool and incorporate into program guidelines specific to informal settlements and urban poor.
- Use of Participatory Settlement Enumeration data for program implementation at settlement, ward/city level and generate data to inform policy at state and central level.
- To set up a repository/data centre at ULBs to store the Participatory Settlement Enumeration data in an organised manner so that it can help in periodically reviewing the socio-economic and physical development of informal settlements and help in making decisions on requirement of new schemes or de-notification of informal settlements.
- Use of Participatory Settlement Enumeration data to create a spatial targeting mechanism for social protection programs by using Geographic Information Systems.

Planning and implementation to improve infrastructure facilities

- Comprehensive planning to augment housing with adequate facilities for households of all informal settlements in the city. Projects may be formulated under "In situ" Slum Redevelopment and 'Affordable Housing in Partnership' verticals of *Pradhan Mantri Awas Yojana* (Urban) and other projects under state level policy for housing.
- Strengthening solid waste management for informal settlements.
- Expediting IHHL construction under SBM (Urban) and *Saat Nishchay* program.[9]
- Explore decentralised system of settled sewers to find long-term solution for waste water management in informal areas of the city.
- Strengthening the existing network of piped water supply to improve quality and quantity of water supplied to the informal settlements.

9 A program of '7 resolves' introduced by Bihar's Chief Minister Nitish Kumar to bring about drastic development to the state. These resolves include road connectivity and drainage, toilets in all houses, providing clean drinking water to all, electricity to all, higher education, skill development and women empowerment.



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BURBERRY



ANNEX 1

HOUSE LISTING

The implementation of an exhaustive enumeration over a large scale such as PSE required a clear demarcation and house numbering or house listing process. It was essential for the house numbering process to be a participatory process to ensure each household was systematically assigned an identification number. The SIC members and the community enumerators were trained by the PRIA team about the process of house numbering.

House numbering means that each household bears a systematically assigned number. For buildings that were already given numbers by the municipal corporation, the same numbering was adopted. However, for new buildings that came up after the buildings were numbered by the municipal corporation, they were given sub-numbers/new numbers. For example, if a building is found unnumbered or a new building comes up between buildings numbered 10 and 11, the same should be numbered as 10/1. In case the numbering given by the municipal corporation ends with No. 120, then a new number '121', in continuation of the numbering given by the municipal corporation, may be given.

In cases where no numbering for buildings or houses existed, the team was trained to give numbers to the houses through the following method:

Assigning numbers to buildings

i. If an informal settlement consists of a number of streets, the buildings in various streets should be numbered continuously. Streets should be taken in uniform order from North-West to South-East. The best way of numbering buildings is to continue with one consecutive serial on one side of the street and complete numbering on that side before crossing over to the end of the other side of the street and continuing with the same series, finally stopping opposite the building where the first number was allotted.

ii. If a pattern is such that the buildings are scattered or located in clusters or in isolated parts like fields, boundaries, along the side of a railway track or a canal/river/nallah, then to the extent possible, house numbers should be assigned by following the method described (i) above. However, if it is not possible to follow the procedure laid down (i) above, it should be ensured that all the building are numbered and the direction in which the building numbers are assigned should be indicated by arrow marks on the Layout Map wherever the number jumps.

iii. If a new building is found after the house numbering has been completed or in the

midst of buildings already numbered, it should be given a new number, which may bear a sub-number.

For example, if a building is found unnumbered or a new building comes up between building numbers 10 and 11, the same should be numbered as 10/1.

Assigning number to households

Each house should be numbered. If a building by itself is a single household, then the number of the house will be the same as the building number. But if different parts or constituent units of a building qualify to be treated as separate households, then each household should be given a sub-number within brackets after the building number as 10(1), 10(2), etc., or 11(1), 11(2), 11(3), etc.

Examples of assigning census house numbers:

Building number as assigned by the Municipal Corporation	Number of households	House number
7/1	2	7/1 (1) and 7/1(2)
7(1)	2	7(1) (1) and 7(1)(2)
7(A)	2	7(A) (1) and 7(A)(2)
7/A	2	7/A (1) and 7/A(2)



ANNEX 2

LIST OF INFORMAL SETTLEMENTS SURVEYED IN MUZAFFARPUR

Sl. No.	Ward	Name of Informal settlement
1	1	Jhitkahiyyan Road- Paasan Tola
2	2	Dusadh toli
3	2	Brahmpura Jheetkaian Dalit basti
4	2	Brahmpura Jhitkaiyaan Muslim Tola
5	2	Rahul Nagar (Ialong Highway)
6	3	Turha kumhaar Basti
7	4	Kilabandh
8	4	Jooranchapra Noonfar
9	4	Brahmpura Kahar Toli
10	4	Brahmpura Noonfar
11	5	Kasai Tola
12	5	Maalgodam Mestar Tola
13	6	Neelkanth Mandir ke peeche
14	6	Gaffur Basti
15	6	Dalit Basti, Neelkanth Mandir
16	6	Dalit Basti Railway Quarter
17	6	Sanjay Cinema ke paas
18	8	Kasai Tola, Maripur
19	8	Bakshi Colony, Maripur
20	10	PWD, Road no-2
21	11	Karbala Dhobi Ghat
22	11	Gandhi Nagar, Gujrati Basti
23	11	Jogiya Math, Company Baag
24	11	Jogiya Math, Dhobi Gali
25	12	Kundal Chauk

Sl. No.	Ward	Name of Informal settlement
26	12	Sikandarpur, Ambedkar Nagar-west
27	13	Shamshan Ghat Dalit Basti
28	13	Sikandarpur, Ambedkar Nagar east
29	13	Seedhi Ghat, Stadium ke paas
30	14	Akharaghat, Sikandarpur Baandh
31	15	Karpoori Nagar
32	15	Gandhi Aashram Ghat
33	15	Jheel Nagar- Karpoori Nagar
34	15	Baalu Ghat-Aashram Ghat
35	15	Shivpuri
36	16	Kamra Mohalla-Darji tola
37	16	Lakdidhai pul ke poorva mein bandh ki aur
38	16	Lakdidahi Main road
39	16	Switch gate
40	18	Immamganj (Behind MSKV)
41	18	Dalit Tola
42	19	Noonfar Basti- Behind U.B. Tower
43	20	Mestar Tola
44	21	Jumma Masjid Chowk
45	22	Bharat Mata Lane, Noonfar Basti, Deepak Cinema
46	24	Kalyani Bada, Mestar toli
47	24	Dom Toli, Shyamnandan Road, Thana Gumti
48	24	Mestar Toli, Basanti lane

Sl. No.	Ward	Name of Informal settlement
49	25	Pankha Toli, Dalit basti
50	25	Fakir Tola
51	25	Satsang Goli, Aaamgola
52	26	Sahay Bhavan ke peeche Dalit basti
53	27	Majhauliya Road, Gumti No. 5
54	27	Masjid ke paas Dalit Basti, Rasulpur
55	28	Damuchak Dalit Basti
56	28	Mai Sthan, Thakur Naageshwar Maarg
57	28	Shailesh Sthan Road
58	28	Speaker Chowk, Muslim Basti
59	29	Dalit Tola, Beghar Aashray ke paas
60	29	Dhuniya Tola, near Central School
61	30	Aghoria Bazaar
62	31	Atardah
63	31	Paaswan Tola
64	32	Saadpura Pokharia peer Milki Tola
65	32	Saadpura Pokharia peer Milki Tola - Kuan ke najdeek
66	33	Dalit Basti
67	33	Dhunkar Toli
68	33	Neem Chawk
69	33	Baanswari Tola
70	36	Tatma Toli
71	36	Paaswan Toli
72	37	Chapman School Bastii
73	37	Society Road, Mai Sthan
74	39	Ambedkar Nagar dalit Basti
75	39	Bahalkhana Road
76	39	Bibijaan Lane, Noonfar Toli
77	39	Mahrajji Pokhar ke paas
78	41	Dhobi Tola, Mestartoli Gali
79	41	Paswaan Tola
80	41	Muslim Tola, kanhaulidih
81	41	Sanskrit college ke saamne
82	42	Bharat Mata Chowk
83	42	Mai Sthan Malighat
84	42	Harijan Tola
85	43	Aajad Road (Hajaam Toli)
86	43	Bindheyshwari Compound
87	43	Saray Compound
88	44	Mestar Toli, Mukarri
89	44	Hajaam Toli- Darji Tola
90	45	Chaandwara Panikal Road- Dhobhi dom Basti
91	45	Chaandwara Soda Godam
92	45	Dusadh Toli, Amrit Bazaar
93	45	Lakdidhai Aanand Baag Colony, Mestar Toli
94	45	Hanumant Nagar
95	46	Aamgachi (Hajikhuda Baksh Colony)
96	46	Rambaagchauri (Nehar ke Paas) Hajikhuda
97	46	Rambaagchauri (Madrse ke paas) Hajikhuda
98	47	Police line (along Pusa Road)
99	47	Raam Janki Road (Near Police line)
100	48	Kanhauli Math, Paaswan Tola
101	48	Durga Sthan (Chandrasekhar Ke saamne)
102	48	Bangali tola
103	48	Muskaan Gali
104	48	Muslim Tola, kanhaulidih
105	49	Bela Chapra Paaswan Tola
106	49	Bela Chapra Raam Tola
107	49	Bela Chapra Hajaam Tola
108	49	Bela Chapra Kanu Tola
109	49	Mithanpura Lala Paaswan Tola
110	49	Sant Ravidas Nagar Kanhauli

About PRIA

Established in 1982, PRIA (Participatory Research in Asia) is a global centre for participatory research and training based in New Delhi. Currently, PRIA has field offices in several states of India and partnerships with 3000 NGOs across the global North and South to deliver its programmes on the ground. Over 35 years, PRIA has promoted 'participation as empowerment', capacity building of community organisations, and people's participation in governance. Initiatives are undertaken in the overall perspective of 'making democracy work for all' – in the political system; democratic culture in families, communities, and society; and participatory democracy with active citizenship. PRIA's programmes on the ground focus on promotion of participation of the poor, especially women and youth, to claim rights and basic services.

Through building knowledge, raising voice and making democracy work for all, PRIA realises its vision – of a world based on values of equity, justice, freedom, peace and solidarity.

About Engaged Citizens, Responsive City

Engaged Citizens Responsive City is a four-year long intervention supported by the European Union which focuses on strengthening civil society of the urban poor to participate in planning and monitoring of sanitation services. The project works across three cities in India (Ajmer in Rajasthan, Jhansi in Uttar Pradesh, and Muzaffarpur in Bihar). It primarily engages the urban poor through capacity building activities to enable them to become active citizens, and to use the new skills learnt to participate in planning (at city level) and monitoring (at the ward level) of sanitation services. Partners in this change include urban poor and middle-class residents, with leadership of young women and men; mayors, elected councillors and related government departments; traders and market associations; civil society, academia and media; and women sanitation workers.

To know more about the programme, please visit https://pria.org/projectsdetails-engaged-citizens-responsive-city-30-549.



ABOUT THE REPORT

This report is the outcome of a survey that was co-facilitated by PRIA to enumerate the households in the informal settlements of Muzaffarpur. PRIA and the community members used Participatory Settlement Enumeration (PSE) in this survey. PSE is an alternative process of gathering information about a community by its own community members in order to prepare community driven plans for public policies and programmes. This survey focussed on the demographic and socio-economic profiles of the community, access to toilet facilities and water among other aspects concerning the residents of informal settlements in Muzaffarpur. In our efforts to establish a platform that allows all residents to collectively voice their aspirations and develop strategies, authentic data collected and analysed by PRIA and community members emerged as a crucial piece of the puzzle.

The survey was undertaken under the “Engaged Citizens, Responsive City” project supported by the European Union. The project aims to enhance participation of the urban poor in citywide sanitation planning and monitoring.

Keeping in mind the lack of access to such granular and locally validated data, the survey results will be helpful for the municipalities, parastatals, civil society organisations, development agencies and engaged citizens working towards making Indian cities responsive, inclusive and sustainable.

Knowledge. Voice. Democracy.
PRIA

This project is implemented by PRIA

This project is funded by the European Union

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