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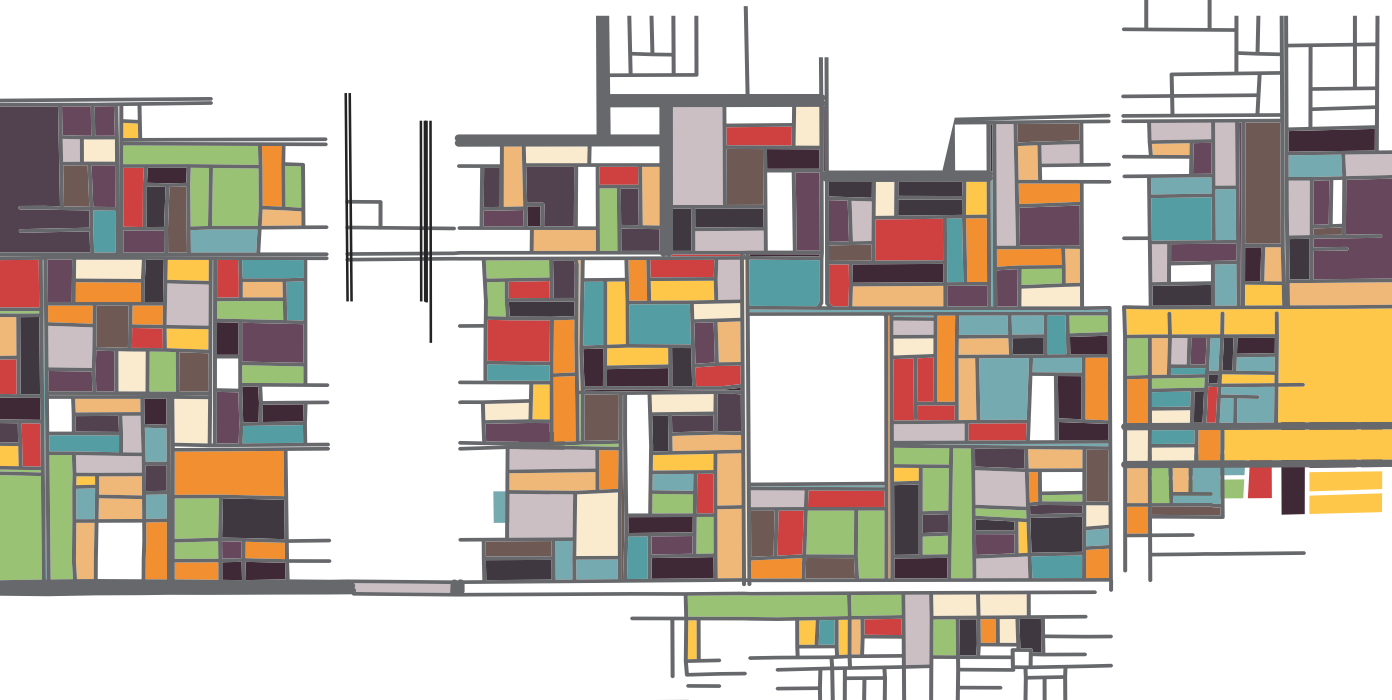

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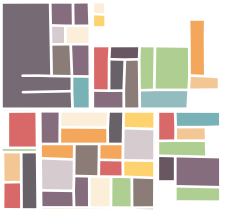

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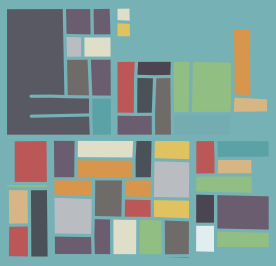
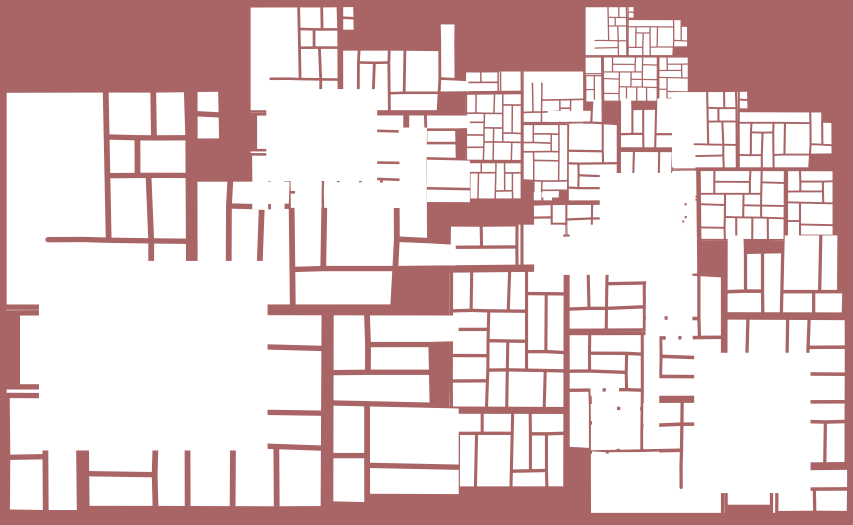


INTRODUCTION

ENGAGING WITH THE URBAN POOR



Author:
Amita Bhide

This journal presents a fascinating set of articles and studies linked to engagements with urban poor across a variety of geographies in urban India. What is equally interesting is that the articles span about three decades – a period from roughly 1990s to the present, during which the entire narrative around the urban in India has transformed. The journal is thus a chronicle of the transformations in Indian cities, with a focus on the practitioner perspectives and experience of engaging with the poor in these cities. As we deal with the pandemic where cities have emerged as the fulcrum; the papers in this volume present directions of thoughts and policies and outline an urgent course correction if Indian cities are to emerge as stronger, more resilient and inclusive geographies in the near future.

As urban poverty transformed from being a neglected issue to one that has assumed salience due to its quantitative spread in all scales of cities and in most states of the country; attention has since shifted from existential issues (evictions and clearances) to more substantive challenges such as how to provide basic services to geographies that are unplanned and still plagued by legacies of cultures of patronage, neglect and partisanship. The challenge is particularly acute in the case of WASH (water and sanitation) services, which have been traditionally regarded as networked services and hence governed by the ideal of the engineering grid, in turn linked at least theoretically to permitted land use, planned building and property taxes. Settlements of the poor have remained off-the-grid in most cities. There are immense technological, legal and resource challenges involved in service provision to off-grid, dense settlements. There is also the question of dealing with the poverty and vulnerability that underpins the inhabitants of these settlements while also

respecting their dignity and agency that has enabled them to endure and stake claims in highly hostile environments.

The challenges to inclusion of the poor in cities are however, not just substantive, they are also discursive. The enhanced salience and visibility of the urban poor have also generated significant hostility towards them, often expressed in aspirations for 'slum-free cities'. Such sentiments, and unthinking, highly biased projects which uproot the poor in the name of inclusion are now a part of every city experience. Such discourses and practices make the landscape even more complex as it means countering not just practices that are anti-poor but also their discursive elements that have a lot of similarity/overlap with inclusive practices.

Contemporary Indian City: Issues and Challenges

One of the most fascinating developments of India post 1990s is the emergence of the urban as a prominent discourse. The urban was till this period seen as a marginal geography, not much worthy of policy attention or resources. Urban poverty garnered even less attention. The period post 1990s saw changes at multiple levels. One of the most significant changes was the passage of the 74th Constitutional Amendment that recognized urban local bodies as democratic entities with distinct functions, and hence deserving of functionaries and finances. While the pace of urbanization hasn't changed significantly, the decisive shift in western and southern India towards an urban demography triggered a new-found awareness that the future was urban, that urbanization was an engine for development. This meant that the central government began paying greater attention to urban development and concerns; the period since the 1990s has thus seen a fairly rapid inception of schemes, missions and flagship programmes with substantive funding. The urban space has become more filled with consultants, NGOs, activism, citizen initiatives, research and capacity building programmes. The need of data has triggered a slum census since 2001, a socioeconomic caste census in 2011, special rounds of NSS and NFHS focusing on urban issues.

While the emphasis of many of these policies was on infrastructure, given the significant inadequacies of the same; there were also attempts to introduce reforms at multiple scales and sectors.

2020s represent more than three decades of this invigorated attention to the urban. This perhaps represents a good time to review what has been the impact of these initiatives. Have they improved the living conditions in cities? Made cities more economically productive? Has urban governance improved? Have they become more inclusive? Sustainable? Participative and citizen centric?

Questions such as the above remain polemical unless there is an examination of what is actually unfolding at the ground level. This journal can be read as a reflection of the state of the cities under study – the principal challenges they face, which of these are recognized and which are invisible, what is being done about the challenges, how do such actions synchronise or otherwise with the central government initiatives and the response to and impact of state initiatives on the city.

The geographies covered by the papers are diverse and range from metros like Delhi to its peripheries and to small cities and towns; from fully urbanized states like Delhi to states with low rate of urbanization like Odisha. The narratives thus, go beyond the metro and bring the reality of the bulk of Indian urban i.e. the 7000 plus urban areas in the country.

Some discussion at this point on the issues discussed in the journal and what they reveal about the existing state of cities is pertinent.

A. Migration

Migration as an issue has been undermined statistically (there are significant contestations about the number of migrants and the definition of migration) and systemically. The pandemic-induced lockdowns threw the phenomenon of migrants, their insecure existence in the cites into sharp relief. Their return journeys were described by several researchers as a human movement with significant parallels with the Partition (Hajari, 2020). It is this in this backdrop that we locate the study of migration by Renu Khosla and others. The study is interesting for several reasons. Firstly, because it clearly recognizes both push and pull factors in migration and distinguishes between the aspirational migrants and distress migrants. The difference between age, education, skill, migration decisions over time and the outcomes of migration in these two groups are striking. Secondly, the study reinforces the gendered nature of migration to cities. Thirdly, the study elucidates that cities need to do much more for migrant workers. It also raises multiple questions: While migration yields additional incomes to most migrants, does it alleviate their distress or merely shift its contours? What happens to their lands? What kind of life trajectories would they have in cities? Migration is thus posed as that in-between state, where lives are in spatial flux. The paper brings out the fact that migration acts as a bridge, a coping mechanism to tide over temporary circumstances or needs rather than as a definitive and permanent shift to destinations. This has implications on the preparedness to invest in own living conditions in the urban destinations. Interventions are thus, required at both ends of this source- destination continuum while currently, there seems to be a vacuum.

B. Housing and informal settlements

The discourse on low-income housing has considerably transformed in the country. Since the 2000s, slums and informal settlements are being recognized as a part of the urban fabric of India. However, while there is some recognition of the right of the settlers to housing, their right to 'be in place' and to consider these settlements have housing options which can be developed over a longer term is highly contested. Hundreds of people thus, get displaced from their homes and resettled into colonies built for them, often in peripheries of the city. While resettlement is largely a metro phenomenon; it is a practice of some significance for several small and medium scale cities as well. As a result, as the discourse around informal settlements shifts away from eviction, resettlement has replaced the same in terms of prominence. Coelho et al ( ) term this peripheralisation through the creation of large resettlement and low income housing in several Indian cities as a key phenomenon that deserves significant attention. Their disconnection from services and key life enabling infrastructures portends for a future filled with insecurity, uncertainty and continued vulnerability.

The debate of in situ vs resettlement is highly relevant for several urban dwellers all over the country. The paper by Khosla ('The Economics of Resettling') is a careful multi-factoral comparison of relocation vs upgradation that asserts that relocation not only impoverishes the households but that its benefits over costs are negative for the households even in medium term. In comparing in-situ vs resettlement, she considers the Mumbai model of in-situ slum rehabilitation and compares the same to the costs and benefits of resettlement. In this comparison that values costs of relocation such as loss of earning and employment, access to infrastructure,

value addition to the lives and assets; Dr Khosla rightfully concludes that in-situ upgradation or redevelopment holds much more value over relocation options. Planning that may be driven by land values and real estate markets may not look at 'value' comprehensively and choose to take decisions, based on narrow perspectives of and partial value assessments. The significance of such a study is therefore, not only in its advocacy potential but also to bring home the aspect of how much value is indeed lost through the process of relocation and how inhabitants have an uphill struggle ahead of them when faced with the prospect.

Another issue that the journal engages with is the dynamics in urban peripheries caused due to relocation. Mehta, Nanda, Pandey ('When Rural Meets Urban') extensively discuss the interface between the rural and resettlement community interface in Savda Ghevra. The complexity of relations where the decisions of resettlement are mediated by larger politics that is unmindful of sensitivities of host communities as well as that of the relocatees and a subsequent interface is contoured by caste (significant component of villagers being from upper caste communities) and income (resettlers as urban possessing more cash income); their competition for resources and infrastructure, the embodied and gendered impact of these tensions are completely absent in the imaginations of resettling agencies. The dividing wall between the host and the resettled communities has multiple layers – economic, resource conflicts and sharing, politics, governance, social interface, cultural practices, aspirations and it led to active conflicts in some cases, exploitation of weakness in some and a building of bridges over a period of time. The outlining of complexities involved in this process by Mehta and others is the uncovering of a highly neglected issue, that doesn't figure in the calculus of relocation policy or development policy. The case also vividly illustrates the emergence of a gradual process of mutual accommodation; it is to be noted however that this is not by design. The neglect of such issues can be counter-productive and the study is important from that point of view. Kundu (2007) had referred to such use of peripheries for resettlement as part of a degeneration of peripheries. This paper does not point towards a necessary degeneration but it certainly indicates that the processes of interface between rural and the urban via relocation are highly complex and in the short run exacerbate the challenges faced by the relocated families.

The state of informal settlements experienced through other papers in this volume, while not focused on housing indicates that while houses are being improved over a period of time; it is not commensurate with the improvement of basic services. In fact, the standard of basic services becomes etched as a marker of discrimination and difference between the informal settlements and the rest of the city.

C. Water and Sanitation:

A significant component of this collection focuses on water and sanitation issues, admittedly one of the most crucial aspects of the lived experience of inclusion/exclusion and equity/inequity. The concern with water and sanitation issues is a continuation of water decade, and a host of international and national initiatives directing attention to the emergent crisis in the sector and the calls for urgent actions. What is new is the changing ethos within which these issues are discussed – urbanization as the new dominant demographic reality with its locus in the Global South, the rising urbanization of

poverty, climate change and environmental degradations that threaten water security and raise questions about the predation and pollution of water via conventional urban water and sanitation systems. Added to this already potent mix is the angle of health whose link to WASH is integral. It is evident from the above discussion that the changing ethos is not just a backdrop to contemporary WASH; it is an ethos that actively engages and challenges WASH options and the engineering and design and technology that is embedded within them.

The social geography of marginalized infrastructures is highly gendered. Singh, Bhatia and Bhattacharjee ('Water and Sanitation Services: Availability, Access, Agency') describe a grim situation of WASH services in seven cities. Only two had a maximum coverage by sewer pipes. 'Government water pipes were punctured to extend taps into houses by 52%, 54% had toilets in their houses, 60% did not clean their toilet pits for more than two years, 50% threw their waste in the open/water body or empty plots of land'. This baseline of the WASH situation is perhaps reflective of conditions not just in the seven cities in which the USAID supported Pani aur Swachata mein Sajhedari (PASS) project was located but of most cities in India, large and small. The other interesting finding of this study is in relation to the community toilet block. The CTC as it is called, seems to be a critical facility, given that it is the sole option available to several people in the informal settlements. Yet the state of the CTC is poor, and recent transformations in the operations and maintenance have meant that it often remains closed. The study attributes open defecation in a major way to the closed CTC. Thus, the dynamic of poor, unconnected services, and traditional behaviour act as a nexus to reproduce a poor sanitation situation in these seven cities. They add a further nuance to this systemic exclusion by pointing to the differential vulnerabilities among women. They demonstrate the burdens posed by inadequate WASH infrastructure on the bodies of pregnant and lactating women and their families as well. These burdens are linked to the patriarchal nature of the provisioning systems as well as the community power structures. It is such intersections between social, economic, and legal, technical structures that make the access to WASH much more complex. Yet such intersections between materiality and social processes are very rarely appreciated by provisioning agencies.

The authors classify the supply side barriers to WASH services for slums into technical deterrents, community-behavior deterrents and enabling environment deterrents and their inter-relatedness that makes these deterrents more difficult to deal with. It is in these circumstances that the CURE team was able to demonstrate the possibility of viable WASH solutions by a scalar, comprehensive approach that appreciates the agency of communities and encourages their participation in making decisions. This also meant navigating the household and public spheres and connecting the hardware to the software. They argue that this task of 're-engineering is not possible for government actors and requires the involvement of locally informed civil society mediators. Poricha ('Social and Political Impacts of Urban Community Water Initiatives') advances this argument further through a case study of Cuttack, Odisha. She argues that a 'community water' approach that navigates between the simplistic binaries of privatized vs participatory water and reinstitutes political ecologies into the discourse has the potential of reconfiguring the conventional exclusionary relationships of water access prevalent in Indian cities.

An explicit embracing of a situated politics of gendered inclusion is advocated for. A similar argument is implied in the paper by Bhardwaj and Bhattacharjee ('Agency, Assets and Infrastructure'), based on a study of gendered decision-making in the resettlement colony of Savda Ghevra in Delhi. The authors argue that a significant preference for investing in household toilets can be effected if the locus of decision-making shifts to women. Making this shift possible perhaps then is the challenge for the mediating actors, like civil society organisations.

Drawing from these papers, then WASH that is primarily perceived and constructed as an engineering task; is transformed into a 'socio-technical or even more appropriately a 'socio-politico-technical' challenge. It is this capacity to alter the socio-politics and institutional environments which is currently at least, beyond the capacity of local governments.

D. Urban Poverty and Vulnerability

The issue of urban poverty is a vexing question. On one hand, urban areas are seen as sites of prosperity, generators of wealth and hence attract people in search of opportunities. The persistence, and in fact expansion of widespread poverty in urban geographies is a testament to widening urban inequalities, increasing informalisation and precaritization (Standing, 2009). It also reflects the limited opportunities available in smaller towns and geographies. There has been some progress in the recognition of urban poverty as a phenomenon and there is also recognition of what needs to be done. Simultaneously, there seems to be significant inertia in urban local bodies and systems that support them in effectively intervening in urban poverty. The policy environment continues to be characterized by a project approach, heavy centralization, highly compartmentalized actions or nation-wide application of locally successful templates.

A reading of several papers in this volume reveals that urban poverty needs to be approached much more through the lens of vulnerability than income poverty. Urban poverty is reflected through inadequate housing and basic services, inability to cope with crises, fluctuating employments, incomes and lack of social security and limited ability to invest in betterment opportunities and insuring from risk. Yet, it is very interesting to note that a mere investment in assets or income generation opportunities seems highly inadequate as an approach towards redressing urban poverty. The issue that the two papers in this journal take on is the importance of investing in the human agency as a complement to material investments for effective poverty redressal.

The paper by Dr Renu Khosla titled 'Women's Lives Matter' documents lessons offered by a poverty redressal programme which has now been given up viz Urban Basic Services Programme (UBSP). The UBSP invested in women's leadership at the grassroots, created an ascending model of women's organisations from the neighbourhood level to the city level. It is this processual approach complemented material aspects such as basic service provision and poverty redressal. The paper based on the author's experience in three cities, asserts the importance of sustained community organization, development of trust and a relationship with local governments in addressing short and long-term vulnerabilities of informal settlements, better targeting of the schemes and ensuring a combination of supportive and monitoring interventions. The UBSP was a programme based on patience and persistence, opposed to recent and

perhaps more favoured, interventions that look for quick-fix solutions to poverty.

The paper by Saumyadeb and others (this issue) outlines a different approach that seeks to change this very aspect of agency of the poor by investing in the same through highly customized, guided cash transfers. The approach demonstrates considerable promise but requires wider experimentation for its uptake into policy. Another reading of the paper reveals the complexity of the poverty experience – the cumulation of dynamic, multi-dimensional and intersecting encounters between legacies of the past, the contextual influences of the present and the composition of the competing/ collaborating aspirational/ debilitating forces within the household. Any insight into this complexity is bound to be limited but a close engagement with this cumulative experience has the potential to understand what is effective intervention.

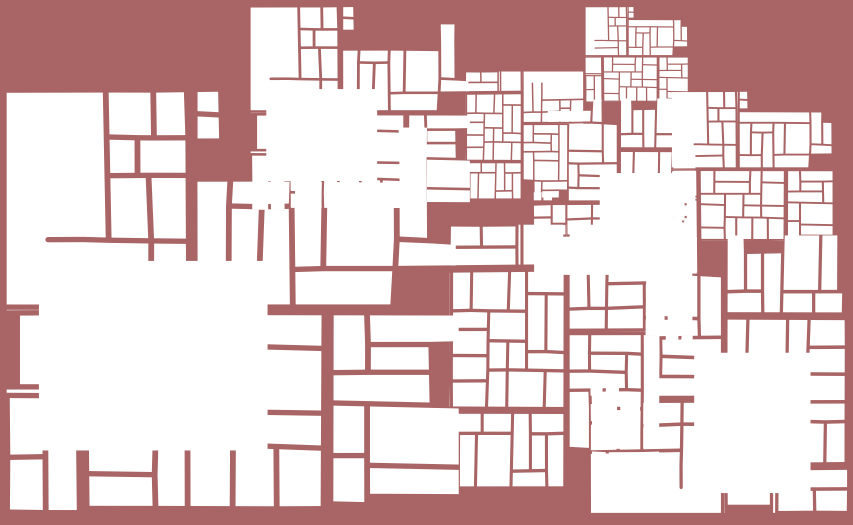
The emerging context of climate change attenuates the burdens posed by poverty on already vulnerable informal communities, often also located in highly risky locations. They thus, also have a much stronger potential stake in finding solutions that are more considerate of ecology as well.

Engagement: A Practitioner Perspective

The papers in this journal are reflections of practitioners who have engaged with urban poor communities for a substantive period of time. The perspective of a practitioner is complex and interesting for it simultaneously contests dominant narratives, demonstrates alternatives and introduces new discursive elements into the narrative. It thus presents a critical outline of what is possible to change at a micro, meso level, the dynamics and challenges of the same, and what needs to be changed by other systems simultaneously. This simultaneity lends a distinctive texture to this collection of papers which include part research, part documentation of experiences and experiments and part advocacy for the future. This distinction may be seen in the form of more attention to nuance in arguments and analysis, an awareness of an ongoing processes of transformation, an intersecting view of several systems at once – the material, the economic, the technological, the socio-cultural, the political and the behavioral and an attempt to balance the varied stakes involved. It is also reflected in the almost compulsive engagement with the question of 'what needs to change for the better and how'. Academics have often refrained from the normative aspect of such a question, claiming bias and the blinding to certain realities. The richness of the narratives at display in this journal definitely assert the value of the practitioner and the engaged perspective.

It is evident that these papers assert that not only do the poor have agency but also that this agency needs to be fostered. Effective and sustainable redressal of poverty and vulnerability needs to be especially considerate of the axes of power within and beyond the settlements and encourage those at the bottom of the ladder; offer meaningful opportunities for participating in decisions around their life and that such an approach has the potential for transformation of not just the poverty situation but also can offer locally informed, ecologically just, economically viable and institutionally light solutions to issues that are considered intractable at present.

A NOVEL APPROACH TO REDUCE URBAN POVERTY: A PILOT STUDY OF GUIDED CONDITIONAL CASH TRANSFERS



Saumyadeb Dasgupta
Amita Bhide
Rahul Nainwal
Barsha Poricha
Renu Khosla

Abstract

Urban poor families residing in slums and low-income settlements face complex and multidimensional problems which act as barriers to their capacity to aspire. Most poverty alleviation programs adopted by governments use a top-down, one-size-fits-all approach that is poorly targeted and woefully inadequate to address these intricacies of urban poverty. Hence, a novel approach of investment in facilitative decision-making is proposed which can make a critical difference in redressing urban poverty. The current study hypothesizes that a set of mutually pre-decided interventions linked to aspirations of households and removal of constraints over a short duration can lead to positive outcomes and enhance the household coping capacities.

The hypothesis is piloted through a intervention with 21 highly vulnerable families in two Indian cities. The agency of the poor households expressed through the guided preparation of a household aspiration plan is a critical dimension and a core around which the interventions are structured. Using conditional cash transfers, these customized interventions are implemented by the families with support provided by the program team to enable reflections, options thinking, exploring linkages to formal economy, collaboration and collective discussions. Out of the 21 interventions with as many families, nine were related to household water and sanitation facilities. Our pilot study found that introducing a degree of flexibility within the mutually agreed contracts resulted in intricately curated interventions catering to highly specific needs of the families. This resulted not only in judicious use of the money but resulted in small but significant differences in final output even for families undertaking similar interventions. Empirical evidence suggests that

these interventions reduced key household vulnerabilities in its immediate wake and over longer time periods were able to identify opportunities and devise coping strategies to lead more dignified, fulfilling lives. Based on the results of this pilot study, we anticipate the need for a large scale study (with statistically significant sample size using mixed methods or a randomized control trial) to further integrate such approaches within the frameworks of existing government programs on poverty alleviation.

Introduction

Considerable efforts in development studies have been devoted to the understanding and mitigation of poverty (Narayan & Petesch, 2007; Narayan, et al., 2009) all over the world. The rapid urbanization of the global south and increased migration into urban centres at the end of the 20th century and the beginning of the 21st century has mandated a closer look at the nuances of urban poverty (Baker & Schuler, 2004; Mitlin & Satterthwaite, 2012). Naturally, India has had to address its fair share of challenges in mitigating the effects of multidimensional poverty from targeting to allocation and implementation (Arabindoo, 2011; Bhide, 2009). While approaches like conditional cash transfers have been successful in certain pan India programs like the *Janani Suraksha Yojana* (Lim, et al., 2010), and state programs like the *Mamata* (Raghunathan, et al., 2017) in Odisha and the *Kanyashree* in West Bengal (Das & Sarkhel, 2020) to improve immediate outcomes, all post-program evaluations indicated the need for better targeting of poor households, complementary investments and the presence of robust supportive systems.

The missing link to understanding poverty has been acknowledging the agency of the poor and a shift in the notion from them being victims of poverty to actively engaging in ways to improve their lives (Mcgregor, 2000). Thus, moving away from a previously held notion of 'culture of poverty' (Lewis, 1998) in which the poor are trapped to what is recognised now as a 'capacity to aspire' (Appadurai, 2004). Appadurai pointed out that the poor do aspire and are pragmatic enough to do so within the realms of their status quo. Their aspirations are circumscribed by an awareness of the pressing contexts, hostile environments and the risks linked to choices. Over time, through careful interventions that are informed by these realities, and practical ways forward; the capacity to aspire can be nurtured ;this can be a key to sustainable future livelihoods. Hence, there is a need to shift focus from the redressal of purely external and material constraints of poverty towards approaches which seek to strengthen the aspirational capacity of the poor by building on their agency and decision making processes along with material support (Bernard, et al., 2008; Solava, 2011; Dalton, et al., 2016; Copestake & Camfield, 2010).

Naturally, conditional cash transfers on their own are not sufficient to address these aspects of poverty and require a different approach (Miller, et al., 2016). The Graduation Model (Hashemi & De Montesquiou, 2011) of poverty alleviation was a significant step in the right direction as it improved targeting of poor households, indicated the importance of cash transfers for building agency and validated the need of guidance in the process of decision making and fulfilling aspirations. Hence, the current study builds on this premise and uses a guided conditional cash transfer to understand the existing facets of poverty and vulnerability in urban Jaipur and Dharamshala. It focuses on nurturing the agency of the poor households through the preparation of a household aspirational plan, involves customized interventions and a joint study of the unfolding impacts of the intervention on their poverty. This pilot study demonstrates the proof-of-concept through successful WASH

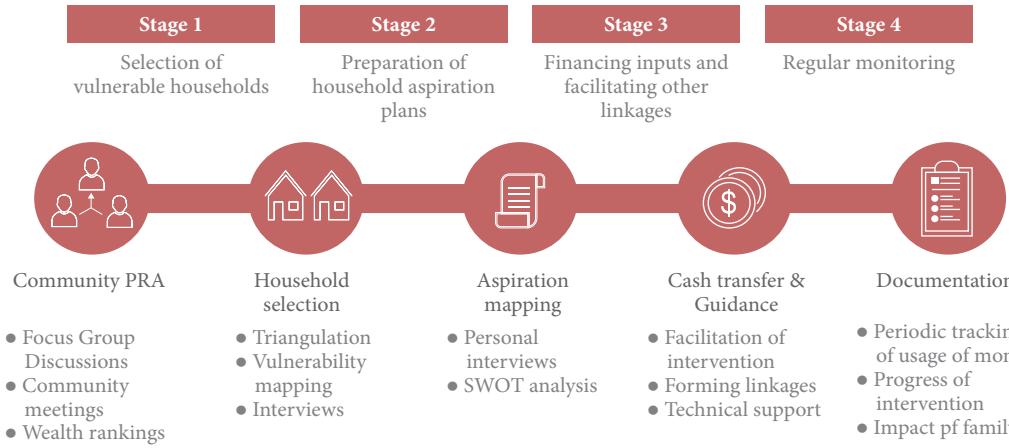


Figure 1 Conceptual Framework of the program

interventions of the target families along with an improved agency to capitalize on future opportunities.

Methodology

The study was designed as a proof-of-concept study for poverty alleviation through guided conditional cash transfers in two cities i.e. Jaipur and Dharamshala. The experiment involved a) selection of participants that were some of the most vulnerable in the particular contexts but also demonstrated a willingness to think and engage b) preparation of an aspiration plan identifying key inputs required for change in situation of vulnerability c) financing the inputs identified and facilitating other linkages d) regular monitoring of the families.

Targeting and Selection of participants

Four low income settlements from Dharamshala and one urban slum of Jaipur were selected for the purpose of the study. The selection of participants was done in three steps. The first step was to identify the vulnerable families

Table 1 Illustrative vulnerability situation in urban low-income settlements

A participant family in Jaipur	A participant family in Dharamshala
• Unable to access ration from PDS. • Difficulty supporting education of kids. • Monthly income: Rs. 10000 (approximately) • Lives in a rented room with no toilet facilities. • Uses shared toilet. • The family has three teenage daughters, one of whom is specially-abled. They also have a newborn baby amongst them. • Female head of household cannot work outside due to burden of taking care of kids with special needs.	• Kaccha house built on government land with no ownership rights. • No access to government schemes like PMAY, SBM. • Makeshift household toilet. • Principal earner works as daily wage labour. No secure income generation source. • No documents (domicile etc.) to prove residency of Himachal Pradesh and avail of schemes • Have to avail private connections for utilities which are expensive. • Monthly income: Rs. 10000 (approximately)

through community wealth ranking exercises and to determine the vulnerability parameters governing the same. In privileging vulnerability over the standard income-poverty approach, the intervention approached poverty as a force-field, a situation that was being created and perpetuated by forces internal and external to households. This was followed by a baseline household survey conducted with the identified families to understand their socio-economic conditions and their fit within the program. Finally, members of the program team visited all such families to triangulate the information obtained till then and minimize selection errors. Based on the above steps and the willingness of the family, the final participants were on-boarded into the program.

Aspirational plan building:

Over the course of the 2-3 months following the on-boarding process, the program team worked to understand the family better through a variety of exercises like daily routine charts, transect walks and flow diagrams. Semi structured interviews were used for individual interviews with the family members. A logical Framework Approach (LFA) using Objective Oriented Program Planning (OOPP) was used to create the aspirational plan for the family. This was followed by a SWOT (Strength Weakness Opportunity Threat) analysis of the family as a whole to arrive at the final intervention through sustained dialogue.

Intervention: Preparation of Contracts

Once the intervention was finalised with the families, the amount of money required for the same was decided upon. Care was taken to involve the entire family in the decision making process. Consequently, a mutually agreed upon contract was drawn regarding the disbursement of the money and proposed usages of the same. A typical contract would

Table 2 Decision making dynamics

Decision-making by participant families: An example
A participant family in Jaipur consisted of a mother living with her six children at her in-laws' place. Her spouse was a drunkard and did not provide for the family. Her in-laws were providing her shelter and helping her take care of her kids. The family was mostly being sustained by the pension of her father-in-law and ration from the PDS. The mother could only work as a domestic help in one household due to her child care duties. Her in-laws wanted the money transfer to be directed at starting a business from home which would help earn some income for the family. During the initial discussion, she had also come on-board with the idea of starting a tiffin delivery service as there was a conceivable demand among college students. However, in a follow-up discussion with a few of her elder daughters (aged between 12 and 15 years), they had expressed the wish to have their toilet be renovated to improve sanitation and privacy (the toilet had no door, only a curtain). The father-in-law had initially dismissed this as unnecessary and deemed it to be a waste of money. However, the mother prioritized the need of her kids. During one key discussion, she posited to her in-laws that her daughters were getting older (she had 5 daughters) and the toilet upgrade would improve their quality of life significantly – more so than what an increased income from a business would do in the long run. To support her point, she had also mentioned that there would never be a better opportunity to prioritize the safe sanitation of her children as the family is not able to save enough to do the same on their own. She also garnered the support of her mother-in-law who asked her to do whatever is best for her grandkids. The father-in-law came around soon after.

consist of a description of the socio-economic conditions of the participant family, their present and permanent addresses, contact details, the amount to be disbursed and the rationale behind the cash transfer. The contracts were made flexible enough to be able to accommodate unforeseen changes. Through the signing of said contract the families provided their consent in future documentation required to evaluate the impact of the program.

Cash Transfer and facilitation of interventions:

The relevant banking documentation of the families were obtained and the bank passbooks updated to ensure that their accounts were active. Cash was transferred electronically in a single tranche to the bank account of the female head of the household. The first 10 families received the transfers in July 2020 and the rest in August of 2020. As interventions were underway, the program team facilitated wherever required through guidance, brainstorming and technical support. The team did not intervene in any intervention directly and only engaged with the families to reflect upon their decisions keeping their aspirational plan in mind.

Post Intervention Documentation

Once interventions were underway, the program team engaged with the families regularly to document their progress. A framework of documentation was developed to capture the short term and long term impacts of the monetary disbursement. A questionnaire was used along with photographs and video to document the progress of the intervention for the first two months. Post this, a long term impact questionnaire was used to document the condition of the families and the intervention every three months. Besides this, family income and expenses were documented every month post the intervention. Apart from in-person visits, telephonic interviews were also used when travel was not possible owing to the pandemic. All documentation processes were conducted considering the privacy of the families and by adhering to ethical guidelines.

Data Analysis

The information obtained by documenting the trajectory of the families has been analysed mostly in a qualitative manner through empirical evidences. The authors have attempted to evaluate the impact of the program by identifying patterns in the socio-economic trajectory of the families obtained through responses to the tracking questionnaire over multiple rounds of documentation. The quantitative data associated with the responses to the questionnaires have been used to evaluate the programmatic efficiency and support the findings of the study.

Findings

Of the twenty-one families involved in the project, nine had prioritized WASH issues around which interventions were designed. These WASH interventions included upgradation of makeshift toilets, construction of new individual household toilets with and without bathing areas and improvement of household plumbing infrastructure. There were multiple reasons behind choosing to construct a toilet as a priority. During the aspiration mapping process, families cited that their income situations warranted both the husband and wife continue earning to meet monthly expenses. In most cases income was dependent on work availability which changed monthly. Hence, it was imperative to not miss those highly coveted work days. A household

toilet is a significantly better option than their usual practice of open defecation which is unsanitary and results in health issues and loss of work days. Moreover, having a toilet in their premises would free up a lot of time (sometimes up to two hours a day) a mother would spend in accompanying her young kids or girl children to and from the unsafe open defecation sites, especially during evening or night time. Hence, these interventions were envisioned by the participant families as important scaffolds to ensure they did not go into debt to cover regular expenses.

Geographically speaking, of the nine toilets constructed or upgraded, two were in Jaipur and seven were in Dharamshala. In the Jaipur settlement, household spaces were cramped and always a constraint that had to be factored in during toilet construction. However, all the beneficiaries of Dharamshala belonged to settlements which were significantly less crowded and toilets were constructed as a separate structure. The other notable difference in the two cities is the availability of sewer lines in Jaipur owing to its close proximity to the main city and important roads. This significantly reduced the costs of constructing a toilet in Jaipur as opposed to one in Dharamshala. The sewer lines in Dharamshala cover less than half of the city and a majority of the households had to resort to septic tanks or cement lined pits to navigate the problem of sewage disposal. Moreover, to avoid recurring costs of emptying the pits, the residents usually resorted to constructing large pits with depths going up to 8 feet in some cases. Moreover, these mountainous areas are strewn with large rocks and boulders that needed to be removed or navigated, resulting in a higher cost of construction. Hence, it was found that a typical toilet cost 2.5 - 3 times more in Dharamshala as compared to Jaipur in the context of low income settlements.

Moving on to the actual interventions, it was observed that the turnaround time for using the money was the quickest for the two beneficiaries of Jaipur. They not only used the money to upgrade their toilets (adding doors, improving plumbing, repair of toilet seat) but even employed the leftover money on other aspirations like upgrading their kitchen and investing in a small business opportunity. In Dharamshala, on the other hand, constructions were heavily affected by the monsoons and took at least 2 months to be completed. Naturally, these families faced a whole host of issues like increased labour costs, waterlogging, material wastage and unavailability of masons. Consequently, they had to find different ways to reduce construction cost; one method adopted by all seven families was for all members to chip in with labour work to reduce the number of man-days required. This saved, on an average, the cost of 6 man-days which would be approximately Rs. 2500 per family. Also, two families were able to negotiate lower wages for the masons through social connections. This was interesting as masons were scarce at that point of time owing to the pandemic induced lockdowns. Similar social networking was employed by two other families to procure doors, doorframes, tin sheets for roofing and water tanks either for very low or no cost at all. The program team facilitated the intervention by brainstorming ideas with the families, providing technical support and keeping a check on the expenses through regular discussions. It is important to note here that one of the beneficiaries in Dharamshala faced a substantial medical cost during the intervention when a family member had to undergo surgery for a kidney infection owing to a lack of toilet within the household. Hence, they resorted to using a part of the money for medical expenses and later plugged the deficit by borrowing from their relatives. Six out of the seven toilets constructed in Dharamshala are equipped with an attached bathing area with water storage tanks for better functionality. Also, two families used

amounts of Rs. 5000 and Rs. 7000 from their own savings to finish the construction according to their liking. Another beneficiary, with a leftover amount of Rs. 4000, revamped the wastewater drainage from there house by transferring to an underground system of plumbing and thereby reducing the chances of infectious diseases. Clearly, the flexibility and control over the money meant that families made the money work for much more than was intended for and stated about in the initial contracts.

Post intervention, for eight months, all members of the beneficiary families have been using the toilet and there has been no instances of open defecation. The toilets have remained functional and have been very useful for the female members of the families who have experienced a significantly improved lifestyle. They have reported a greater feeling of safety, more free time and a reduction in their daily vulnerability. In addition, the families have not faced a single instance of infectious disease and not a single day of work has been lost due to the same. Access to individual household toilets have helped to change the practices linked to disposal of faeces of young children. This has led to a reduction in the spread of infectious waste with families acknowledging healthier surroundings. Interestingly, for the seven beneficiaries who constructed their own household toilets in Dharamshala, the toilets were the only *pucca* structure within their premises. With no land ownership rights, these structures have become important placeholders to demarcate the extents of the land that they occupy as they continue to make claims to the *patwaris* (administrative officer who maintains land records) and the District Magistrate.

The family incomes, being mostly dependent on daily wage work availability, were highly uncertain in a post lockdown market with reduced demands. Empirical data from the past 18 months indicate that only two of the nine families had a reduction in monthly income, mostly due to the issues of work availability. However, they are yet to accrue any debt to meet monthly expenditure which was an intended consequence of the intervention.

Beyond making the money work much more than intended, families showed evidence of rational and collective decision making. As the pandemic had reduced the demand for daily wage work, a family in Dharamshala pooled in resources to invest in the education of their daughter. After a 1-year certification course, she was able to join a local private school as a part-time teacher for a salary of Rs. 4500. As classes were mostly online, she invested in a smartphone for better interaction with students. Her increased efforts got her promoted to full-time teacher with double the salary. Another family in Dharamshala tackled the deficit in work availability by plugging into the government program LAKSHAY, which guaranteed daily wage work. In order to avail this, the family acted quickly to create valid job cards from the relevant departments in the municipal committee. This required going through a series of contacts in their network and getting all their documents in order which required monetary investment as well. The husband-wife duo got their cards and earned ensured amounts from the scheme. Their repeated interaction with the administrative officers which were initiated as negotiations for cash transfers were underway, also made them a familiar face in the offices which yielded further benefits in releasing payments when they were delayed. In Jaipur, a family started a business of providing tiffin delivery service. All the family members worked collectively to make it a success. The mother and eldest daughter did the cooking, the younger daughters and sons took care of the cleaning and packing while the father did the deliveries. This enterprise was so successful that they paid back the borrowed amount in a month and were earning upwards of Rs. 8000

in the following months. This helped them put together enough money to get their eldest daughter admitted to college. This trend of investment for the long term was evident in decisions taken by other families as well. One family pulled out their daughter from school temporarily to check their spiralling expenses (on books, stationary, exam fees, tuition fees, internet charges) with a plan to re-admit her in the coming academic session. They decided that delaying her education for a while was a better alternative than sending the family into debt during trying times. Another family invested a small amount with a contractor to help him pay his fees to get a government contract. This ensured in turn that the husband was assured of daily wage work whenever the contractor had open projects in the future.

Program wise, the cash transfers as a mechanism proved to be highly efficient in terms of targeting and resulted in zero leakages i.e. 100% of the intended amounts reached respective beneficiaries. The average time taken from identification of a family to disbursement of cash typically ranged between 2 to 4 months. Over the time period of 18 months of the program, the program team visited each family on an average 52 times and spent on average 118 hours interviewing and discussing with the families.

Discussions

The current study adds to the growing pool of data that has shown cash transfer to be an effective tool for poverty alleviation. It reinforces the fact that cash is easy to administer, cheap and fast to transfer and fungible leading to 100% delivery of benefit to the intended recipient. In addition, the unique design of the conditional cash transfers used in this study focused on a simultaneous process of facilitation, enablement and a reliance on the agency of the urban poor families. The targeting i.e. the process of selection of beneficiaries was carried out through community participation which ensured that local nuances in vulnerability conditions were considered in due process. A participatory process also ascertained that each family was automatically vetted by the community to be the most vulnerable according to their standards of living. This helped in on-boarding the families which were highly vulnerable but were excluded from social protection schemes of the government.

A distinctive feature of the program was the trust that was placed on the beneficiaries in using the money i.e. there was no interference from the program team to choose suppliers and builders on their behalf. Instead the program team prodded the grant recipients to think about the outcome of the intervention and enable their decision making skills. The degree of flexibility introduced within the grant contracts actually aided in achieving unanticipated positive outputs. For example, the decision by a family in Jaipur to use a portion of the grant to refurbish their dilapidated kitchen and later use that for starting a tiffin delivery business resulted in a three-fold rise in their monthly income. Such an output would not have been possible if they were not allowed to allocate funds anywhere other than on upgrading their toilet. Similarly, this flexibility enabled families to focus on constructing toilets that would suit their needs the best. For example, those who wanted bigger toilets with attached bathing areas, spent less on doors, roofing and plumbing while privacy was more important for some who invested more on separate iron framed doors. Another family saved some money by building a smaller toilet and used it to build underground drainage for wastewater from the kitchen and the toilet. Numerically, it was just a 16% difference in grant allocation which made a significant difference to the sanitation of their household. Also, the grant recipients were approached with no pre-set assumptions

as to what the interventions would be and the grant contracts were essentially agreements that had been worked out mutually. This created a standard of transparency between the program team and the beneficiaries and enabled a participatory approach which would be of most benefit to the grant recipients. As interventions were not imposed but followed a bottoms up approach based on aspirations and genuine need, the families did not hesitate to put in their own money and sweat equity into the same. Hence, 19 out of the 21 families were able to implement their desired interventions within the time period of the project.

As a natural outcome of toilet constructions and WASH facility improvements in urban poor households, the vulnerabilities of women related to ill-health, privacy and dignity as well as risk of sexual exploitation were significantly reduced. Construction of toilets did not have an immediate impact on addressing urban poverty if poverty is only measured as an accumulation of tangible assets.

The accomplishment of the program lies in the fact that it was able to strengthen one of the key cultural capacity of the urban poor which is the capacity to aspire through the guided conditional cash transfer process. During the program, participating families altered the interventions to suit their needs, invested their own money to plug deficits, extracted much more worth from the money as compared to what was intended in the contracts and dealt with unanticipated circumstances – all without any direct support from the team. This clearly indicated an improved agency within the families. Beyond these interventions, families in both the geographies showed evidence of collective decision making towards long term investments in enterprises, education and livelihood as per their needs. Evidence also pointed that these households were able to access government programs of their own accord. Hence, in developing agency of the urban poor, the program actually nudges them towards a more resilient future where they are better equipped to deal with local challenges and at the same time preserve their status quo while facing the detrimental effects of multidimensional poverty.

Studies have also shown that conditional cash transfers when coupled with other support initiatives and guidance tend to reduce different markers of poverty. In the current study, the guidance that was provided throughout was to help the participants introspect on their decisions about their lives. During aspirational mapping, the families were prodded to think about the intended outcomes of their decisions, reflect on what was realistic and what would be the best course of action for them. This helped to ground the aspirations in reality and not delve in wishful thinking. Moreover, a structured approach meant that a basic roadmap for the usage of money was created even before the cash transfers. Such guidance also meant that the program team was always approachable for the families to reach out. Naturally, such a model required a local team on the ground all along the implementation phase which is expensive from a programmatic point of view. In studies, comparisons of these programs are drawn with microfinance programs which refrain from guidance and the inherent payback clause ensures that the right decision is made about the usage of money. However, in our case, such guidance helped in strengthening the capacity to aspire among the urban poor as is found from the evidence of long term investments made by participating families. Considering the nuances of poverty afflicting urban poor households, the cost of guidance is justified keeping in mind the long-term resilience that may arise through the building of household level agency.

This program adds value by providing conditional cash to the urban poor families who have to rely on high-interest informal loans for

any and all upgrades to their households and their lives. Our experience indicates that while participants would have been agreeable to any amount of due diligence and monitoring, given their need and vulnerability; such an approach embodies significant threat to privacy and dignity; it thus demands strong ethical considerations. Hence, in each and every step of the interaction, guidance and documentation process, efforts need to be made to ensure that considerations of privacy and dignity are not overstepped and consent is taken beforehand.

Conclusions

In the current work we present a novel method of guided conditional cash transfers based on the aspirational capacity of urban poor households. This pilot study conducted in the cities of Dharamshala and Jaipur indicates that the approach is not only effective in addressing immediate family aspirations but also builds on their agency to identify better opportunities locally to reduce the impact of various dimensions of poverty on their lives. Using a community based targeting approach to identify vulnerable families in urban slums and low income settlements followed by triangulation and household survey by the program team, the participant families are onboarded to the program. Using participatory rapid appraisal (PRA), personal interviews and problem/solution tree methods, aspiration plans were created for each family and interventions and cash transfer amounts decided through mutually agreement. As a direct result of the guidance and facilitation provided by the program and the flexibility embedded within the cash transfer contracts, 90% of the interventions were successful out of which roughly 50% were WASH interventions. Micro-adjustments made to the interventions during the course of implementation led to customized outputs which were heavily suited to the needs of the beneficiary families. Even for similar interventions of toilet construction with the same amount of money, the final structures were different based on the requirements of the family. As a result, such structures have not only been in regular use since then but have also inculcated a habit of using the toilets among family members used to open defecation practices. Banking on the capacity of aspiration of the urban poor and instilling trust in their abilities led to further improvements beyond the intervention. Empirical evidence points that agency of the individual family members were mobilized leading to them making significant progress on their own in terms of altering their own conditions of poverty.

In an uncertain future of economic instability, health emergencies, inadequate resources and climate change it is of utmost importance that the future outlook of development shift focus from a one-size-fits-all policies to customizable ones. The current study serves as a proof-of-concept of such a customizable approach through guided conditional cash transfers. We anticipate that such customizations incorporated within existing government programs would not only increase effectivity but also encompass a broader range of social and economic securities. Hence, larger studies with randomised control trials across wider geographies would be a natural follow through of this experiment to identify viable routes of integration with state policies.

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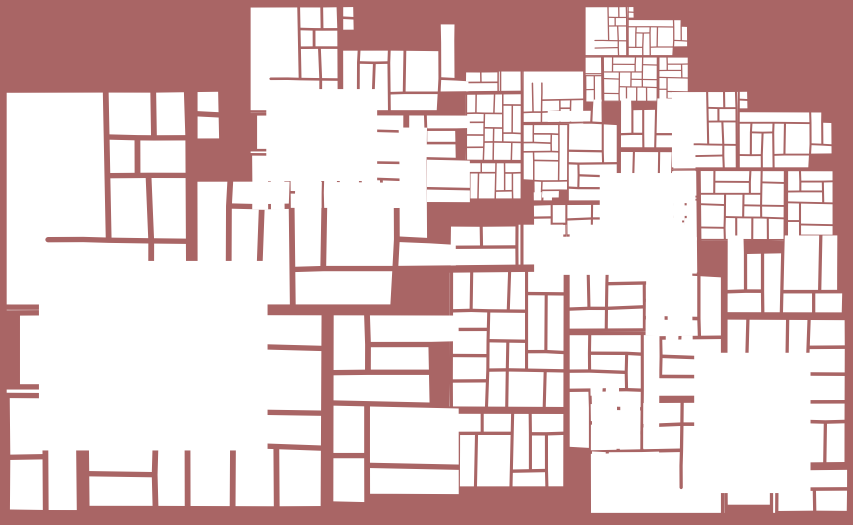
Table 3 Poverty criteria obtained from community wealth ranking exercises.

Table 2 Poverty criteria obtained from community wealth ranking exercises

Location	Vulnerability/Poverty criteria					
	Income	Access to services	Assets	Gender	Family composition	Health
Jaipur	1. If there is no source of income in the family. 2. Problem in educating their kids – mainly payment of fees/transpor 3. Outstanding loans taken from banks and SHGs. Cannot go outside (far) to earn because of family responsibilities. No support from extended family. Absence of support system. Problems in livelihood generation. 4. Male family members unable to earn at all or earn enough to support the family due to physical disability/illness. 5. Those who can't provide enough for food from source of income. Have to take ration on loan from PDS outlets. 6. They can't meet household expenses due to inflation.	1. Do not have own toilet. 2.No pension facilities (old age pension/widow pension). 3.No water connection. 4. No gas stove. 5.If the house doesn't have basic facilities.	1. Do not have own house. 2. Do not own a car (four wheeler). 3. Do not own assets like refrigerator and TV. 4. If the family has to live in rent.	1. If the women have to go look for work because there is no other choice (like male family members sick or unable to earn income). 2. Those who have 3 or more daughters.	1. Alcoholic family members. 2. If the husband has passed away leaving a widow and children in the family. 3. If the kids are very young. 4. If the grandparents have to raise their grandkids (because of death of parents/ because of parents leaving).	1. If there is Illness (Long term) in the family 2. The husband/son is suffering from illness which affects their ability to work 3. If the women in the family are ill from recurring illnesses like epilepsy
Dharamshala	1. Most find work as daily wage labourers. 2. No jobs (salaried) in family. Absence of steady income. 3. Scarce sources of income and higher expenses. 4. Unsustainable expenses in agriculture. 5. No government jobs in family. 6. Cannot afford expenses on quality education of kids. Often difficult to support kids in government schools after 8th standard because expenses are more. 7. Do not own or cannot afford livestock. 8. Women work as cleaning maid in other households to meet family expenses. 9. Was allotted PMAY scheme but couldn't avail it because of lack of cash at hand.	1. Do not have own water connection. Avails water either from nearby bawadi (natural springs) or hand pump. 2. Toilets are kuccha or makeshift with no proper septic tank or sewer connection or seat. Often there are no walls but only a purdah. 3. Are not able to access schemes like PMAY, water connection, SBM. 4. Do not have own toilets and use shared or community toilets. 5. Are not able to get proof of residence certificates/ domicile because land is not in their name. This restricts access to government schemes and scholarship. 6.Do not have land in their name despite occupying them for more than 25 years.	1. Do not own assets like refrigerator, TV or cars. 2. House is kuccha (mud houses, slate roof, brick with no cement, stone with no cement, shed type made with primarily tin sheets and wood) 3. Do not own land for agriculture.	1. Single women are discriminated against for hiring as daily wage labour unless accompanied by a male family member.		1. High out of pocket cost for long term illness. 2. No health card without domicile certificate.

WHEN RURAL MEETS URBAN



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ABSTRACT

Dispersal of population and employment to the fringes of metropolitan cities is becoming a global phenomenon. Such dispersals under the backdrop of rapid urbanization have significant social, economic and environmental impacts – harboring both, opportunities and marginalization. Resources like land, water and the environment face immense pressure from land-use changes. These create new pressures on scarcely available resources and potential conflicts due to shifting social structures and values. This paper presents an overview of a study on peri-urbanization in Delhi, undertaken by Centre for Urban and Regional Excellence (CURE), to understand its spatial, temporal and functional elements. It aims to build on pro-poor approaches that address the conflicts from when the rural meets urban, and implement changes to benefit the poor and marginalized.

The mixed-method study was conducted at the peri-urban resettlement site of SavdaGhevra and its neighboring villages of Savda and Ghevra. A stratified random sampling method was used for identification of a robust sample. Independent variables such as demography, resources (land, water and schools), political processes and environmental degradation were included in the study. The dialogical effects on the social, economic and cultural practices as a result of the resettlement were examined. The bipolarities and similarities in the experiences of host versus resettled communities were considered to understand the processes and impacts of

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the peri-urban interface. The paper illustrates various aspects of this interface, deconstructs the ever-evolving process of peri-urbanization and points towards the gaps that are yet to be bridges.

INTRODUCTION

Growing urbanisation and its pressures on urban spaces are pushing cities beyond their municipal limits, necessitating an ever-evolving interaction between the city and its surrounding rural areas. Such expansion, while creating new economic opportunities, also causes socio-cultural shocks and stresses between the communities living in or moving into these areas. This process of urban growth, mainly between countryside and city, is referred to as 'peri-urbanization' (UNFPA, 2007).

There is a plurality of definitions of peri-urban areas as well as of their contestation in urban literature. The general consensus is to use geographic location to describe the peri-urban, as "*settlements that are marginal to the physical and regulatory boundaries of the formal city*" (Hogrewe et al., 1993). However, according to Laquinta and Drescher (2000), using geographic location as the basis undermines the rural-urban spectrum as "*dynamic, interactive and transformative*." The 'urban' and 'rural' are fluid spaces, forming an intermediary zone (Narain et al., 2013), wherein the urban fringes grow and shrink, "*'eating' their way into the countryside, while they are swallowed by the expanding core area.*" (Schenk, 2005) Peri-urban is, therefore, best defined as "*an area outside the existing urban agglomeration where large changes are taking place over space and time*" (Dupont, 2005) and "*where rural and urban features co-exist, in environmental, socio-economic and institutional terms*" (Allen, 2006).

The rapid growth of peri-urban areas can be attributed to overarching factors such as; a.) Need for cities to expand and include more land, to provide housing and services to people; b.) Attractive lower land values and easy land availability at the urban edges for businesses and relocation of slums; c.) Increased investments in industrial zones at the outskirts with more affordable real estate and access to freight transportation (Webster and Muller, 2004); and d.) Housing options for the lower and lower-middle economic groups at affordable prices.

Peri-urban areas are often formed by unplanned conversion of agricultural land for business and housing purposes. They are a home to high (and growing) population densities and lack basic services, which result in severe exploitation of resources. At the same time, however, peri-urbanity also represents considerable economic dynamism (Friedberg 2001 Simon et al., 2003; Briggs, 1991). It is thus a complementary space with perpetual potential. This interface between the old and the new, the poor and the rich, the conventional and the modern has social impacts; the associated social shifts of which are both, a source of positive changes and potential conflicts. Much of this dynamism and its associated heterogeneities especially arise from the presence of new settlers, creating spin-off effects on economic activities (Narain et al., 2013). Antagonisms emerge between the diverse needs of new settlers, traditional residents and the industry (Dupont 2005; also see Rohilla 2005). Such dynamic features and the systemic interactions between natural resources, rural agrarian culture, and urban processes create a competitive climate in peri-urban areas.

Peri-urbanism in the study's context

Inspired by approaches that study urbanisation as 'processes' and systemic interactions, the 'peri-urban' acts as an analytic construct, also known as the Peri-Urban Interface (PUI) (Allen, 2003), to inquire rural-urban relationships

(Narain, 2009). This study, thus, defined 'peri-urban' as a condition that encompasses aspects of rural and urban activities and institutions which influence and are influenced by rapid social, economic and environmental change. Peri-urban was seen as a site of expulsion from the city, which nevertheless accommodated aspirations of modernity. However, a wide range of contentious dimensions of peri-urbanization emerge when one deconstructs its overarching factors into specific natural and social resources – telling us that peri-urbanization is in fact, rather sociological in nature and warrants some form of planning. This section outlines some of those dimensions below.

Land is the most important asset among villagers. Agriculture, the primary employment generator in villages is based on land**.** It is also a source of power, social standing, a basis for accessing credit, a hedge against inflation and an avenue for increasing net worth from increasing land prices. As the land-use pattern of peri-urban areas shift to commercial uses, the resulting increase in real-estate value of land pushes up its asset-value, rendering farming unproductive and appropriating more land for urban expansion; a trend true for all Indian cities (Shaw, 2005 in Narain et al., 2013). The quality of land suffers degradation from construction debris and/or from industrial activity, causing soil toxicity/ salinity. Consequently, many farmers feel compelled to sell to the State or private real estate developers.

Natural resources like **water** come under increasing pressure from peri-urban development (Druijven and Singh 1994). Concretized lands do not provide the sponginess that farm lands maintain to recharge groundwater aquifers. The declining water tables are unable to sustain all the people (old and new), thus resulting in disastrous health and social consequences. Moreover, its access, control and consumption are never equally distributed (Mehta, 2003), as the elite are able to pre-empt, even seize, resources while the new settlers or marginalized communities contest with survival (Tacoli, 2003). Such inequities are indicative of power asymmetries in distribution of resources, impacting socio-economic inequalities, and other distribution factors (Ibid and Baviskar, 2006).

Environmental degradation of peri-urban sites lacking sewage, waste management systems (solid and liquid) and improper disposal of wastes has short and long term contentions. In the short term, local industries functioning out of peri-urban areas (to evade city pollution control laws) exploit the environment further, degrade rural areas and thus place many inhabitants at risk of poor health (Ompad et al 2007). The peri-urban environment, which could have conferred some potential health advantages of rural living and increased incomes from better productivity, are no longer able to compete. In the long term, the lower social status of marginal and poor families, coupled with their low levels of education and WASH[2] awareness compounds the unhealthiness of the environment. This impacts the developmental potential of the area and value of the land, making it an unattractive choice for the non-poor.

Among critical stresses, high influx of new people into peripheral areas increases the burden on social services such as health, education, transport etc., further displeasing the original community. It solidifies **social conflicts** owing to reluctance in sharing resources with 'outsiders'. Such contentions between inhabitants and outsiders spill over to the **livelihood strategies** of both – affecting losses and gains on both sides. For the new

[2] Acronym for Water, Sanitation and Hygiene (WASH

migrants, their sources of income are hugely disrupted, and they settle for lesser jobs or undertake the expenses and fatigue of travelling longer distances to reach their jobs.

The **gender** dimension becomes more pronounced in peri-urban living (Bunting and Lewins, 2006). There is an obvious gap between the conventional agrarian dis-empowered agency of women and the urban women migrants' awareness and financial empowerment. The increased agency of the migrant women allows them to see themselves 'at risk', and in conflicts with the 'traditional' systems and gender roles (Kielman, 2002; also see Allen et al., 2006).

As peri-urban neighborhoods grow, each new wave of settlers has to contend with the previous wave(s), along with the original communities in order to accommodate. The affects are seen in kinships, community organisations and networks. The **social organisation changes** as new incoming elements threaten the cultural identity of the rural-settled communities. The complex interactions over sharing resources and services cause the breakdown of kinship ties, and decreases social capital. Different religious views and traditions of new and old communities also add to the heterogeneities. Rural **systems of governance** (Village Panchayats) are replaced by urban councilors and urban area development officials. Patterns of planning and funding transition result in huge gaps in implementation and claims over common resources. This confusion over governance jurisdictions makes it harder to control and plan for the multifarious dimensions of peri-urban settlements.

Delhi and peri-urban development

Delhi continues to witness the quintessential alterations and processes of urbanization. In the past decade, the Common-Wealth Games (CWG) and the building of a Mass Rapid Transit System (or the Metro) have required extensive acquisition of lands for development, mostly by the way of slum evictions and clearings. Beautification initiatives by the Government of Delhi led to the removal of street and pavement dwellers as well as people residing along the river fronts to various resettlement sites at the state's fringes. One such site, also the study site of discussion, is SavdaGhevra, developed for over 20,000 households, of which 8,500 slum households were allotted land to build houses in 2007. This large infusion of inner-city migrants into the city's peri-urbanity produced tensions that were not quite outwardly visible.

What happens when two such widely different communities in terms of social, cultural and economic backgrounds co-exist? In this context, understanding the spatial, temporal and functional elements of the peri-urban interface remained critical. It was understanding these conjectures of peri-urban co-existence that inspired this study, which became an attempt to understand the impacts of such interactions at the peri-urban fringe, on the socio-economic and cultural practices led by the two communities.

METHODOLOGY

A mixed-method (qualitative and quantitative) study was undertaken in the peri-urban resettlement colony of SavdaGhevra (SG) and the neighbouring villages of the same, named Savda and Ghevra. Two hundred and fifty acres of land was procured from both these villages, for the resettlement programme by the Delhi State. SavdaGhevra is located in the north-west fringe of Delhi, and is nearly 40 kms away from the city's centre. In depth ethnographic interviews, surveys and participatory tools were used for data collection in this area.

Sampling

A stratified random sampling method was used for identification of the respondents. The total sample size comprised of 70 respondents from

the host community and 160 respondents from the resettled community. In the **resettlement area**, a temporal framework was used to select the final sample since time has assimilative implications due to multiple waves of resettlers. Time was classified into four zones: pre-2007 (when the first households were re-settled here), 2007-08, 2008-09 and 2009-10. In the **host communities** of Savda and Ghevra villages, the sample was stratified into user/ functional communities like youth, transport users, business groups, etc.

An equal number of men and women were included to bring out the gender differentials.

FINDINGS

A theoretical framework is essential in this case to understand the changes identified by the study in both the communities. The villagers had resources like land, water, schools etc., which were to be shared with the 'outsiders' or resettlers who had poor income, limited or no skills and did not share a collective history or culture. Thus, borrowing from these observations for our framework, four independent variables of demography, resources, political process and environmental degradation were used to understand interactional effects in the two communities. The effects, particularly on social, economic and cultural practices for both groups, thus became the dependent variables, while the Peri-Urban Interface became the analytic instrument to understand the data.

The host community

The villages of Savda and Ghevra came into existence in the 14th century, when the Ranas, a *Kshatriya* (caste) community moved to these villages from Chittorgarh. The villagers take great pride in their ancestors, who had served Maharana Pratap of Mewar against the Mughals. They own the land in the area and

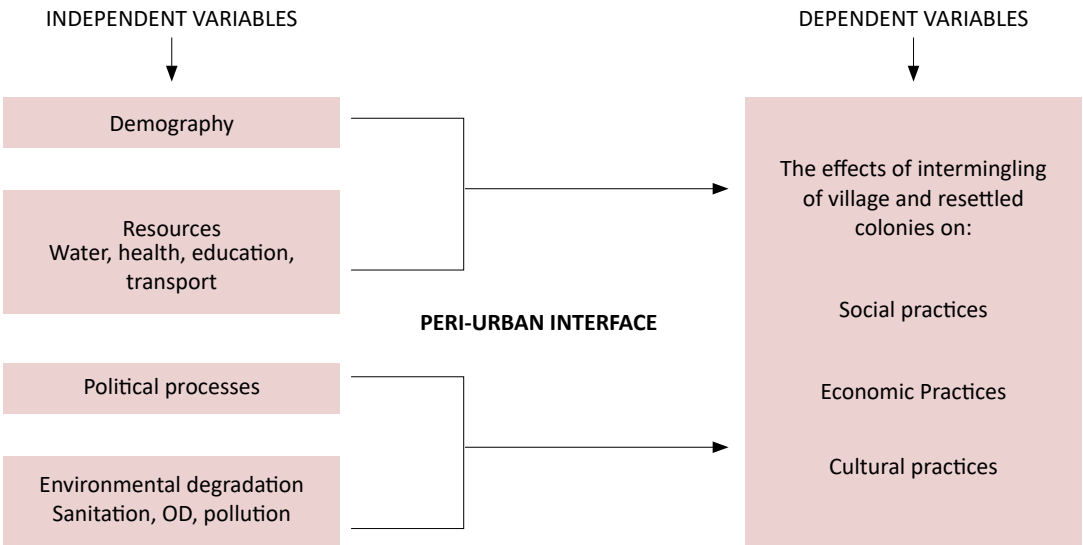


Figure 1: Theoretical framework

are primarily farmers. While initially a part of Haryana, the two villages slowly became part of the urban fabric of the city as Delhi extended its boundaries. At the time of the study, the villages were not very well connected to Delhi, and remained mostly rural in character. This,

however, changed when the Delhi Urban Shelter Improvement Board scoped the area for land for re-housing slum dwellers.

The sex ratio in the two villages was nearly equal (males, 50.27% and females, 49.73%), unlike in the rest of Haryana which is highly skewed in favour of males (879 females/1000 males) from traditional biases. Children comprised 40% of the population, and about one-fifth, that is 20%, were young people (19-25 years). Four in five or 79% of the people had studied up to senior secondary level and sent children to school. Most people in the villages belonged to Other Backward Classes (OBCs) with *Jats* at 51.4%; Scheduled Castes at 31.4%; and the remaining were general Hindu upper caste *Brahmins* at 17.1%.

The resettled community

The SG Resettlement Colony was Delhi's largest resettlement colony. Nearly 8000 households were relocated between 2007 and 2010 from several inner-city slums. Each family that moved was provided a pocket-sized plot of 12.5 or 18 square meters to build a house in. People built single or two-storey structures from *chatais* (temporary sheets), *chadars* (corrugated roofs and exposed bricks) or lintel (stone/cement concrete roofs). Since the migrating families came from different slum settlements, they lacked collective history or solidarity, which is often essential to socially bind communities.

While the study was conducted, there were more men (53%) than women (47%) in SG, possibly owing to the preponderance of male migrants in slum communities and the tendency of women returning to their villages while men managed the shifting and re-building. Nearly half (47%) of the community members were between 19 and 50 years of age while 47% were children. Only 66% of the resettlers were educated.

The fact that post resettlement, the percentage of families earning between Rs. 5,000- 10,000 per month in 2006 dropped from 50% to 25% is indicative of the significant loss of income that resettlement incurs, unlike on-site upgrading of slums where people continue to have access to their livelihoods. The income group of resettlers earning up to Rs. 5000 per month also dropped from 30% to 25% after resettlement and there was a sharp rise from 10% to 38% for those earning only up to Rs. 3000 per month post resettlement in the same year.

The number of women earners also dropped (considering the sample size) due to gendered challenges, such as safe commuting and the absence of job opportunities befitting their skill sets around the new resettlement area.

Over time, the income of the resettled

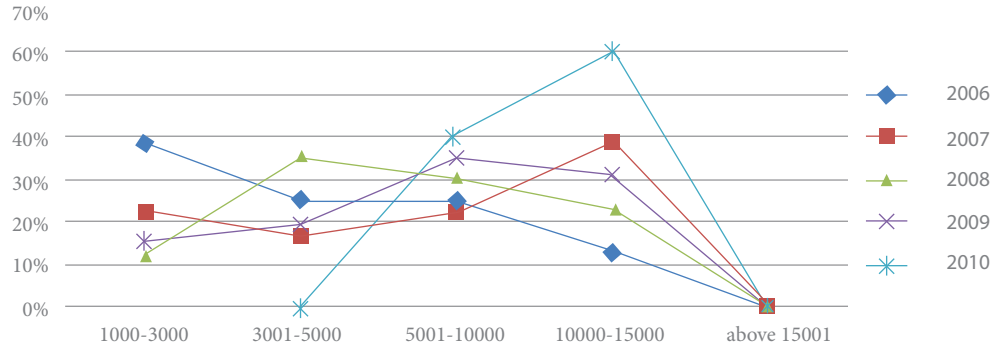


Figure 2: Income of resettlers after relocating

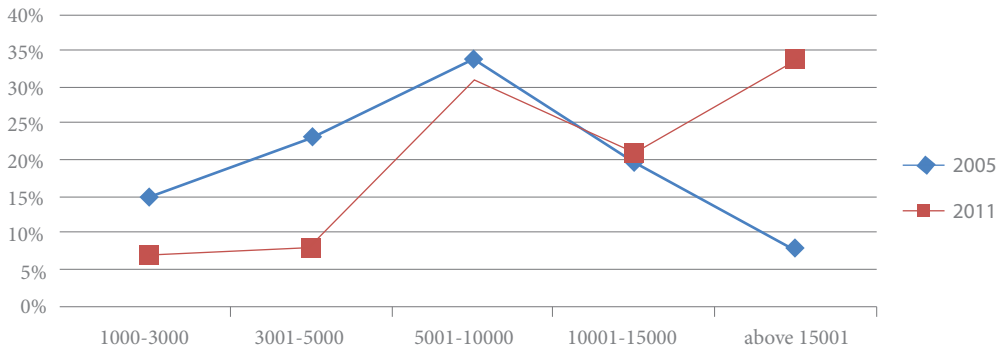


Figure 3: Income of host families

community began increasing, which was significantly contributed to by the construction of roads and introduction of buses, which opened up their avenues for new jobs and alternative livelihood opportunities. However, the rise in income was still limited, compared to the host community. In 2005, 62% respondents from the host community were earning above Rs. 5,000 compared to only 38% earning within that bracket from the resettled communities in 2006.

By 2010, 60% resettled families earned between Rs. 10,001-15,000 per month. None of the households earned above this bracket, even after nearly 5 years of resettlement. On the other hand, by 2011, 21% of the host community families reported earning between Rs. 10,001-15,000 and 34% earned well above Rs. 15,000 (of which 18% household incomes rose even above Rs. 20,000). The income progression of resettled families through 2006-2010 was limited, especially in the high income brackets, compared to those of the host communities. The rising levels of income, thus, remained another form of loss compromising the agency of the 'outsiders', while still negotiating with the other forms of inequity. It is however interesting to note that while the presence of resettled communities in very high income brackets remained limited, all households earned above Rs. 5000 per month by 2010, whereas there still remained 15% of host communities who earned less than Rs. 5000 even by 2011.

The 'untouchable' outsiders

Peri-urban is inherently a space of social and institutional transition, wherein social forms are constantly developed, altered, and discarded (Iaquinta and Drescher 2000). The influx of new people into a neighborhood, mostly referred to as 'outsiders', inevitably disturbs the 'usual' and leaves its residents flustered amidst the reorientation. The intermingling of two vastly different communities, hailing with their respective cultural backgrounds, social norms, food habits, languages, dressing sense and economic status is bound to create an initial chaos, rejecting the resettlers as a part of their daily life before eventually turning into a pluralistic society.

In an effort to protect their purity, identity and cultural traditions, the host community firewall interactions with the resettlers and refrain from over-engaging with them. Although social inclusion between both communities is arduous from the hate created by daily interactions emphasizing otherness and mutual mistrust, demographic differences seldom affect economic decisions or business interests. Tolerance with customers, irrespective of their background, is prudent

Box 1: Case study for upgradation of slums in Ahmedabad

SavdaGhevra: A Story of Apartheid

Caste and income were the primary sources of conflict in the peri-urban area of SavdaGhevra (SG) between the two communities. The wealthier and high caste Hindus (Brahmins and Jats), considered their culture to be vastly superior to the migrating multi-ethnicities. Their prejudice was compounded by the significant admixture of slum communities in the large resettlement area. Thus grew the popular narrative that such 'hybridised culture' was "low-caste, uncivilized, rude, and a more 'forward' community of thieves and criminals". Such narratives effected socialization processes, in which the new settlement dwellers were isolated.

Nearly apartheidist behaviour was integrated into the daily interactions of high caste villagers, who considered the SG resettlers to be soiled, messy and unhygienic. The resettlers were blamed for pick-pocketing and criminal activities in the area, and of being discourteous to women, especially young girls from the high caste communities. The villagers reported incidents of food stolen from their children's lunchboxes, vegetables from farms, and worried about the safety of their homes. Even serious crimes such as kidnappings were attributed to SG residents. While travelling in buses together, villagers refrained from sharing seats with the resettlers, and even threw their luggage out of buses based on unsubstantiated complaints from young village girls.

While the resettlers spoke Hindi and Bengali (their mother tongue), the host community preferred speaking their Haryanvi language; naturally, its dialect and tone created confusion. In SG, both communities blamed each other for spoiling their respective languages; while the villagers felt that their children were losing touch with their own dialect for the 'city slick' language, the resettlers were concerned that their children were imbibing the rustic rural language and accent.

Factors of 'society' also played towards the division of communities. The rural conservative society dissociated itself from the 'outsiders' by the virtue of their dressing sense and their amenable interactions with the opposite sex; something considered deeply inappropriate and animadvert worthy. The gendered consequences of such prejudice led to the mobility of girls to be curbed, so as to 'protect' them from the resettlers.

While the villagers used caste to express their supremacy, the de-casteised slum community used income classification as the power indicator. That, however, did not rid them off the stigma attached to slum dwellers. Alarmingly, the supremacy of villagers transcended all other relationships, including that of the student-teacher in schools. "Teachers make our children sit on the floors; we are blamed for thieving, stealing and eve-teasing, they even don't like the way we speak", said a resettler parent.

for business purposes. Acknowledging their presence in public and polite interactions continue between the people of both communities with business interests, despite the overarching social unacceptability of each others' community.

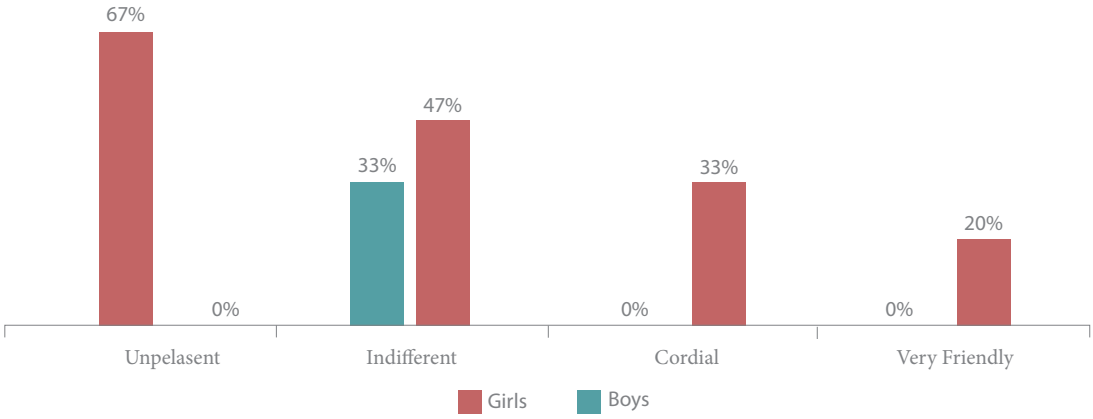


Figure 4: Relation of village boys and girls with resettler classmates

Gradually signs of pluralism show in peri-urban society. The density of social norms and meanings increase which form conflict but also resolution. Marriage between the communities is one such leveler. Inter-community marriages, despite the strict prohibition on marriage outside one's community, open gates for social acceptance of the other community within the larger society. Another such leveler is reverence for a particular god/goddess. While complete assimilation of social and cultural values of a community is rare, signs of acculturation start showing after some time. For example, in the study area, young boys visited the resettlement colonies to participate in their *Saraswati* (Goddess of learning) *Puja*, as they valued education.

However, there was a gendered dimension to such cohesion. Men, owing to their commercial and business interests were more tolerant of the other half, had fewer issues with each other and tempered their responses. Women, on the other hand, were upset by such invasion of their spaces, and were more vocal about the negative impacts.

In traditional cultures, girls are considered to be the 'honour' of families and therefore, their protection is made to be primal. Such protections include, but go well beyond, limited mobility; having to be escorted by an adult or a young boy becomes the norm, making them resentful against their resettler classmates.

Fight for Resources

Studying the peri-urban lends us insight into the nature of processes in urbanization, especially with regard to who the 'gainers' and 'losers' end up being in the processes (Narain et al., 2013). In the villages, traditionally, resources are dominated by a limited number of people living there for many generations, long settled from a distributive portion agreed upon, according to the socio-economic division of the village. A certainty of conflict arises with the advent of new diverse groups from the city, as the villagers are expected to give up certain portions of the share which was historically 'theirs'.

Of all the nuances of integration and conflict, the sharing of resources, especially land, access to water and education were most contentious.

Land: Rapidly increasing cities tend to eat into resources (such as land and water) available in peri-urban areas. While land in peri-urban villages is grabbed for housing, industrial establishments and for dumping urban wastes (both solid and liquid), very little is ploughed back by way of developing these areas. The growing peri-urban

interface fosters significant changes in terms of livelihood options, altering the scale and pattern of agricultural activities (ibid).

In the study area, the land-use patterns changed from being agricultural to that for housing and associated infrastructure. Development in SG increased the value of land manifolds. In the Ghevra village, property price increased from Rs. 320 to 500 per sq. ft, to Rs. 13,000 to 16,000 per sq. ft. Over time, however, the northward trend of land prices increased exponentially. Due to the delayed exponential increase, the perceived 'loss of income' has the potential of becoming a major point of conflict for those who opt for early sales. With time, the value of land is bound to increase, leaving the early sellers feeling cheated, tainting social interactions and relationships with bitterness.

Monetary gains and losses acquire more importance than traditions and social affability, making livelihood options an essential aspect of peri-urban living. As traditional land-based occupations of the host community decline from the loss of their land, those from older generations lacking requisite skills for alternate professions become idle. Amidst such transformations, new economic dynamism is visible with the shift from farming to other profitable businesses. For example, setting up hardware and construction material stores in the area or expanding the host community's milk business to tap into the huge 'resettlers' market, became prudent financial decisions. Investment in land continues by repurchasing plots of land in the newly developed area for speculation and rental incomes, which has emerged as a major new economic activity among the peri-urban areas of Haryana (Narain et al., 2013).

The new settlers in the land, who lose their jobs due to the shift from the city, exist by taking up jobs in the neighborhood farms at lower wages, demonstrating their desperate situations and need for survival. The enormous wage-difference edges out the poorest resettlers, without any consideration of their employment status by rich village employers – once again highlighting the 'gainers' and 'losers' in peri-urbanization.

Water: The distribution of risks and opportunities is widely unequal in the processes of peri-urbanization, perpetuating a great disparity in access to resources (Narain et al., 2013). The crisis in peri-urban areas stems most from the struggles of access to and control over finite resources (Mehta et al 2007), including water, especially in areas with water poverty.

The water-poor study area of SG and the adjacent villages were served by water tankers for drinking and cooking. With the advent of resettlers, water was shared with escalating conflicts over water collection due to limited supply. Eventually, pipelines for water supply to the village homes were set up, while the resettlers continued to receive their water supply from tankers. Eventually, with improved adaptability of people and increased frequency of tankers, the conflicts reduced. However, the host community grew discontent as they believed that the resettled colony was better served by frequent tankers compared to them.

While the poorest depended entirely on tankers and hand pumps, the rich had installed their own bore-wells, to which the resettlers were never allowed- highlighting the remaining and fairly pronounced caste-based discriminations

Schools: Children suffer from the social differences between the two communities, which can turn schools into instruments of discrimination and painful combat zones. Absence of new schools in the resettled area pushes new students into the existing schools in the nearby villages, where the social equations between the elders reflect conspicuously on the children.

Attitudinal challenges are compounded with logistical and gendered ones. Resources get stretched as the resettled children are admitted to the village schools which were not prepared for the influx. The overcrowding and consequent fight for resources cause stresses to both, teachers and parents, making the environment unhealthily competitive. In the study area, some village children, especially girls, dropped out of such schools and shifted to different/private schools in the area.

Language has the potential of becoming both, a binding and distancing factor in an emerging ecosystem. The hosts usually have their own dialect which is different from the language spoken in cities, making learning, and thus understanding, difficult. The tendency of using the village dialect by teachers, out of love for their own language or to show cultural superiority, becomes challenging for children in resettled colonies, who are used to the city language.

These schools exemplify mini ecosystems governed by the language asymmetries and caste consciousness prevalent in the wider communities. These affect the teachers' behaviours, who belong to the same caste as the host community students. Their lack of emotional attachments with the resettler children, who are perceived to be taking away from 'their children's portions' of already scanty resources and a general dislike for their resettled parents, induces discrimination between 'their own' and the 'outsiders'. Demand for equal distribution of resources by disfavoured pupils lead to arguments between the teachers and students, further deteriorating mutual relations. Village students are also adversely affected by the attitude of teachers; their ownership of the school and their feelings of deprivation of resources that were 'solely their own' was stronger than that of the resettlers, who were being treated unfairly by the teachers.

Connected ecosystems of teaching and nurturing, such as Anganwadis, are also found to borrow similar attitudinal disparities in the government's Integrated Child Development Program. The extension of such discriminatory behaviour by Anganwadi workers with (resettler) children under six can be detrimental for their nutritional status and cognitive development.

The glitz of the megacity is not easy for the children to forget. As their parents struggle to re-establish businesses and livelihoods, the discrimination and vastly different culture make the resettled children extremely unhappy, apart from dislocation away from the city-lights. These catalyze defiant behaviour among some adolescents, such as skipping school. In the study area, resettled children displayed a sense of pride and ownership of where they came from; "*Our school was near the Red Fort and not in a village dump"*.

Vastly different cultures of rural and urban areas illustrate different socially accepted forms of expression. In rural Haryana, social mores do not allow students to express their opinions, question teachers or answer back; such behaviour is considered rude, undisciplined and translates to irreverence. However, use of force by teachers to 'mitigate' such behaviour is acceptable due to their traditional placement at a higher pedestal.

The social incursion, apart from the economic and cultural ones, affects the children most because of their everyday intermingling and exchanges within the close school boundaries. Their cognition of values and conduct of 'other' students is coloured by the divisive thinking and conduct of adults. Fights between children on trivial issues have the tendency of escalating to the rest of the community, deepening the friction between the already polarised communities.

Gradually, however, the improvements of infrastructure, including new schools, furniture and buses, to accommodate the

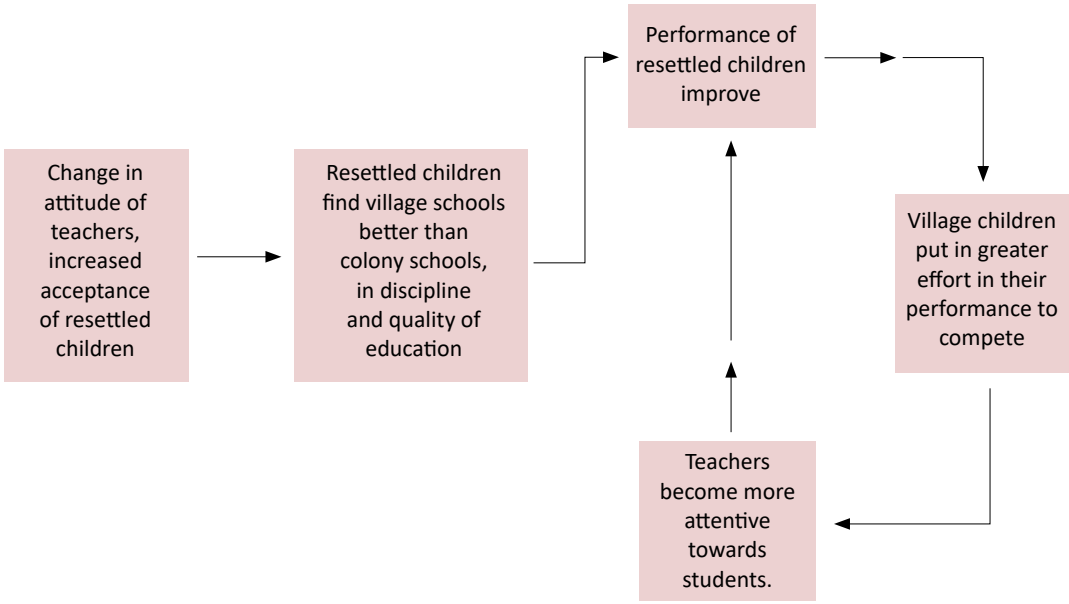


Figure 5: Chain of reaction following teachers' attitudinal change

resettled children are visible. Nevertheless, the shortage of trained teachers is difficult to reverse. The availability of teachers, especially those committed to building positive outlooks in their students is an essential leveler in such fragmented ecosystems. The strategy of time-division between the new schools at resettled colonies and the old village schools reduces teaching hours, inducing disinterest among students, which adversely affects the quality of learning and their employment prospects.

However, with time, intermingling of the host and resettled communities lead to the softening of caste and language divisions. Change in the language of the teachers, use of less harsh disciplining methods, adoption of more encouraging and unbiased behavior such as extending equal opportunities to children from both areas to participate and speak in the class and correcting their mistakes changed the perspectives and interests of SG children towards their school. The attitudinal change in teachers could have been brought by a general increase in accountability and probity of their conduct, appointment of new teachers who did not carry the baggage of early resettlement and greater stability in resettled households.

Additionally, the village children's shift from their local dialect to Hindi, which was more acceptable by SG children helped break the ice between children to some extent. While change in dialect helped the village children to get better assimilated in the mega city as it expanded to their doorsteps, the worry of such changes eradicating their indigenous language remained. Nevertheless, the larger potential of unbiased and positive attitudes of teachers in facilitating co-existence among children from both communities is pronounced.

Political Processes

The relocation of urban slums to the peri-urban areas are high-level political decisions made by the state government and the villagers seldom have access to their representatives (Member of Legislative Assembly or MLA) in state government. Such large transformations and the subdivision of peri-urban spaces weaken

governance institutions at the metropolitan scale as well as people's involvement in planning (Narain et al., 2013). However, local rural governments are relatively better off. Most of the Village Pradhans elected by villagers for the local rural government were either residents of these villages or known to the people. While the Village Pradhans or leaders of local rural governance are natural allies of the ruling parties and are elected due to more stable community of the village unlike slum heterogeneities, they are not part of the resettlement decisions. The inability of villagers to reach their MLA puts them squarely out of any decision making process.

In the newly developed peri-urban area, the political representative provided roads, transport and power supply as a bid to build his/her constituency. Although these services benefited both communities socially and economically, there were still complaints about the tradeoffs associated with such benefits. With the advent of electric sub-stations in the area, while there were fewer power cuts, the villagers lost their subsidies on power. Similarly, they now get piped water supply in their homes, but complain of poor quality of water.

Transport is critical for both communities, but serves different purposes for each. For the resettlers, it symbolizes a 'return to normalcy', one that helps them continue their livelihoods. It also enables them to take up alternative jobs such as driving the buses connecting them to the cities. For the villagers, however, its use remains limited to social purposes or occasional visits to the city.

Unconcerned environmental degradation

Mutual disrespect and hatred between the two communities also stems from the disapproval of the other for unhygienic practices and polluting the environment. In the study area, open defecation (OD) persisted in both the villages, despite the presence of toilets in a few homes. Similarly in the resettled area, the settlers resorted to OD despite the presence of community toilets constructed by the government, as their improper use and maintenance rendered them dysfunctional. Although OD was practiced by both communities, each blamed the other for doing the same things they practiced as well.

In the larger scheme of things, environmental degradation and hygiene are not much of a concern in peri-urban areas because of the huge paucity of water and sanitation services. Hence, while the practices served as excuses to mock the other community, they had no serious effects on the socio-economic or cultural practices of the communities.

DISCUSSION

The study of peri-urbanization is essential to respond to the sustainability needs of rapid urbanization by understanding the enablers and deterrents of co-existence. The experiences of SG and the villages point towards certain recurring themes which are important to consider, as the fringes urbanize economically and spatially at a higher speed than the urban cores.

The distinction between 'urban' and 'rural' is increasingly becoming redundant. As highlighted by Simon and McGregor et al. (2006), the rapid urban expansion of population and land, coupled with transforming technology, economic restricting and the macro-economic policy shifts profoundly change the 'urban-rural' interface. The binary has quickly become reductionist for planning purposes in the Global South. Peri-urbanization cannot be categorized neatly as its definition, conditions and processes blur the boundaries between what (or who) is rural or urban. This 'blurring' has been in process for over decades, however we have now reached a cusp where such new civic spaces are demanding new forms of

comprehension, attention and intervention louder than ever before.

The idea of the study was to also explore how binary differences also have layers for both elements (urban and rural) constituting the dichotomy. It worked to integrate temporalities of conditions that seem dated in the urban context but very much continue to dissolve within contemporary interactions. Stemming from these two notions, the study's insights pointed towards **significant 'inter' and 'intra' heterogeneities**, not only between the host and resettler communities, but also *within* the resettler communities. While caste and income based differences dominate hostile attitudes mutually, differences in housing, livelihood options, incomes and class exist within each new wave of resettlers, which make effective planning and homogenization harder. Despite eventual softening of relations between the two communities aided by commercial interests of the host community, continued forms of **caste based discriminations** remain evident. These are retorted with (limited) income based transgressions in society by the resettler communities; particularly as economic dynamism evolves with better service provision and connectivity to the city. Nevertheless, it points towards peri-urbanization's embeddedness in social structures.

Women and girls remain the receivers of the short end of the stick, as worries of unsafe neighborhoods deter their mobility and participation in economic and social activities. While some studies on peri-urban interface indicate migration to be a socially acceptable way for young women to escape patriarchal control (Tacoli, 2002), the case has been quite the opposite for women and girls in the villages.

Health and **education** are two essential enablers of inclusive development. The tendency of the resettlement hostilities to leak into schools and access to WASH services reiterates two kinds of problems. The first is the obvious worries of what lack of education and sanitation can mean to an already struggling society. Poor education contributes to the worrying trends of peri-urbanization wherein involvement of children in economic activities are strategic to peri-urban women who lack access to funds and services (Brook and Purushothaman et al., 2003). Poor sanitation, not only affects child mortality and labour productivity, it also points towards the second problem at a more macro level. That is, the lack of concern over **environmental conditions**. Families in these areas struggle to access basic water and sanitation services – making survival the agenda and not thriving. There is little time and capacity to think of larger environmental ramifications when one's interface to accessing resources is so distorted and ephemeral. These realities have local, state and national spin-off effects. These would include poor health, mortality, employability and achieving Sustainable Development Goals.

These themes tie up with the larger problem of the lack of interface between local governments and citizens. While the **change in land-use patterns** drives social, economic and environmental peri-urban processes, it also induces new **governance** and conflict related challenges (Narain et al., 2013).

The need for rural to meet urban is essential to support peri-urban livelihoods, however this interface is influenced by many factors at the local level. These include demographic and geographic factors, farming systems, access to roads/ transport network, markets and services. Despite the centrality of the 'local' factors in the success or failures of peri-urbanization, the premise of such resettlements at the fringes of the city entirely lack citizen input.

The top-down decision making around the creation of such peri-urban resettlements weaken the potential of **participatory urban planning** and governance (Kennedy, 2005). The local actors of SG and the villages were

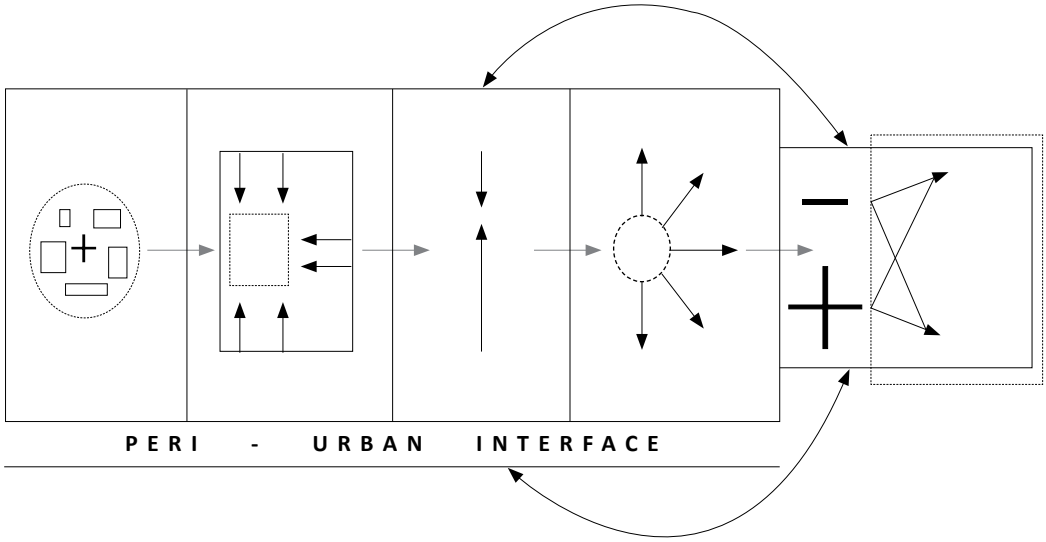


Figure 6: Socio-economic pathway of resettlement

absent from the planning or policy process, which not only isolates people from their civic participation but also weaken government regulation. The crux of the discussion can thus stem for an underlining insight from the study: peri-urban contentions, while "located" at the peri-urban interface, are conditioned by the larger silence between people and governance systems.

CONCLUSION

Peri-urban development is a way for cities to create space for new migrants or manage their internal growth. While it is labeled under programmes of pro-poor social housing, it is often used as an opportunity to rid inner-city lands off slums and pave pathways for developmental projects and beautification. Resource scarcity, cultural differences, mental insecurities of encroachment among the host community and a pre-existing general dislike between hosts and resettlers have serious socio-economic and cultural effects. While the resettlement is a political decision, the everyday effects are only for the community members to negotiate – indicating a severe flaw in the lack of marginalized citizens' involvement in decision making. The lack of participatory planning and implementation results in bipolar effects on both, the host and resettled communities, where the former benefits over the latter.

Among a few silver linings, there is improved access to urban services as the area comes under urban precincts and receives attention from local service providers. As old cultural values and traditions of the host community disintegrate, it produces a culture of tolerance and modernization, opening a pathway for a pluralistic society. Languages as well as behaviors are learned or accepted, to communicate and co-exist.

It is important to consider that while the study and its discussion focused on the dialogic 'interface' of the peri-urban, it is the external developmental decisions of the city that initiate such dislocations and continue to effect life after resettlement.

The 'slum cleansing' of the city creates an inner core comprising of the rich and the powerful and an outer core of the poor and the non-influential. Apart from such segregations being

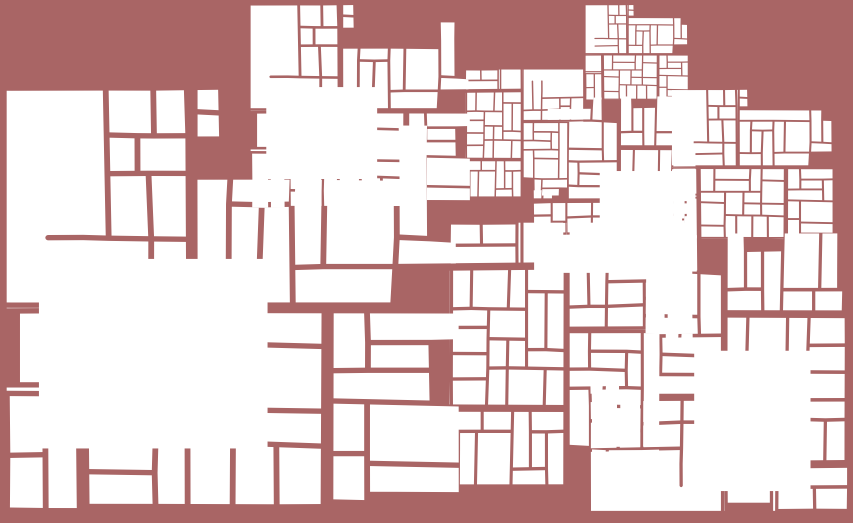
fundamentally discriminatory, they also have disastrous economic and social consequences in both, the short and long-term. The rise in service and labour costs fuels inflationary pressures and in turn, escalates the cost of living in the core areas. The city consequently spends more to connect to new areas with equivalent quality of urban services. These investments include more buses and metro routes, water supply and sanitation services. As family incomes of the poor plunge from increasing demands of services and labour in cities, their spending decreases from the rising costs of living. While this is likely to flatten the growth rate of the city, it shall add to the inflationary impulses that are unsustainable for poor communities.

A more horrific effect will be on the social fabric with the city splitting down its middle. The great wall between the core and periphery shall create areas of affluence and poverty, and the magnitude of the social strife that such demarcations could cause is difficult to decipher, and thus prepare against as of now. It is therefore important that cities 'un-default' the hardwiring that leads them to pursue the goal of resettlement of slum and low-income communities to cities' edges as the only potential development solution.

Peri-urban is an essential policy space and needs to be dignified with better planning motives and processes. Building their capacities is of higher urban significance than non-essential interventions such as beautification projects. There has to be a critical shift in policy frameworks that are embedded in pro-poor sociological approaches. Policy makers must prioritise access capacities of peri-urban dwellers to services, assets, and co-operative partnership between the local rural and urban government to achieve sustained and informed changes at the peri-urban interface. Most importantly, while keeping the distinction in mind at a macro level, planning in urban development must overcome the strict urban-rural dichotomy.

To find approaches that could address these conflicts and implement changes that will benefit the poor and marginalised, the learning curve on peri-urban development needs to be intensified. The role of involving the people affected by peri-urban development would be a critical prerequisite to review urban planning in a framework that aspires towards integration over segregation.

THE ECONOMICS OF RESETTLING- A CASE FOR IN-SITU SLUM UPGRADATION



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ABSTRACT

The debate on relocation versus upgrading of slums to improve the lives of slum dwellers and cities has been ongoing for years. This study is an attempt to resolve the argument by gathering information on both, the positive and negative effects of the two processes in the wider context of macro-economic change. The specific objective of the study is to understand which strategy – resettlement or upgrading – facilitates alleviation of poverty and helps in the city's economic development, making it a win-win situation for both, the State and its people.

A mixed-method study was conducted at resettled sites in Delhi and upgraded sites in Mumbai. Comparisons were made with corresponding non-resettled and non-upgraded sites in both cities respectively. Stratified random sampling method was adopted to select the sample size for primary data generation. Statistical tools including Gini Coefficient, Lorenz Curves and Sen Index were used to measure increase or decrease in inequality and poverty. Cost Benefit Analysis was calculated to estimate the impact of relocation on the city's economic growth.

Based on its multi-factored analysis, this paper illustrates that relocation can deepen poverty while slum upgrading empowers economic as well as social capacities of urban poor households. It explores the challenges, interdependencies and opportunities of both processes, and points towards relocation as an option that is not worthwhile for sustainable, inclusive urban growth and recommends adaptations required to address the needs of in-situ slum upgradation.

INTRODUCTION

With the world becoming increasingly urbanised, more than half the world's population has been living in cities, and that share is projected to rise to 60% by 2030 (UN Stats, 2018). People have various reasons to migrate to cities, primarily to make their lives better. This may include their livelihood needs, saving themselves from natural calamities, health emergencies or family conflicts (Ramchandran, 1972; Mahtani, 1982, SPARC, 1985, Singh, 1993). In most cases, the formal housing market, by design, does not serve low-income communities, and the limited number and implementation of publicly funded housing interventions fail to accommodate and extend affordable units for low-income families. The first stopping points for poor migrants, thus, are mostly slums for reasons like low-cost housing, proximity to work (Singh and Kishore, 1993) and low transport cost to their workplace (CWS, 1981; Ramchandran, 1972; SPARC, 1985; NIUA; 1984). These migrant-slum residents largely belong to the most underdeveloped and economically backward rural districts (Kavitha and Vora, 1996), poorest in their respective villages and engaged in the most inadequately paid jobs in cities (Singh, 1993).

Slums, according to UN-Habitat, are highly congested urban areas marked by deteriorated, unsanitary buildings, poverty, and social disorganization. The 58th National Sample Survey Organization (NSSO) in India defines slums as "*an area with 25 or more temporary housing structures in a huddle, with practically no access to or inadequate access to latrines and water facilities*".

The slum population in India increased from 40.3 million in 2001 to 65.5 million in 2011, out of which 1.78 million live in the slums of Delhi alone. In Mumbai, 41.8% residents lived in the city's slums in 2011 (Census, 2011). The belonging of slums or informal settlements to the cities in India has perpetually oscillated between being acknowledged and resisted by the State (Bhan et al., 2020).

Household vulnerability in cities deepens with the nature of shelter and employment available. Studies show almost all residents (96%) have a one-room hut on the land that does not legally belong to them (Mahatani, 1981). Over a quarter of urban India lives in kutcha/ semi pucca housing (MOUA&E, 1991) with dwelling size ranging from an average 131 square feet in Delhi to 100 square feet in Jaipur (PAC, 1998; ASTHA, 1996). An average family size in these slums is between 5-6 members (Dubey and Gangopadhayaya, 1998).

Slums have inadequate basic services like water and sanitation. Drainage is practically non-existent and almost all drained water mixes with ground water. Women spend 3-4 hours daily in filling water (SPARC, 1985) and conflicts at the common taps are quite customary (Singh, 1993). Girls miss schools to stock water where mothers work outside (NIUA, 1999). Only a few households have toilets inside the house and most people either use the poorly maintained and unhygienic community toilets or practice open defecation. The absence of basic services adversely affect women who are compelled to spend more unpaid labour hours providing care, while negotiating their safety and mobility when travelling long distances to access WASH services and employment (Habitat for Humanity, 2019). Disease, ill health, malnutrition and harassment are outcomes of living in such resource and facility scarce areas.

Worldwide, several approaches have been used for slum development, like slum upgrading, relocation and resettlement, and participatory slum improvement. But there are arguments for both sides of favouring

[1] This article is extracted from CURE's final report 'The Economics of Resettling – A Case for In Situ Slum Upgradation', produced in 2005.

a particular approach, depending on the agenda. Those in favour of relocation argue for it as a win-win situation as city's land is freed for development while the poor get alternate serviced land and get to live in good quality environments. Advocates against relocation believe that it distances people from their livelihoods, triggering economic shocks that push households into poverty. Those in favour of slum upgrading reason that improving the quality of people's environments at their existing place of stay or close by improves their overall quality of life compared to dislocation of their space and community ties. Relocation has also been seen as a strategy devoid of community consultation, while slum upgrading involves the capital, civic planning and investments of the dwellers – such ownership making it a far more sustainable change (Patel, 2013).

Government's approach to slum development

Initially urban poverty had remained a non-issue with a government biased towards the rural sector. A National Slum Development Programme was developed in 1996 which focused on provision of minimum basic services into slums followed by the Slum Policy in 1998, which remained in draft status; both were ignored by the government.

The Basic Services for Urban Poor (BSUP) programme, under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), sought to support slum upgrading projects and access to basic services to elevate informal settlements. Rajiv Awas Yojana (RAY) was specifically launched in 2009 to support state and city governments in slum upgrading and extend titles to residents so as to accommodate the growing urbanization whilst limiting newer informal agglomerations.

However, the implementation approach to such interventions remained rooted in bureaucratic processes involving little community consultation, and the "housing for poor" approach, which was viewed as a more attractive political and business decision (Patel, 2013). Local governments, depending upon the predominant political predilection and strategies, have pursued different agendas like ignoring, annihilation, relocation and resettlement to the more sympathetic onsite upgrading. These responses have originated out of a lack of understanding about the key drivers in slum growth i.e. a dysfunctional housing market, and poor knowledge of the significant economic contribution of slum dwellers.

Upgrading or rejuvenating the existing community with minimum disruption and loss of physical and social assets (DFID, 2000) was tried by some cities. Indian pilots of such 'upgrades' go back to the late 1960s, however these remained excluded as policies that were supported to be scaled up (Patel, 2013). This strategy provides security from eviction (regularization of land tenure/ rights) and improves the existing infrastructure, e.g. water reticulation, sanitation, limited sewerage, garbage collection, storm drainage, lighting, street paving, up to an appropriate, basic standard. Residents are expected to do home construction themselves. Occasionally, the policy helps build new housing (vertical as in Mumbai) on the same site which, while not increasing housing stock in real terms, certainly reduces ground-level space for low-income families to operate their small businesses.

One of the significant advantages of this approach is the minimal disturbance to the social and economic life of the community. Upgrading with tenure rights motivates occupants to invest two to four times the amount of funds government invests in infrastructure improvements. DFID estimated that for every one-dollar of infrastructure invested in upgrading, about seven dollars are invested by residents in home improvements and small business expansion.

Box 1: Case study for upgradation of slums in Ahmedabad

The Parivartan Project

Parivartan project, also known as 'Ahmedabad Parivartan' was led by the Ahmedabad Municipal Corporation in partnership with the Mahila Housing Trust in Gujarat (SEWA Academy, 2002). The project sought to provide piped water and toilets in every home across the slums and *chawls* of the city and improve their access to infrastructure and quality of life. The shift from community level water supply to individual level water supply in 89% of the households with access to individual piped water supply, resulted in reduction of time spent for water collection from two hours a day to less than one hour, freeing women from the drudgery of water collection and increased levels of satisfaction with the quality of supply.

A similar shift from non-functional community toilets to toilets in every house connected to the sewerage network also dramatically reduced incidence of open defecation among children and adults. Connection to underground drainage system, proper system for municipal waste collection and pucca cemented roads, decreased incidences of flooding and water logging and nurtured a cleaner environment that reduced proliferation of disease. Over 80% households reported significant decreases in health expenditure and loss of work days due to illness.

The most significant achievement of the Parivartan initiative was reported in community investments towards shelter consolidation. Over one-third households spent between Rs. 500 to Rs. 300,000 (average Rs. 31,086) on home improvements. These included addition of an extra floor, subdivision of rooms, improvements in roof, floor and walls. While 45% of the households used personal savings for this, others accessed loans for the same. 58% households, following the initiative, reported increased incomes. Furthermore, the property values increased in the slums by nearly 70% (from Rs. 55,899 to Rs. 93,788), due to the improvements in physical infrastructure provision and subsequent improvements made in the housing.

Strategy of resettlement by relocation is a more sympathetic version of the policy of elimination that has been used over the years. However, since resettlement is usually at the city's edge, away from informal income opportunities, it has added to people's poverty conditions. Resources spent on resettlement by local governments (for land procurement and services on sites) are further stretched to finance public transportation for facilitating access to employment, schools and health services, police posts, etc. There are many additional and invisible costs that are often not accounted for in planning resettlements, such as the absence of 'adjusting costs' to accommodate rise in prices during the gap between project approval and construction. Work is often delayed as payments are delayed for implementing agencies. These proliferate unplanned settlements as well as charge unique costs on resettlers, such as commuting costs, social network costs, costs of living elsewhere before resettlement, etc. (Habitat for Humanity, 2019).

For resettlement to be successful, participatory slum improvement or cooperation of slum households is the best practice for housing intervention in developing countries. Such initiatives have however, been adopted on a limited scale and comprise of demonstration projects that adopt holistic approaches to neighbourhood improvement and embrace

health, education, housing, livelihood and gender issues in the process of development. While the government facilitates and fast tracks procedures, and maintains financial and norm accountability, the communities are involved from the outset through a formalized process and implement the projects.

There are benefits and losses of both - upgrading and relocating - approaches. However, one needs to appraise the situation carefully before pushing the doors into deeper realms of poverty, putting human lives into predicament and squandering public money. It is pertinent to understand what happened to the slum dwellers in Delhi when large-scale evictions were ordered by DDA/ MCD to yield space for commercial complexes, flyovers, recreational parks and roads and if the upgrading process in Mumbai conducted and negotiated with the strong federation of slum dwellers was more humane. CURE, thus, conducted a study in Delhi and Mumbai to comprehend the following research question:

Which process of slum development -relocating or upgrading- helps to alleviate poverty?

METHODOLOGY

The study employed both, quantitative and qualitative methods to deepen the understanding of results while capitalising on their strengths and offsetting their different weaknesses. The study started with an intense literature review which helped to develop an indicator base for the study.

The theoretical indicators were grounded in the model of residential location to capture and analyse the welfare effects of upgrading versus resettling slums. The study used household questionnaires, PLA techniques, household mappings and participant observation methods to collect qualitative data. Quantitative data was collected using surveys and questionnaires.

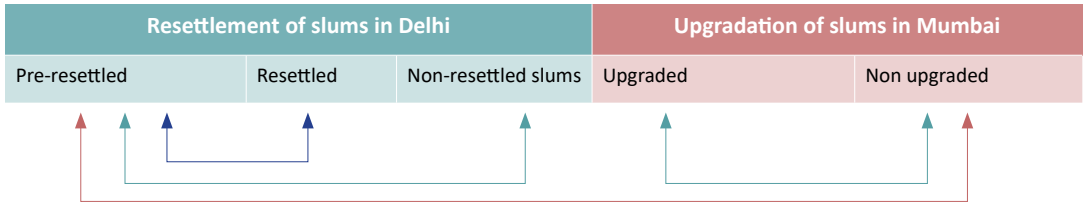
The selection of sample was conducted using stratified random method. In Delhi, three relocated sites and in Mumbai three upgraded sites were selected for the study. Relocated sites were selected on two criteria - period of relocation and distance from relocated sites. Non-resettled sites were selected (as control areas) near the existing sites of comparable size. In Mumbai, the three upgraded sites that formed a part of the Slum Redevelopment Scheme were selected. Here too, the control area of non-upgraded sites was selected in near vicinity of the upgraded sites.

In Delhi, a sample of 60 households was

Table 1: Details of identified sites in Delhi and Mumbai

Delhi		Mumbai	
Relocated	**Non-relocated sites Control**	**Upgraded**	**Non-upgraded sites Control**
Bakkarwalla Recent shift (6 months) Intermediate distance	G-point, Gole Market	Rohidas Nagar Sri Sai Shradhha Cooperative Society, Mulund	Rohidas Nagar Slum Colony, WaljiLaddha Road, Mulund
Bawana Intermediate shift (a year) Farthest distance	Yamuna Pushta	Sai Darshan Society	RajaramChawl Slum, Nutan Nagar
Bhalaswa Oldest shift (3 years) Closest distance	Indira camp, Rohini	Vallabh Housing society, Shivneri Housing Society, 90 ft road, Dharavi	Saibaba Nagar Slum colony, 90 ft road, Dharavi.

Table 2: Comparison matrix



selected for the survey. This included collection of demographic and income information. Actual data was collected from 180 households from the relocated sites and 179 households from the selected non-relocated sites. In Mumbai, 180 households were identified from the selected upgraded sites, while 231 households were selected from non-upgraded sites for detailed questionnaire survey. With a mix of survey and detailed questionnaire, data has been collected around a set of socio-economic indicators that measure input costs and expenditure patterns.

The economics literature around the effects of resettlement includes hedonic analyses of market value of improvements such as infrastructural services, and land tenure access (Crane et al. 1997; Jimenez 1983, 1984). Parameters of household utility functions were added to the literature as an expansion beyond hedonic studies by Kaufman and Quigley (1987). We add value to this literature through an extensive multi-instrument and levelled analysis of the socio-economic and temporal impacts experienced by the community and control groups:

To understand the difference of effect of resettlement and upgrading on poor people, the data collected on a range of variables was analysed on a multi-dimensional matrix:

- Pre-settlement to resettlement
- Resettled to non-resettled and upgraded to non-upgraded
- Resettled to onsite upgraded slums

Specific statistical tools, such as Gini Coefficient, Lorenz Curves, Headcount Index and Sen Index were used to measure severity, increase/ decrease in inequality and poverty. A Cost Benefit Analysis (CBA), measuring the difference between benefits and cost of a project, was conducted to assess efficiency of resettlement and upgrading by comparing the two alternatives.

In order to resolve the debate, the CURE study collected data on a range of indicators. These indicators included household income and expenditure, assets, distance to workplace and effects on children's education, social safety, land value of evacuated and the relocated sites, cost of civic amenities, net taxes and charges etc.

FINDINGS

Resettlement or on site upgrading - The debate

The debate on resettlement versus on site upgrading has arguments both, in its favour and against. To understand its various shades and settle this argument, comprehensive data on changes in incomes, livelihoods and other socio-economic and cultural conditions of low-income households is required. While taking decisions on resettlement, the planners and policy makers generally lay greater emphasis on estimating real costs incurred in land procurement and provision of basic urban services without estimating trade-offs and losses accruing to the household and city economy in the process of resettlement. On the other hand, resettlement through relocation of households to faraway places can potentially deepen vulnerability of the poor and reduce the contribution of slum dwellers to the city's

Table 3: Average monthly household and per capita income of settlement (Rs. / month)

	Delhi			Mumbai	
	Post relocation (current)	Pre-relocation	Non-Relocated households	Post upgrading	Pre-upgrading
Monthly household Income	4,188.44	4,390.56	4,189.11	5,543	5,011
Per capita income	748.18	779.73	828.20	1148	973

economy, giving an inaccurate cost benefit analysis on resettlement. Social dependencies or 'safety nets', such as households relying on neighbours for information regarding employment and basic services actually make up an essential network (Takeuchi et al., 2006) which relocation interventions threaten and urban planning is yet to integrate.

Three major results emerging from the study data are mentioned here:

1. Choice between house and job - A difficult decision for a poor slum dweller

Relocation of slum households to city's fringes arise from government's ability to grant secure tenure to the poor who promise to abide by lease agreements and refrain from reverting to illegal occupancy. In return they are expected to relinquish all their 'rights' on the present site. Having ownership of a house in the migrated city can act as the foundation of a stable future for the generations to come and that is a strong motivation to relocate. However, a corresponding 'compensating variation' or the amount of additional money required to survive by the household shifting to a new area is equally important to consider. People living in central city slums enjoy several locational advantages, and moving to a peripheral location could adversely affect their job prospects and access to urban amenities (Masta, et al., 2013). The variation income can be derived from three parameters; household income, number of earning members and per capita income.

A decline in household and per capita income in Delhi following resettlement and an increase in both the parameters in the upgraded households of Mumbai opens the debate *in favour of upgradation.*

Distance of work place from home is a major factor for considering location of slums when the migrant initially comes to the city. Prior to relocation, a significant proportion of people travelled on foot to their workplace. However, with the far site relocation, i.e. being relocated far away from original site (of stay), majority

> Increase in distance from work site results in loss of job, increased expenses on transport and health care.

of the earning members resorted to the use of public transport and cycle rickshaws to get to and from work. With increased distance the time used in travelling also increased, besides the additional money spent in transport. The decision to travel extra miles every day and spend more on transport increased the financial burden on the poor, along with affecting their productivity at work. Those who could not manage the time, shifted to part-time employment from full time, lost their jobs or became self-employed. In Mumbai however, the number of earning members rose by 0.39% in the upgraded sites and full time employment jumped by 40% after upgrading.

More people in Mumbai owned their houses following upgrading. In Delhi, the plots were provided on a ten-year licence to beneficiaries, not a significant improvement

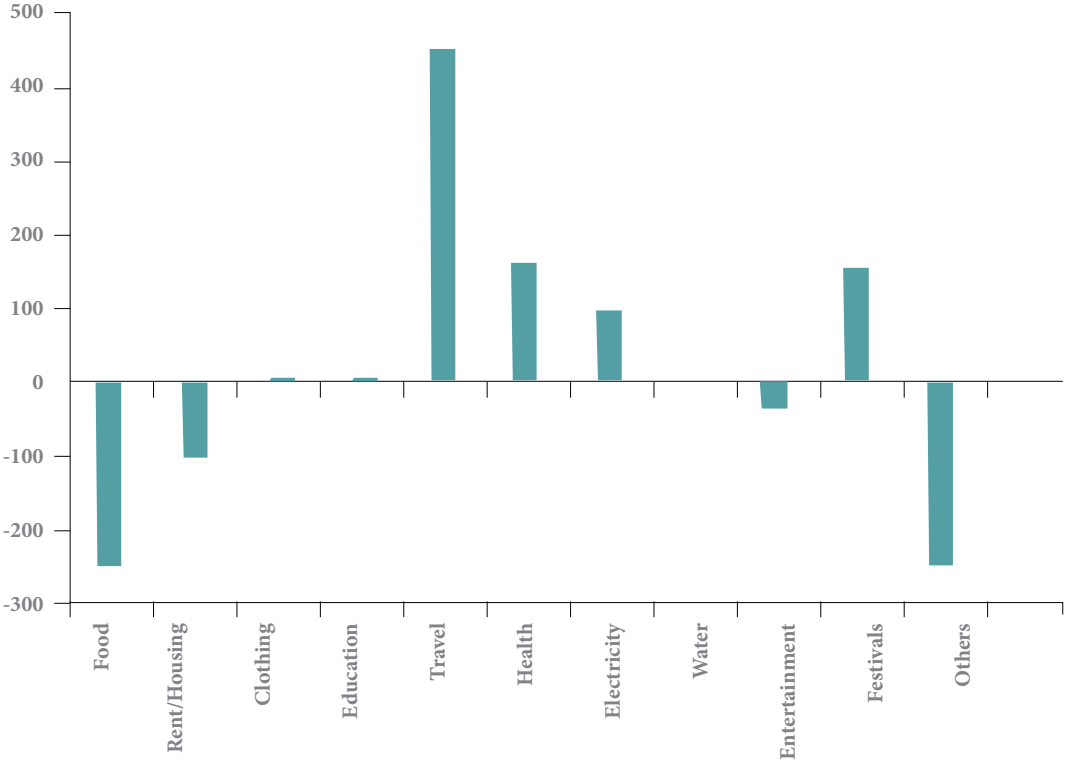
on secure tenure- they were deemed owners of slum houses even though these were on illegally occupied land. The legal but licensed ownership of plots therefore did not allay the fear of eviction and restrained initial investment of people in their houses. Households in the resettled sites therefore continued to live in temporary or semi-permanent houses for several years afterwards. The half-hearted security of tenure offered in Delhi resettlement was thus not a sufficient condition triggering housing development.

> Temporary tenure discourages housing upgrades in resettled sites, but increases in upgraded sites.

Livelihood loss further eroded the ability of families to build. Other externalities such as lack of/ delay in provisioning of integrational infrastructure such as water supply, sewer lines, schools, dispensaries etc. further their insecurities, thus extending the time it takes to integrate resettlements.

With the resettlement, changes in the monthly household expenses were also visible. A vulnerability analysis, showing where the money gets spent, reflected an increase in vulnerability in resettled households in Delhi and an increased wealth of the upgraded households in Mumbai. Itemized analysis of expenditure data for resettled households attributed higher spending to travel, health, electricity etc. which was balanced by

Figure 1: Additional household expenditure after resettlement



Relocation results in invisible costs to families, which are largely underestimated or ignored while estimating relocation costs.

reduction in food, education and clothing costs – thus, not to the dwellers' benefit. Decrease in food expenditure leads to malnutrition and increased expenses in health again. The trade-offs for resettlement are thus prone to perpetuate the vicious cycle of multi-dimensional poverty.

While food expenditure in Delhi dropped by nearly Rs. 250 per household (compared to non-relocated households) indicating deepening food insecurity, it increased in Mumbai by over Rs. 400 per household (when compared with non-upgraded sites). Mumbai households could also spend more on education and entertainment.

Social safety nets, such as community networks that help dwellers identify job opportunities, the cumulative support and belongingness in an organised group that negotiate their rights collectively and extend monitory/ non-monitory support are essential support systems for slum dwellers. Relocation erodes such social safety nets, dissipates community social capital and depletes savings. In upgraded sites, on the other hand, increased membership in housing cooperatives to enable upgradation enhances social capital, besides ensuring savings remain safe, if not increased. In Delhi, each relocated household suffered an average loss of savings of Rs. 142.79 per month when compared to their earlier savings, and Rs. 345.70 when compared to the households in non-relocated sites. This reduction in savings may be considered as the cost of relocation.

Resettlement has a negative effect on social safety nets; social capital depletes, savings are lost and they access credit to pay for their new land and house. They run the risk of slipping into debt traps.

However, in Mumbai, households reported an increase in the range of 12-16% in both, bank savings and savings in LIC schemes using household mapping.

Income deficit after relocation compels the households to reduce expenditure on vital items or borrow, mostly from private money lenders at higher interest rates (10%). About 75% families in the relocated slums had to access credit for paying land charges, construction and shifting. In Delhi, monthly interest for plot and house construction was Rs. 472 and Rs. 1,010 respectively for a household. This was another cost of relocation borne by households alone. Upgraded slum residents were spared this burden.

While the city's resettlement-development plans suggest potentially better futures of house ownership for the poor, the poor do not have the choice to question it or demand follow-through; they are compelled to shift to distant places that are not yet developed. A chain of other results follow this decision.

Due to relocation, school participation decreases as children are either compelled to travel long distances every day to their previous schools, or attend the new village ones where they feel like outsiders. On disaggregating the data based on enrolments and drop outs, encouragingly more girls vis-à-vis boys were found to be at school in all the sites except for the non-upgraded sites in Mumbai. However, data obtained from mapping exercises in Delhi indicated that the number of children dropping out of school quadrupled following relocation. Resettlement thus shapes significant losses incurred on education levels, making education less accessible to children in the short term and decreasing economic contribution in the long term.

Furthermore, the resettled areas being in the development phase, left the residents anticipating support for services like piped water, sanitation, covered drains, access to bus

Table 4: Comparison of services after resettlement or upgrading

	Delhi		Mumbai	
	Post relocation (current)	Non-resettled households	Post upgrading	Pre-upgrading
Having permanent house	3.6%	12.7%	100%	45%
Children dropped out from school	32.54%	7.12%	13.25%	19.7%
Access to electricity	33.33%	31.84%	94.74%	26.90%
Access to bus stops (250-500 metres)	88.33%	61.45%		
Access to telephone	75.98%	51.40%	96.99%	100%
Availability of roads	72.8%	84.9%	96.99%	100%

Table 5: Comparison of WASH services after resettlement or upgrading

Access to water supply				
	Delhi		Mumbai	
	Post relocation (current)	Non-Resettled households	Post upgrading	Non-upgraded
Piped water supply	0%	25.14%	78.57%	8.28%
Community tap	100%	74.86%	21.43%	91.72%
Access to toilets				
	Delhi		Mumbai	
Individual toilets	0%	0%	80.8%	4.83%
Community toilets	100%	100%	19.17%	95.17%

stops, electricity, telephone and roads, while they continued to live in slum–like situation with increasing health costs. Meanwhile the non-resettled and upgraded slums existed in better conditions. Basic services were available legally or illegally in many non-resettled households.

The following table shows the difference between the conditions prevailing in slums relocated and non-relocated (in Delhi) and those upgraded (in Mumbai), to understand the effectiveness of this strategy in poverty alleviation.

The access to water and sanitation services requires a more pointed discussion, as it is a fundamental basis of any housing intervention. The lack of access to clean water and adequate services can have crucially adverse impacts on poverty (of health, economic, social). The comparisons of the data between resettled and upgraded sites continue to point towards the former's failure in improving life conditions of slum dwellers.

While non-resettled households were able to fix informal arrangements to piped

water supply through illegal network supply extensions, none of the resettled households in Delhi had access to piped water supply, despite legal ownership of land. Only 5% area in the resettled sites was provided with covered drainage, the remaining majority had open drainage or no drainage at all. The lack of adequate wastewater disposal arrangements in these settlements was likely to make them slum-like in the long-term. In contrast, the non-resettled site were fully covered by drainage systems (open and unopened), confirming that resettlement did not necessarily bring transformation and could replicate slum conditions anew. In Mumbai, on the other hand, nearly all upgraded households had piped supply at home, which will reduce services' poverty in the long term.

Similar patterns emerged in access to toilets. In Mumbai, most upgraded households had their own toilets, while resettled households in Delhi continued to depend on community toilets despite their shift. The reasons were befitting to implementation and planning gaps, such as the lack of underground sewerage provision and lack of toilet construction space in the allotted small 12.5 meter plots. To add to perpetuating slum-like conditions, solid waste collection services were nearly absent in Delhi's resettlement sites, whereas 50% households in the non-resettled area were covered with waste collection services.

Instead of becoming a win-win situation for everyone, resettlement had in fact deprived them of the job against the forced, city mandated pursuit of a house of their own, which ultimately brought them to another slum, excluded from the services they were initially getting. The lack of an ecosystems and participatory approach in planning such complex interventions has the potential to make State validated poverty webs where one kind of stability offsets multiple other de-stabilities.

Gender dimension of resettlement: Women are traditionally responsible for all the reproductive work, including regular chores like cooking, filling water, washing, cleaning, looking after the children and elderly etc. Therefore to travel to distant places for work becomes challenging for them, post relocation. Predictably, the percentage share of female earning members declined in relocated households in Delhi but increased in upgraded households in Mumbai, where the distance had not changed but services got better. Most women worked as domestic helpers and found it unprofitable to access the earlier area for work after relocation. In Mumbai, there was an increase in the domestic helper jobs taken up by women in upgraded sites.

The relocation versus upgradation debate has an invisible component that affects the drudgery of women. After relocation, assets owned by household to reduce the tedious work for women (like TV, fridge and washing machines) reduced in numbers. In Mumbai, all upgraded households showed increased ownership of assets. In Delhi, ownership of TVs and washing machines dropped by over 50% and of refrigerators by two-thirds in resettled sites.

Housing is largely a women's issue, as their limited rights to adequate housing leaves them out of secure land tenure and housing compared to men, as housing tenures are often under the name of men. Such marginalisation is due to top-down land policies that have vested interests and nearly complete absence of consulting a diverse range of women, especially poor women, in urban land governance (Habitat for Humanity, 2019). This exclusion reflects in the disproportionate adverse impacts on their access to secure housing, basic services, education and unpaid labour, especially in the case of resettlements. In Delhi, however, housing *pattas* (titles) were given jointly to men and women, which is encouraging. Nevertheless, the women dealt with higher costs of relocation.

Table 6: Heterogeneity of poor based on Poverty Line (Rs. per capita per month)

Income group	Delhi	Mumbai
Core poor (incomes between zero and half of poverty line)	Less than 252.77	Less than 269.85
Intermediate poor (incomes between half of poverty line and poverty line)	Between 252.78 and 505.45	Between 269.86 and 539.71
Transitional poor (incomes above the poverty line but fallen between the poverty line and one half of the poverty line)	Between 505.46 and 758.22	Between 539.72 and 809.56

2. Poverty in resettlement is real

To resolve the debate of relocation versus upgrading, the survey data was used to estimate the cost and benefits of resettlement on the poor households and the city economy at large. This was compared with the costs and benefits of onsite upgrading to compare the two strategies. The qualitative and quantitative data are being presented together.

The heterogeneity of the poor has been explained by the Planning Commission in the Tenth Five-year Plan. The urban poor can be classified into three groups, viz., Core Poor, Intermediate Poor and Transitional Poor. Based on the Planning Commission›s estimated urban poverty lines for 1999-2000 (Maharashtra: Rs. 539.71 per capita per month, Delhi: Rs. 505.45 per capita per month) the three income groups would be as follows:

A comparison to understand the effect of relocation and upgradation on poverty shows that following relocation, poverty of relocated households in Delhi increased. In non-relocated sites, the share of poor to the population was 33.51%, lower than relocated sites; the increase was nearly 5% in the relocated sites.

The percentage of core poor households doubled after relocation compared to non-relocated sites. Intermediate and transitional poor were also found to have become poorer following relocation.

In Mumbai, core poverty decreased by half following upgrading. The most remarkable change was noted in the decrease in intermediate poverty. This suggests that while

> After relocation in Delhi, there were increased numbers of poor households, whereas this number was less in upgraded Mumbai sites.

Table 7: Households below Poverty Line in selected sites using per capita income (%)

	Delhi			Mumbai	
	After relocation	Before relocation	Non-relocated sites	Upgraded sites	Non-Upgraded sites
Core poor	7.22	5.00	3.35	0.56	1.3
Intermediate poor	25.56	23.89	24.02	3.89	13.85
Transitional poor	26.67	28.89	21.79	25	25.11
Non poor (>810)	40.56	42.22	50.84	70.56	59.74
Total	100	100	100	100	100

Table 8: Headcount Index

Delhi			Mumbai	
Post relocation	Pre- relocation	Non-relocated sites	Upgraded sites	Non-Upgraded sites
0.3712	0.3249	0.3351	0.0644	0.2025

upgrading leads to a decrease in poverty levels, resettlement through relocation in the short term, increases the poverty of the poor households.

Another index of poverty, the **Headcount Index**, is the ratio of the number of people below poverty line to the population. The index may be any value between zero and one (0 = all are non-poor and 1= all are poor). The following table shows the Headcount Index of poverty in selected sites of Delhi and Mumbai.

Analysis of data suggests that while poverty in upgraded households of Mumbai declined significantly, moving away from zero (0.0644), in the case of Delhi it deepened following relocation (0.3712).

But is the distribution of income across the population equal or are there poorer among the poor in the slums? Gini coefficient, a widely used measure of economic inequality, was used to fathom this information.

Gini coefficient analysis suggests that even as incomes of upgraded households in Mumbai collectively rose, inequality between the rich and the poor households deepened, suggesting that upgrading too, needs to be managed with greater sensitivity to ensure that its benefits accrue equally to all households.

In Delhi, the inequality increased as well, albeit marginally following relocation, suggesting that relocation has not had the expected impact on poverty alleviation as envisaged,

Figure 2: Lorenz curve for resettled & non-resettled sites in Delhi

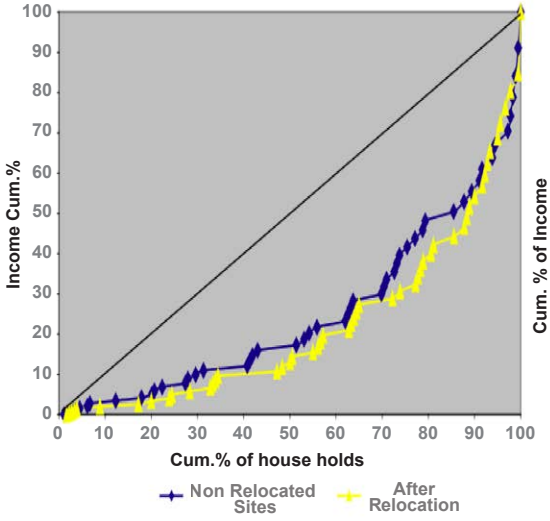
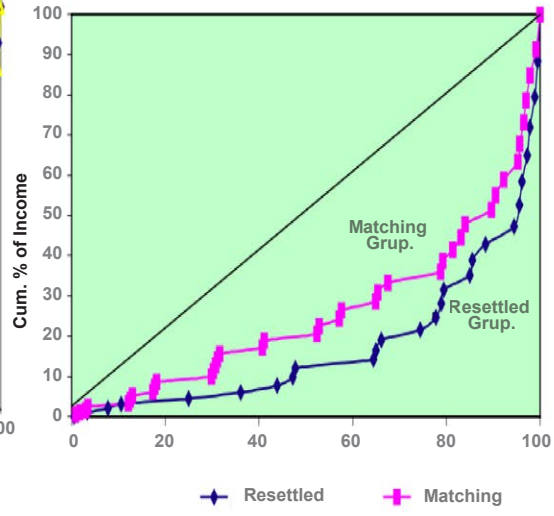


Figure 3: Lorenz curve for upgraded (resettled groups) & non-upgraded sites (matching groups) in Mumbai



$$P_s = P_0 * (1-(1-G_p)) * \mu^p / Z$$

Where P_0 - Headcount Index, G_p - Gini Coefficient, μ^p - mean income, Z - poverty line & P_s - Sen Index

Table 9: Sen Index for Delhi and Mumbai

		Delhi		Mumbai	
		Resettled Households	Non Resettled Households	Upgraded Households	Non Upgraded Households
P_0	Headcount Index	0.3712	0.3351	0.0644	0.2025
G_p	Gini Coefficient of poor	0.4379	0.1675	0.3906	0.3223
μ^p	Per capita income of poor	360	382	409	405
Z	Poverty line	505	505	540	540
P_s	Sen Index	0.222458	0.124077	0.034698	0.09958

owing to all the challenges of resettlement discussed above.

Gini index is often represented graphically through the Lorenz curve, a cumulative frequency curve that compares the distribution of income (or expenditure) with the uniform distribution that represents equality. The cumulative percentage of households (from poor to rich) is shown on the horizontal axis (x-axis) and the cumulative percentage of income (or expenditure) on the vertical axis (y-axis). The further a Lorenz curve deviates from the perfectly equal straight line (which represents a Gini coefficient of 0), the higher the Gini coefficient and the less equal the society. Following are the Lorenz curves plotted for Delhi and Mumbai:

Lorenz curve and the Gini coefficients show that although poverty levels in Mumbai's upgraded sites reduced, inequality between the rich and the poor deepened, i.e. internal inequality among non-upgraded sites was found to be much lower than the upgraded sites.

Though the number of poor increased in Delhi after relocation, did the poor become poorer? To understand the intensity of this poverty, Sen Index, a tool to measure poverty levels was used. In simpler terms, it tells us how far down are people from the poverty line or how poor is the poor. The Headcount Index (number of poor), Gini Coefficient (distribution of poverty) and Poverty Gap Analysis (depth of poverty) are used to calculate this index.

There are more numbers of poor with higher inequality and more severe poverty at the relocated sites compared to non-relocated or upgraded sites.

Value of Sen Index is generally expressed in fractions between 0 and 1; the closer the value is to 0, more is the severity of poverty. Relocation in Delhi caused the severest of poverty; upgradation also caused some poverty when compared to non-upgraded control slums in Mumbai. Comparison of Sen Index values for upgraded and non-upgraded sites in Mumbai and relocated and non-relocated sites in Delhi show that far site relocation has harmed poverty levels with poverty increasing in the relocated sites of Delhi.

These results strongly support the argument for onsite upgradation of settlements rather than relocating to faraway places.

Maximizing the benefits

For the welfare of the constituency and its development, it is pertinent to understand which decisions to make and which to forego. The Cost-Benefit Analysis (CBA) can help sum up the potential rewards of the decision. CBA, as the name suggests, is a measure of the benefits of taking action minus the costs associated with taking that action (Hayes, 2021). In the present study, CBA analysis was undertaken by assessing land value, tax increases to the city and employment generation. For upgrading, the measure included rising costs of incomes.

Benefits of resettlement

i. Land value of the evacuated site: The average area of evacuated land for a single household is estimated as 21.7sq.m. In the relocated area they were provided with 12.5 sq. m. The land value of evacuated areas is very high since these are prime areas in the city. During the time this study was conducted in 2005, if the value of such was estimated as Rs. 21,531.08 per sq. m., the value of evacuated land of a single relocated household became Rs. 4.67 lakhs (i.e. Rs. 21,531.08 x 21.7 sq. m) taking into consideration the real estate values, while working out the estimates for values of evacuated land.

ii. Net taxes and charges: Evacuated land successfully utilized for developmental and commercial purposes generates 1% of the land value as net taxes and charges. This has been estimated as Rs. 4,670 from the evacuated land of a relocated household.

iii. Employment generation: Development projects on evacuated land generate employment opportunities. The income generated from such activities has been estimated as Rs. 60 lakhs per hectare per year. From the evacuated land of one relocated household, this income is about Rs. 10,890 per year.

Benefits of upgrading

i. Increased incomes: The average income of non-relocated households in Delhi has been estimated as Rs. 4,189.11 per month. It has been estimated that the benefits of increased income from onsite upgradation is Rs. 444.45 per month per household (Rs. 4,189 x 10.61%). This is about Rs. 5,333 per year per household.

Costs of resettlement

CBA analysis for the costs of resettlement was undertaken by assessing cost of procurement of land for relocation, cost of providing civic amenities and other related costs.

i. Cost of procurement of land for relocation: The average land value of the relocated area has been estimated as Rs. 8.36 crores per hectare. Therefore, the cost of relocated land for a household has been estimated as Rs. 4.18 lakhs at 2004 prices.

ii. Civic amenities: The cost of developing the relocated land and providing civic amenities to the relocated settlements has been estimated as Rs. 40,000 per household.

iii. Other costs: Other costs for house and related relocation costs such as shifting costs, etc. borne by the households has been estimated as Rs. 68,445 per household. Income loss to settlements has been estimated as Rs. 206.20 per month per household. The additional travel cost is found to be Rs. 428 per month per household. Additional expenses on health care have been estimated as Rs. 109.25 per month per household. Analysis of savings shows that loss of savings due to relocation is about Rs. 142.79 per month per household. The cost of bus service has been estimated as Rs. 2,628 per household. The cost of DTC bus service is Rs. 30 per km and it is assumed that there has to be a

minimum of four trips to these settlements connecting them to the main city. Besides, each household experienced a loss of nearly Rs. 3,000 during the process of shifting following the relocation by staying off work.

Cost Benefit Analysis

CBA can be represented by two indicators – Net Present Value (NPV) and Benefit-Cost Ratio (BCR) to summarize the overall value of the project (resettlement). If the value of BCR is >1 then the project is profitable. However, in the case of resettlement of slums through relocation, the present value of benefits has been estimated as Rs. 5.80 lakhs per household; whereas the cost is at Rs. 9.50 lakhs per household. This gives a NPV of –3.70 and Benefit-Cost Ratio BCR 0.61. This clearly shows that the option of relocation is not economically worthwhile.

In the case of resettlement of slums through onsite upgrading, the present value of benefits has been estimated as Rs. 2.69 lakhs per household and that of costs as Rs. 2.57 lakhs per household. This gives a positive NPV of 0.51 and the BCR at 1.24 is greater than unity. This option justifies the economic worth of the project.

DISCUSSION

While the section above untangles the itemized costs and benefits of resettlement versus upgradation, and points towards slum upgrading as an option that adds more value to cities, a larger gap emerges from exploring the realities of both processes. There is first and foremost a behavioural issue at the government and planning level, which ties into as well as perpetuates capacity issues.

Planning for upgrading, or any kind of slum rejuvenation requires a shift in attitude at the (particularly local) government level which implies an acknowledgement and acceptance of the value that slums, its inhabitants, and incremental housing improvements bring to cities. While there are no mandated good practices of what upgrading should involve, inclusive planning and upgrading would require consultation and cooperation with the slum inhabitants on what needs to be prioritised as per their requirements, how it needs to be done and a division of responsibilities and ownership between the community and the government. It needs to include measures that ensure security of tenure, efficient government agencies that combat bureaucratic delays and inter-governmental agency coordination to provide necessary infrastructure and services to the upgraded households.

As the Basic Services for Urban Poor (BSUP) programme within JNNURM as well as government interventions around slum housing also reflected, city governments' approach to implementing slum upgrading still remains entrenched in the same bureaucracy, processes, and institutions that were used for (and still are) public housing "for the poor" (Patel, 2013). Processes of preparing detailed project reports, appraisal, tendering and procurement still operate from the viewpoint and conventional practices of public housing projects, where the actual needs of recipients are entirely ignored (or presumed). There is a narrow focus on infrastructural outputs than the larger behavioural and slum ecology outcomes and the quality of provisions – such as planning resettlements in areas with no trunk infrastructure. These inconsistencies stem from the failure of processes to listen to community beneficiaries and work with them. This is especially critical in the decision of upgrading versus relocation itself, which is an entirely top-down driven decision with no scope of input from the slum dwellers.

Such attitudinal limitations are then tied up with limitations in the institutional framework. In most cities, there is an absence of trained government officials with the social and technical knowledge of designing

and implementing upgrading initiatives, and mobilising and working with communities. Frequent transfers and changes in city personnel and the lack of institutional capacity in understanding the processes involved in in-situ upgradation and the support required add to the mix of limitations.

Even in the case of slum resettlements, the estimation of invisible and adjusting costs, such as those accruing to the communities as well as logistical provisions such as temporary (transit) accommodation for those being resettled are left unconsidered due to the bureaucratic approach excluding citizen input (ibid). There are network externalities which urban poor communities especially depend on, which while operating out of social relations, have significant impacts on one's access to new employment, credit and all-round well-being. These lesser visible costs that are aggravated from resettlement or relocation are largely absent in the planning vocabulary of urban informal settlements.

Thus, while upgrading emerges as a better alternative to relocation, the gaps in non-participatory approaches and institutional framework are essential to consider and bridge for inclusive urban planning and slum upgrading.

CONCLUSION AND ECOMMENDATIONS

The debate on resettlement versus on-site upgrading is age-old. The pro-resettlement advocates argue that resettlement is a win-win situation for both, the poor and the government, because the high economic value of the evacuated land can be used in other development projects while the poor get a tenured and serviced land and enjoy good quality environments. Those against resettlement believe that resettlement distances people from their livelihoods and safety nets, thus deepening their poverty further. Those for slum upgrading reason that improving quality of people's environments at their existing place of stay or close by improves their overall quality of life.

While deciding for resettlement, the planners and policymakers generally lay greater emphasis on estimating real cost incurred in land procurement and provision of basic urban services without estimating losses accruing to households and the city economy in the process of resettlement. Most slum dwellers are part of the informal economies of cities, whose contribution has not been seriously examined by economists, indicative of underestimation of the contribution of slum dwellers to the city's economy. Resettlement through relocation of households to faraway places in the city disrupts the socio-economic arrangements of the poor and leaves them dependent on government implementation and support. A study undertaken by Participatory Research in Asia estimated the contribution of the urban poor to the urban GDP of India to be 7.53% (PRIA, 2013), which can be impacted by such dislocation.

Data from the study demonstrates upgrading as the better option for slum development and poverty reduction. While upgrading increases the incomes of households, far site relocation not only shrinks incomes but also deepens vulnerability. Relocation also affects the children who drop out of school because of the distance. Each year of schooling loss has a long-term impact on the GDP of the city. Upgrading is a win-win option for both the local government and the household. Governments at the national, state and city level need to recognize the benefit of upgrading and ensure that this is the primary option for slum development.

While upgrading as an approach may be more time consuming, it is likely to reduce the resentments among communities and increase their involvement in larger slum federations or co-operations, which would

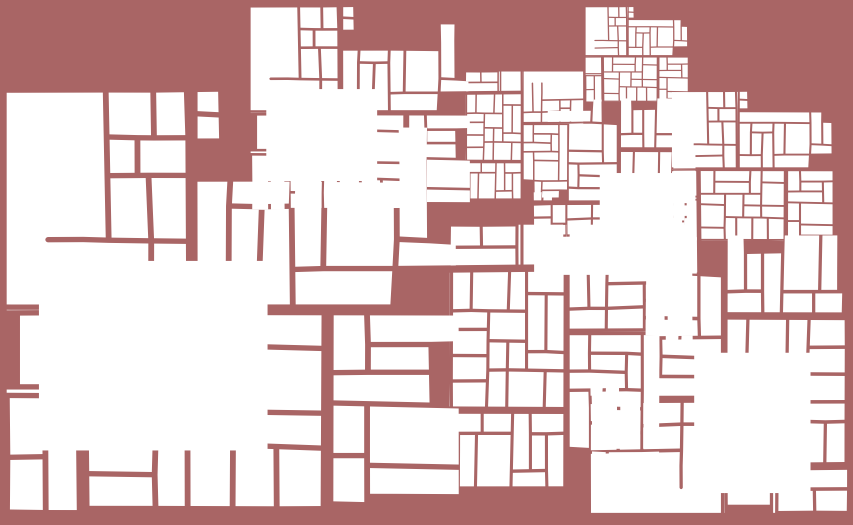
enable accurate data collection pointing to the actual slum upgradation needs. If slum dwellers are fully integrated in decision making around planning and costing, their cognizance of inter-generational benefits would increase their own contributions to the upgrading process and help the government branch out to more pointed solutions such as 'blended finances' (Sticzay and Koch, 2015). These include community funding instruments, and a more demand-driven approach to slum upgrading where public/ private finance is combined with community raised funds – making commercially less viable projects such as upgrading more socio-economically and financially sustainable.

The average ages of slums in study sites such as the capital city of Delhi go back years, if not decades – no new clusters are forming, instead these older agglomerations have expanded and grown with urbanization. Thus the perception of "*the more they come*" (Bhan et al., 2020), is an arbitrary and prejudiced fear which has lent more space to cars in the city than housing for workers, slum residents and citizens. A critical shift away from standardised 'public works' in planning, tendering and procurement approach is thus indispensable when planning the fruitful integration of 'greyer' areas of the city and their entitlements.

A clear slum policy is critical in India as a pathway to make urban areas more organized, clean and healthy. It must integrate a shift to demand-led approach of financing and utilise the ground presence and networks of Community Based Organisations among slums. This would help broaden locally generated revenue sources and instrumentalise the heterogeneity of slum populations and their voices. The study demonstrates that erroneous decisions by policymakers have the potential of pushing slum households into severe poverty. The results of the study should be reviewed and used for providing a much-needed direction to the slum policy. Based on the findings of the study, clear options for states and local bodies can be proposed in the slum policy on addressing the issue of slum development that promotes upgrading rather than relocation.

Relocation must be made a conditional option in the National Slum Policy. The Policy must therefore address the issue of prevention of slum development through social housing planning. Local governments must be encouraged to build tenement housing for new migrants to cities on cost recovery basis. These could also be developed through private sector participation.

WATER AND SANITATION SERVICES: AVAILABILITY, ACCESS, AGENCY



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ABSTRACT

India's long-standing focus on improving water and sanitation has shifted from the rural to urban areas. The quick growth of internal migration as a trend, changing landscapes of the cities, the urbanization of poverty and deteriorating water and sanitation situations have prompted this shift to 'thinking urban'. Swachh Bharat Mission (SBM), Atal Mission on Rejuvenation for Urban Transformation (AMRUT) and Jal Jeevan Mission (JJM) were launched in the recent past to achieve urban transformation in water, sanitation and sewerage issues. However, there still exists a gap between what is needed and what is available. To address these gaps, multi-dimensional approaches need to be used.

The Centre for Urban and Regional Excellence (CURE), in partnership with USAID, has been working in seven Indian cities for the Pani Aur Swachhta Mein Sahjedari (PASS) project. The project, in synergy with national missions, aimed to deliver improved and integrated water, sanitation and hygiene services to poor communities- including taps and toilets at home, by involving community members in decision making and changing behaviour. The Participatory Assessment study gathered quantitative and qualitative baseline data of PASS project from seven cities in iterative phases, as the project progressed between 2015 and 2019. This paper discusses the findings of the Baseline Assessment, illustrating the status of water and sanitation in urban areas; particularly the 'on-ground' situation of availability and access of water and sanitation facilities, hygiene behaviour and people's agency in negotiating

[1]This article is extracted from CURE's Baseline Assessment report conducted in 2014 as a progress-status indicator for its PASS project, supported by USAID between 2015 and 2019.

better services. It takes into cognizance the drivers and deterrents of WASH practices and services as per the baseline indications, lessons from PASS, and points towards the role of civil society and participation in nurturing pro-poor urban WASH systems.

INTRODUCTION

Water and sanitation services are basic to life. Everyone everywhere should have access to good quality water and sanitation services. While their access is considered to be fundamental to life, the assessment of their actual availability, access and quality on ground points towards significant inequities in our cities. Large portions of the Indian population, especially those residing in slum communities, do not have access to taps and toilets at home. The inability of cities to deliver good quality water and sanitation services to slum and low-income communities stem from many reasons. These reasons largely fall into three categories; technical deterrents, (community) behavioural deterrents and 'enabling environment' deterrents at government level.

Technical deterrents: The unplanned nature of urban sprawls and the 'slum clearing' tendencies of cities result in most slums either occupying land illegally or existing on unauthorised land. These settlements, falling into the grey-areas of planning jurisdiction, make local governments reluctant to provide services to them. Technical deterrents of jurisdiction are associated with logistical deterrents which make it hard for interventions to work in these areas. For example, most often, such settlements are not in proximity to trunk infrastructure, or are located in areas that are hard to reach. Many of them also occupy fragile lands such as forests, edges of water bodies or hill slopes, etc. which add environmental concerns to the technical and logistical deterrents – working together a complex concoction of limitations to planning and implementation. These together contribute to the situation of such settlements that are largely inhabited by marginalised communities who experience social exclusion, and are thus treated unequally under government policies and uneven policy implementation (De and Nag, 2016).

The hesitance of local governments regarding these settlements consequently affects the recognition of the actual drivers and barriers of demand for water and sanitation improvements, which affects services to slums (Isunju, 2017). Even when services may have been delivered inside the settlements, they are below standard norms or poorly maintained (Baye, S., et al, 2012). These lead to poor water and sanitation access, which have significant impacts on the physical security, health of people (Cairncross, 2003; Esrey, Potash, Roberts & Shiff, 1991; Gupta & Pal, 2008), their socio-economic condition and quality of life (Mara, et al., 2010). Poor water and sanitation is the cause for 15% neonatal mortality and 11% maternal deaths (GBD, 2015). Such statistics are perpetually representative of the larger political economy, rather than technical processes alone, that affect how water (and sanitation) is shared between people (Jiménez et all., 2019).

Behavioural deterrents: Besides the lack of land and dwelling tenure status, behaviour of the inhabitants also acts as a barrier in availability of water and sanitation services. Poor families, in their struggle to survive, often push concerns about inadequate water and sanitation to the bottom of their needs (Subbaraman, R., 2015). Poor people, women and children in particular, learn to cope with these deficiencies by defecating in the open or storing water sufficient for their daily requirements. The daily struggles of survival in slum communities leave their inhabitants limited knowledge of and time to navigate the complicated pathways of attaining services from the cities. Cities on the other hand,

driven by legacy practice, are unable to build innovatively or localize solutions to community needs (Khosla, 2017).

'Enabling environment' deterrents: The Jawaharlal Nehru National Urban Renewal Mission (JNNURM launched in 2005), the Swachh Bharat Mission (SBM launched in 2014), the Atal Mission for Rejuvenation and Urban Transformation (AMRUT launched in 2015) and the Jal Jeevan Mission (JJM launched in 2019) by the Government of India have invested capital in water and sanitation infrastructure and sector reforms. These together, aimed to improve availability, accessibility and quality of water and sanitation services in cities, including connecting slums with 'universal coverage'. While these efforts have improved, in general, the availability of water and sanitation infrastructure in cities, outreach in low-income communities has been low. The reluctance of ULBs to change practices of delivery into "illegal" settlements, along with associated technical and behavioural deterrents are key reasons for limited outreach.

Positioning PASS project and its Baseline Assessment:

The Centre for Urban and Regional Excellence (CURE), with the support of USAID, delivered project PASS (Pani Aur Swachhata Mein Sajhedari or Partnership in Water and Sanitation) from 2015-2019. The project, in synergy with national missions, was aimed at promoting healthy water, sanitation and hygiene (WASH) access and outcomes for the poor – especially women and children. The context discussed above, is a reflection from the lessons and triangulated observations of the project, which was implemented in 140 slum settlements, reaching 1,13,000 households across the seven Indian cities of Delhi, Noida, Ghaziabad, Shahjahanpur, Agra, Jaipur and Dharamshala till date.

As a part of the project, a Baseline Assessment was undertaken across all seven cities to understand the ground level situation of urban water and sanitation, and as a base reference to evaluate PASS's impact. This paper is based on the data generated as part of the Baseline Assessment, which in the form of a case study, helps us discuss the larger urban situation of WASH in India – its availability, access and agency.

Theoretical lens and WASH framework:

Community participation for WASH programme sustainability was the overarching theoretical lens used for this study, and gave direction to the data generated as a part of the baseline. While there is growing literature iterating community participation as an essential driver of the sustainability of health-related programmes (Rifkin, 1986, 2014; WHO, 2002; Draper et al., 2010), the two factors of 'time' and 'context' (or 'enabling environment') emerge as essential shapers of the community's ownership of positive interventions.

The WASH framework, therefore, used for this study corresponds to Environmental Health Project's 'Hygiene Improvement Framework' (2004), with the added dimensions of temporality, and positioned in the context of CURE's WASH strategies. The modified framework thus, has four key aspects:

1. Improving access to hardware
2. WASH Promotion
3. Enabling context or environment
4. Intervention time or temporality

The indicators of the hardware component reflect the presence of, access to and functionality and usage of WASH infrastructure (such as toilets, taps, and sewerage systems). Indicators for WASH promotion refer to changes in WASH behaviour and practices at individual, household and community levels. Indicators

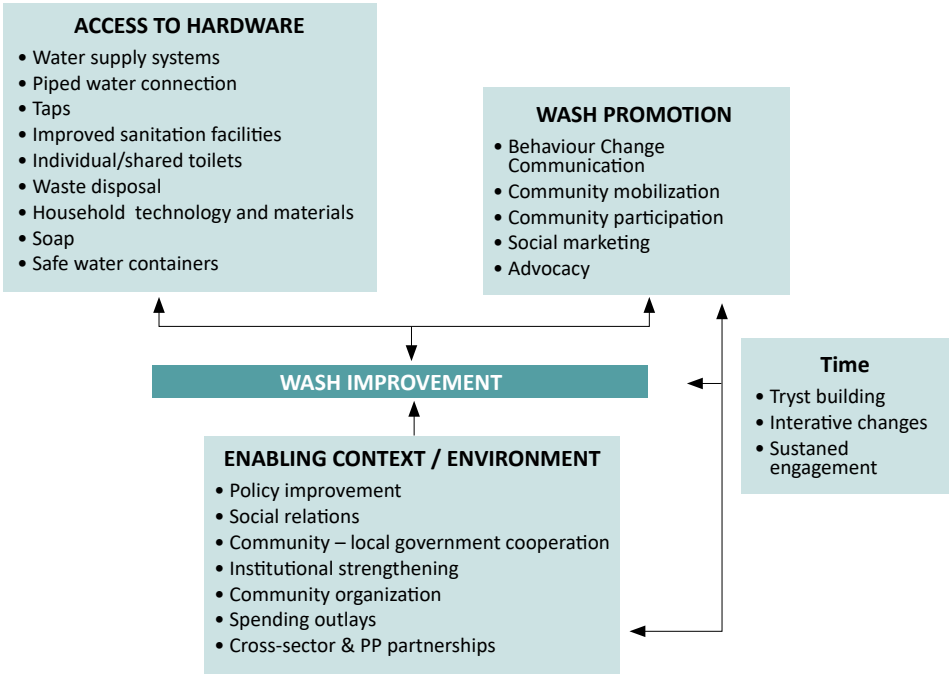


Figure 1: Modified WASH Improvement Framework

for enabling context or environment reflect institutional and social relations, and various drivers and deterrents of good practices. Time or temporality reflects the trust building, and micro and macro effects of sustained, iterative engagement between the community and the WASH intervention. The interaction between these four components, thus, take place between factors of infrastructure, local attitudes and institutions over time, and their ability to overcome deterrents of WASH improvement through drivers of WASH.

The current paper covers the findings of the Baseline Assessment which largely collected data on the first component of the framework – access to hardware. However, qualitative discussions around the survey and the collected data of the same indicated the status of other components such as behaviours around WASH promotion, and the context of how enabling the environment was. In fact, access to hardware was often influenced by the other components. These were analysed under the larger qualitative and quantitative findings of the PASS project vis-à-vis the baseline, and larger cognizance with available national data and literature to arrive at an informed status narrative of urban water and sanitation.

METHODOLOGY

The Participatory Assessment study collected qualitative and quantitative data from low-income households in seven cities, across four states - Delhi - North, East and South, Uttar Pradesh - NOIDA, Shahjahanpur, Agra, Ghaziabad; Himachal Pradesh- Dharamshala, and Rajasthan- Jaipur.

The data was generated in a phased and iterative manner, as the project progressed from 2015 to 2019, incorporating additional settlements every year. This also included a rapid survey across 135 slums and a total of

90,001 households. Samples were drawn from all project settlements using random sampling method. The final sample size comprised of 18,992 or 16.8% households of the total households in the project (1,13,000).

The survey questionnaire was designed based on the quantification of the outcome indicators of PASS project. Also known as 'access indicator', it included four variables - the types of facility, location of facility, time taken to use it, and cost or money to be paid for using it.

A web portal, m-Water, designed for digital surveying was used to collect data. The data collection process was preceded by identifying community residents having access to smart phones, and training them to conduct household level baseline surveys in the settlements. The portal helped Field Supervisors and Project Coordinators to easily monitor the data being entered, as well as its progress and accuracy in consultation with the community members.

Digital surveys geo-located the house and time taken in filling the forms automatically through options available on the portal, which was useful for ground validation and hence improving the accuracy of the data collected.

FINDINGS

The Baseline Assessment covered the demographic and socio-economic profile of the slum settlements, housing conditions, access to water and sanitation, solid waste management, and health and hygiene practices. Qualitative discussions around the survey with community members supported the overall analysis of the how enabling the environment was in terms of driving or deterring demand for WASH services and behaviour change. This comprehensive coverage of the survey areas were pertinent, as to prepare for a successful participatory WASH intervention (like PASS), the baseline has to appraise the demographic, socio-economic, societal conditions and institutional landscape (Jiménez et al., 2019) along with access to hardware.

The slum population of the cities were dominantly male, young, employed, and literate with smaller household sizes compared to the national average. With the sex ratio of 880 women per 1000 men in the sample, men dominated the gender presence of these slums due to the trend of mostly single men migrating to urban areas for work. This trend also contributes to the smaller household sizes and the sex ratio being lower than the national average of 928 women per 1000 men.

The average household income was estimated to be Rs.12,240 per month. Most families were Hindus, and owned the houses (86%) that they lived in. Most of the houses were pucca (58%), with brick walls and roofs of stone, brick, cement or concrete. The income, ownership and type of housing are particularly pertinent factors influencing demand for WASH services as well as their access, as indicated by the assessment below. Furthermore, while the population was largely literate, a population of 14,873 or 26.7% out of 55,673 did not have access to education, which is a pertinent factor influencing awareness and behaviour change around WASH.

Availability of WASH services

In the study area, the number of people having access to safely managed drinking water services was assessed based on the locations of water collection points: tap inside the household and outside the household, like the Community Stand Points (CSPs) or common taps provided by the ULBs.

Amongst the cities surveyed, 51.54% of the households had a source of drinking water inside the households- 33.79% of those connections being pipelines extended inside individual homes informally, by puncturing

Table 1: Water sufficiency, efficiency and quality - overall

Tap location	Tap outside	Tap inside
Water supply is sufficient	80%	84%
Water supply timing is convenient	71%	93%
Quality of water is good	50%	90% (potable), 62% (bad quality once a week)

the community water pipeline laid by ULBs. Furthermore, 64.17% of all the tap-inside sources were government pipelines informally extended. It is important here to note such context-based quick fixes (also called '*jugaad*' in local Hindi), are a perpetual aspect of urban phenomenon, which go unconsidered in planning and assessment. Their consideration is essential in capturing on-ground reality of the WASH ecosystem, without which data collected can seem illogical/ non-authentic to implementers and planners. These are also indications of where trunk infrastructure fails the availability or access to water.

A few outliers emerging from the general trends are important to mention. In the city of Noida, 65% households relied on bottled water as the primary source of water. This could create a variety of difficulties for urban poor households, ranging from logistical ones such as filling/ re-filling bottles, having to go out to buy bottles, to generation of more plastic waste, and poor disposal of such waste. There are also financial difficulties when families have to rely on buying water to drink as a regular practice. Overall, 75% households in Noida have to travel to fetch water, as do 67% households in Delhi, who rely on water sources outside their homes. The unrestricted access to hardware such as water tap inside households is a critical enabler of decent urban living environment. Its absence can insinuate adverse repercussions around WASH promotion in general and health emergencies, safety, mental anxiety, and WASH practices, among other specific challenges for the dwellers without access.

Other sources of water collection used by the households were bore wells (1.77%), tankers (9.77%), bottled water (15.84%) and other nearby places. Many of the pucca houses had taps inside compared to kutcha or semi-pucca ones, demonstrating inequality of distribution and the access to individual infrastructure. These differences also effect social relations and community mobilisation efforts around WASH, as socio-economic differences make it difficult for communities to come together and demand services.

More than half of the population (56.46%) spent between 15 minutes to an hour's time to fetch water from these sources, which significantly exceeds World Health Organisation's benchmark of 30 minutes for efficient water collection. While the primary source remains the same, there is a difference in the perception of people about the quality of service and water, albeit limited. Here, Shahjahanpur rises as a concerning exception, where 44% of the population considered the water from their primary source unfit for drinking. The baseline revealed that 88% of the taps-inside sources in the city were not considered potable. 63% of the population in the city found predictability of water supply entirely unreliable, which adds to the access gap among people.

Locations of the common taps overall are generally central to most users (40 households per tap). Most women (53.36%) have to walk 20 metres to reach the taps. This is

an essential insight, keeping in mind the gendered outcomes of all WASH interventions, which shape social relations of gender equality (Kabeer, 1994), individual and household level changes. Women and WASH are intrinsically entwined, particularly across South Asian countries such as India where women travel long distances to fetch water, and play an essential role in educating their families and communities on WASH practices (Lala et al., 2017). The distance between the household and water source are important influencers of a family's WASH practices. Progressively, the study observed that fewer people stayed away from the source of water, with only 10.51% staying at a distance of more than 100 meters. Jaipur was the only city wherein 49.15% of population travel distances of 100 - 500 meters to fetch water.

In line with institutional and social contexts dictating access to WASH, there was a pronounced economic division with respect to households with taps inside the house. While 55.50% pucca houses (or the richer poor) had taps inside, only 7.75% kuccha houses (or the poorer poor) had the same facility. The remaining were the semi-pucca houses (36.75%), which were in between the two, economically.

Despite the households having different economic capacities, the reasons cited for not having a tap inside the household were not economically discriminating, but had to do with infrastructural contexts. Potent reasons such as distance from trunk infrastructure or the complicated nature of the process to access WASH infrastructure/ services emerged as the main hindrances– indicating outreach gaps of national missions over motivation gaps at the community end.

Through sustained presence of the PASS project, CURE has curated various low-resource, de-engineered solutions that have led to significant transformations in lives of the

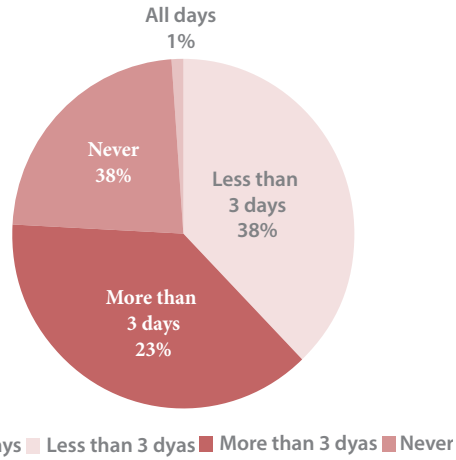


Figure 2: Poor quality of water (Tap inside) – overall

poor in response to such gaps indicated by the baseline.

Sanitation

Toilets play a fundamental role as primary shapers of access to sanitation as well as secondary shapers of safe and inclusive infrastructure and social relationships. In the settlements surveyed, access to sanitation, thus, could be divided into four categories; a) Household toilets; b) Shared toilets; c) Community toilets and; d) No toilet facility.

Most households within the study area had household toilet facility (54%), whilst some relied on community level sanitation services (37%). The community level services include two categories, i.e. sanitation services provided by ULBs, such as community toilets (30%) or the services developed by the people along with their neighbours and extended family (7%). The remaining households (9%) had no sanitation facility and hence had to resort to open defecation. Interestingly, one in every three (36.92%) pucca house had its own toilet but the highest usage (57.05%) of community toilets was also by residents of pucca houses.

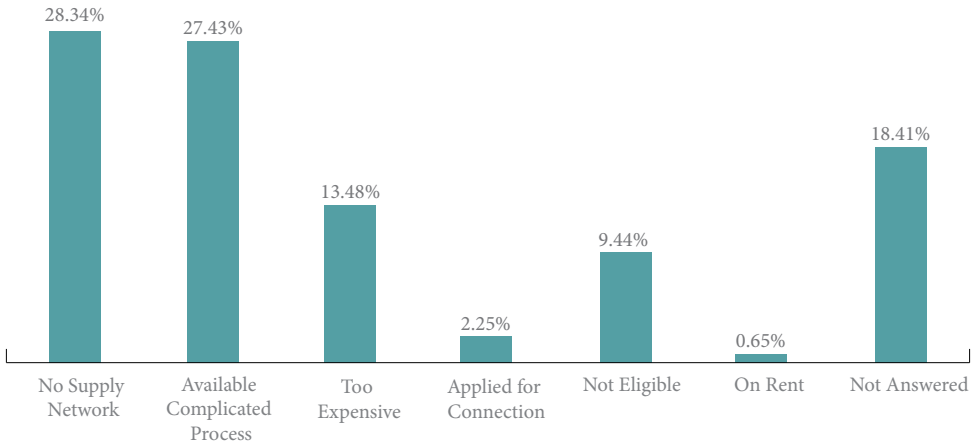


Figure 3: Reasons for not having piped connection inside houses

Unlike generalised trends, open defecation was not correlated to type of houses people stayed in, and by default their wealth. Only 11.27% kuccha house residents (poor) reported no toilet facility compared to 28.37% of pucca house (upper poor) and 60.36% of semi-pucca house. These insights, in cognizance with the study findings around tap access, further solidify the multiple (hardware and behavioural) dimensions influencing WASH practices, beyond economic status. Even when considering the distribution of toilet users on the basis of age and sex, the baseline indicated that majority users belonged to the working population of 18-60 years; with 70.57% male and 67.75% female users in all cities. This is also indicative of safe WASH practices as more penetrable to younger populations than older generations in cities, who were raised without prioritising access to private toilets. In Shahjahanpur, for example, only 7.16% male and 7.07 % female individual toilet users are in the age group of 60 and above.

Disposal of waste from these toilets is crucial to understand because it affects the environment and health of the inhabitants in the settlements. Connectivity to sewer lines is a critical bridge for the treatment of waste – the lack of which accelerates environmental and health disadvantages from local to national level. Nearly 80% of the Indian population remains unconnected to proper sewer systems. The 2011 Census highlighted a mere one third of Indian urban households covered under piped sewer networks – also extending worries of ground and surface water sources getting contaminated and increasing ripple effects such as increasing costs and decreasing quality of water (Rao and Sakthivel, n.d.).

Table 2: Use of toilets by types of houses

	Household Toilet	Community Toilet	Shared Toilet	No Toilet facility
Kuccha	5.84%	8.43%	13.69%	11.27%
Pucca	68.02%	57.05%	54.26%	28.37%
Semi Pucca	26.14%	34.51%	32.05%	60.36%

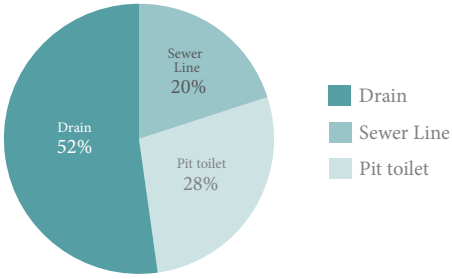


Figure 4: Disposal of toilet waste (Household toilet) - overall

Similar patterns emerged from the study area, where only 28% of the household toilets were connected to sewer lines, whilst 52% of the toilets had pit toilets. The waste from the remaining 20% household toilets flowed into nearby drains, which adds to environmental and health concerns for the communities. The size of pit toilets varied based on space available and number of people using the toilets. Desludging of these pit toilets is a critical part of the toilet maintenance which effects current and future use. In the study area, majority (60%) of the pit toilets required desludging every two years, while some even needed desludging every 3-4 months. Most of the toilets (57%) were cleaned by ULBs/private contractors, whilst some households cleaned the tanks on their own. This is a concerning flag up, as majority people in Jaipur (36%) and Agra (49%) go for desludging septic tanks of their household toilets on their own through manual scavenging – indicating the continued presence of caste-based, severely dangerous sanitation practices. Practices such as these are not enabling to the settlement environment for improvement in WASH services and practices. Manual scavenging, much like open defecation, continues to plague Indian cities, despite the efforts of national programmes such as SBM which categorically focus on ending such practices by 2021.

Majority of the shared toilets across all cities too, had pits (60%) for disposal of waste whilst 30% of the toilets were connected to sewer lines. Most of the tanks of the shared toilets required desludging once in more than 2 years. 100% of those surveyed in Delhi and Agra, and 41% of those in Noida also illegally use local labour for desludging shared toilet septic tanks.

Community toilet complexes were constructed by the ULBs, however in most settlements were managed by private agencies, which were responsible for providing water inside the toilets and maintain cleanliness within the complex. Amongst the settlements surveyed, 76% of these complexes were not maintained well by the agencies responsible for it, despite having water taps inside 82% of the toilets. The toilets were largely located within the settlements for people to access them conveniently and hence, 93% of the people could reach a toilet by travelling only 250 meters. Most people (95%) took less than 30 minutes to access the community toilet. As per SBM guidelines, one seat needs to be provided for 6 households in the settlement. The time taken to use the community toilet depends majorly on the number of seats provided within and the time of the day; thus, during the mornings, the wait was longer.

Those without toilet facility are forced to resort to open defecation, amongst them 75% of the people defecate in forest lands near the settlement. In places wherein there is a community toilet, people still defecate in open, mainly because of accessibility issues – the complex is not open throughout the day (47.68%) and the waiting time for accessing the community toilet being too long (16.52%). This practice, falling within the 48 million people residing in urban India that defecate in the open (World Bank Group, 2016), has severe consequences in terms of catching diseases, perpetuating sexual violence, environmental degradation and more.

The two major reasons for not having a toilet

inside the house were the lack of space and the capital to build it – reiterating the role of income, household type and area in the status of urban poor communities' access to water and sanitation. Interestingly, lack of connecting infrastructure did not occur to people as an issue, as it was possible perhaps to build pit toilets or toilets with septic tanks.

Solid Waste Management

Although the PASS project has no direct indicators to assess the waste management, a couple of indirect indicators were triangulated with baseline findings to arrive at a general understanding, as it has been one of the most concerning problems of urban and rural areas. The Swachh Bharat Mission too, lays emphasis on management and disposal of solid waste as this affects the environment and health.

The baseline revealed that three-fourth of the households (76%) in the study area collected and disposed their waste on their own. Nearly half (50.9%) of the households disposed the waste at roadside/ empty plots or water body when the dumping grounds (*dhalao*) are located at a distance. This waste remains un-segregated (79%). The findings respond to the overarching narrative across the water and sanitation status of urban India, wherein the non-segregation of waste, its mismanaged disposal and treatment continues to pollute cities and their health.

Disposal is also gendered, wherein menstrual waste disposal emerged from the baseline as a challenge faced by most women. They refrained from using the disposal system at the community toilet, as menstruation still remains a taboo subject and there lies embarrassment and shame in being seen with menstrual waste. Instead, women either threw their pads into the toilet pans at community toilet cubicles, choking the toilets or dumped it with the household or kitchen waste. 31.5% women in Noida disposed menstrual waste into drains while 22.38% in Shahjahanpur buried them. The former method cause toxic fumes to worsen air pollution, while burying menstrual waste pollutes land long-term, considering a standard pad takes between 500-800 years to decompose. Such methods of disposing menstrual waste are unhygienic and worsen the environmental and service conditions of informal urban settlements. It is also pertinent to mention that when asked what women used

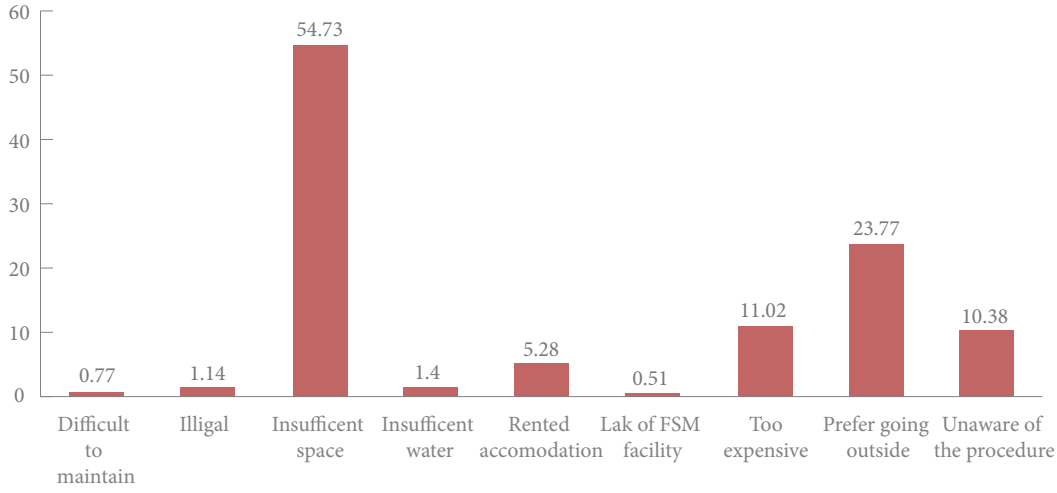


Figure 5: Reasons for not having household toilet

during menstruation (pad or cloth), 12.14% of the household women refused to respond across the cities. In Agra, nearly half or 44.30% women did not respond to the question. While disposal is the second hurdle, the first hurdle for marginalised women in cities is their lack of agency of even acknowledging menstruation as a fact over taboo. Considering the hesitance of acknowledgement, one can only consider that 'asking' for their menstrual rights is an agency that still remains largely absent.

Attitudes towards segregation at source, social taboos, inadequate disposal and treatment capacities, unorganised informal sector waste, and fiscally unplanned and poor implementation of policies, thus, continue to make up the crisis of Solid Waste Management in urban India (Kumar and Agrawal, 2020).

Camouflaged defecation in the open

Although the SBM gave a huge impetus to the nationwide toilet building exercise, there are still people who practise open defecation. The baseline outlines 12% of the overall surveyed population defecate in the open. 28% of the population in Jaipur, 11% in Noida and 18% in Shahjahanour practice open defecation regularly. Lack of adequate initial funds or space, land ownership to build toilets, poor knowledge of SBM's specifications of toilets and incidences of corruption have been some of the hindrances in the construction of household toilets in most cases. While the initiative in itself responded to the sanitation crisis, the logistics and behaviour change essential for the infrastructure to benefit people lagged behind– as is the case with most Indian cities. The data collected and the qualitative discussions around the survey process assembled a set of other challenges that hinder the use of toilets and prompt the practice of open defecation, besides no-toilet facilities.

Poor maintenance* and *working hours of the community toilets push people towards open

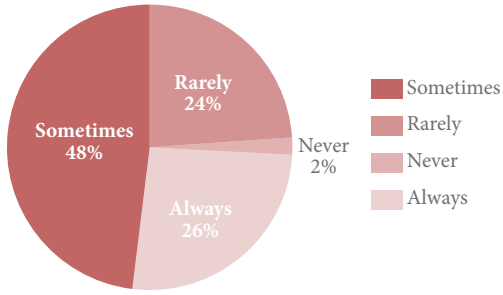


Figure 6: Maintenance of CTC - overall

defecation. While private agencies hired by the ULBs were responsible for the maintenance of the community toilet complexes, they were not always effective in maintaining the toilets properly. Every fourth user (25%) in Jaipur responded that community toilets were rarely maintained and the baseline indicated that only 16-25% of the CTCs/ infrastructure were maintained in all five cities. In Shahjahanpur, 13% of the people felt that the CTCs are never maintained. Furthermore, community toilets are open only for a certain number of hours**.** In the afternoon and during the night, these complexes remained closed for use. In the absence of clean toilets with unbroken and functional toilet seats, doors and water taps inside that are accessible and open, the presumption of people opting for open defecation is logical and inevitable. This is in tandem with the prevailing national trend of public and community toilets lying defunct from being poorly maintained (World Bank Group, 2016), leading to alternative use, including illegal residency or concerning activities.

Low footfall of residents of the settlement invited drug addicts and alcoholics in the study area, who stole articles and fixtures to fund their addiction. This is a crucial reason for many people, especially for women, to avoid going to the community toilets alone. While gender outcomes that have been attributed to WASH initiatives include direct improved

service provision, they also include outcomes associated with local relationships, power and status within communities. Thus, outcomes vary and infrastructures, particularly under large scale national interventions, require considerable work in informing planning and implementation of WASH with larger gender links (Carrard et al., 2013).

The households in the study area navigated through interconnected challenges. There were also people who preferred the practice of open defecation by their own choice, despite having access to toilets in their own homes. While national campaigns respond to infrastructural challenges to eradicate open defecation, the more challenging eradication moreover, is the ***behavioural practices*** of people that are normalised since childhood. Fear of children falling in the toilet pan, dirty and wet floors or inconvenient opening-timings of community toilets could be deliberated as reasons which forced mothers to allow children to defecate/ urinate in the open. Nearly every second child in the study practised open defecation and grew up conditioned by and normalizing such behaviour.

While these incidences may be linked to prevalent traditional conditionings, the ***infrastructural capacities*** (or their absence) contributed to WASH inconsistencies. Septage management of household and shared toilets was an issue in the slums, which lacked the space to clean them. The household and shared toilets that had septic tanks[2] needed to desludge their tanks frequently. As a response to such frequency and limited capacity, some houses used toilets only during the night or in emergency. Thus, while the toilets are documented, in actuality, the lack of attention to interconnected capacities resulted in people not using these all the time.

Further ill-considerations vis-à-vis WASH infrastructure planning deterred their access. Besides the children, the elderly too stayed away from the community toilets. Most community toilets are ***not designed to be child or elderly/disable-friendly***. The baseline showed that dependent population (children and 60 years above) make use of public infrastructure such as CTCs very marginally, to avoid travelling large distances, for convenience and safety purposes. They are least used by infant boys between 0 to 5 years of age (4.80%) and elderly women (3.39%). Children are unable to sit on the adult seats while the elderly are deterred by the poor maintenance and fear of breakage in bone or other accidents. Open defecation thus, remained camouflaged as a practice as well as a result of behavioural, technical and inclusivity challenges in urban water and sanitation.

Drivers of demand for improved water and sanitation services

Lack of accessibility to water and sanitation services, despite their availability, points towards the missing convergence between infrastructural transformations and behavioural change in communities. The Baseline Assessment thus gave direction to PASS's ability of improving the settlement capacities in demanding services themselves and; initiate changes in their behaviour, using behaviour change communication.

The Baseline was essential because it unearthed the major drivers of demand for WASH services, which were relevant to harness when working to build settlement capacities. Additionally, PASS also utilised these findings to help ULBs understand germane drivers that push the community demand for WASH services, to bridge implementation gaps for programmes including AMRUT and SBM and

[2] A septage management system is sludge collection by settling the black water and releasing it from an outlet after a certain level.

their ability to ensure proper supply of water and a sewage connection in every urban household.

Health of the inhabitants, especially of the children, is a crucial driver of demand. Lack of sanitation contributes to about 10% of the global disease burden, causing mainly diarrhoeal diseases (Mara, D. et al, 2010). Water is the carrier of many infections- viral and bacterial, and ingestion of pathogens in contaminated water causes many deadly diseases. While the SBM puts utmost importance on septage management to prevent contamination of groundwater, studies have documented that inadequate access to sanitation compels slum residents to use unhygienic pit latrines and discharging into nearby open drains creating disease-related hazards (Isunju, 2011).

The black water flowing from toilets collect in a cesspool and get absorbed in the soil, polluting underground water, making the organisms in faecal matter travel to slum residents via water and food. Quality of water also gets degraded at source due to high levels of Total Dissolved Solids (TDS) in groundwater or contamination due to punctures in the supply pipeline, damaged pipelines or closely placed sewer lines.

The baseline assessed that on an average, 6.83 days are lost due to diarrhoea in the settlements across all cities. In Noida, schooling days lost from diarrhoeal infections rose up to a worrying 10.73 days. Of India's more than 2.3 million annual deaths among children, nearly 3,34,000 are attributable to diarrhoeal diseases (Bassani, et al., 2012). Unsanitary living conditions increase the severity and impact of malnutrition, thus exacerbating stunting in children.

A more concerning factor is that irrespective of the location of tap, the slum population face a significant risk of water-borne diseases. The taps inside were just an extension from government provided pipelines which remained prone to supplying contaminated water. Nevertheless, having a tap inside the protective environment of one's own house gives them the satisfaction of drinking and using clean potable water and enables water management. As the ULBs provide 40 lpcd, the insurmountable work of carrying this load for the whole family (200 lpcd for a family of five) by one person can be avoided, although it reduces availability for those without the service. Water is a valuable commodity in these resource deficit settlements, available in the slums for a fixed number of hours daily. The insufficiency of water supplied to the slums and its distribution are both responsible for the regular water related disputes at the CSP.

Table 3: Average days lost to diarrhoea

City	Average no. of days of diarrhoea	No of school/work days lost
Overall	4.06	6.83
Agra	4.01	5.05
Delhi	3.37	5.39
Dharamshala	0.00	0.00
Ghaziabad	12.00	0.00
Jaipur	4.78	6.97
Noida	3.58	10.73
Shahjahanpur	0.00	0.00

Community discussions around the baseline suggested that availability of water at the CSPs depended on first-come first-served basis and without any quota during the supply. Failure to collect water leads to usage of another resource – money, which is also in the deficit for buying water.

Water collection is primarily a woman's role in a household. Therefore, rescheduling other chores to wait at the tap, losing sleep over water when it is supplied at night and facing daily fights are included in the daily struggle for water in a woman's life in a slum. Without a tap inside the house, ensuring minimum water quantity (of 50-100 lpcd recommended by WHO) for basic hygiene, particularly for women and children is inconceivable. For a family of five, a woman would be required to carry 20 litres each time, 25 times each day. Having the tap inside the house allows women a little more comfort than those having to travel to the CSP, wait for their turn and sometimes get into quarrels to get what is the basis of life.

A tap inside the house also provides several health benefits. Nearly all such residents who had taps inside their houses washed their hands before eating (98%) or after defecating (98%); only 1.12% suffered from diarrhoea. Poor sanitation facilities make people susceptible to hookworm infestation (Strunz et al., 2014) or diarrhoea that leads to loss of nutrition and ultimately anaemia, which is highly prevalent among Indian women and girls. Anaemic women in their reproductive age face multiple risks of premature birth, having a low birth weight baby and postpartum depression. Access to sanitation facilities and basic practices such as regular hand washing can significantly decrease contraction of infections – as amply demonstrated by the COVID-19 pandemic.

Sanitation enhances ***women's dignity, safety*** and ability to lead. It reduces their vulnerability to gender-based violence, provides privacy and dignity and increases their voice, agency, and economic empowerment (USAID, 2020). Therefore this also becomes another major driver for demand of services. Their search for a safe place to defecate/ urinate, to save themselves from sexual violence, diminishes their confidence and self-esteem.

The lack of toilet facility in the house or in slums forces women to limit consumption of food and water. They control their bladder for 12-13 hours to avoid harassment from going out to the community toilets or open defecation sites during the night. This translates to greater threats for pregnant women, as they need more nutrition and water. Controlling their bladder, which already is constrained by the growing foetus, is both unhealthy and inhuman.

Social relations are also shaped by proper WASH practices. Sanitation is a key component embedded in all the Sustainable Development Goals of the United Nations. The urgent need to address its gaps communicates a critical message that sanitation for all as a goal is important for many reasons, besides health. It is not only the absence of disease that leads to well-being of a person but several other factors. These include immediate factors such as increases in comfort, privacy, convenience, safety for women and children (especially at night), dignity; associated factors such as social status, modernity, cleanliness, property values and rental incomes; and socio-environmental factors such as reductions in odour and flies, embarrassment with visitors or in-laws, accidents and conflict with neighbours (Isunju, J.B., et al., 2011). A sense of shame prevails in living in a dirty slum and practising open defecation; many empowered girls have refused to get married to men in such slums. It is recognised that a community is in danger of being stagnant when empowered and educated girls are not

included in the families.

Finally, ***spending outlays*** from the private tankers is an important driver for slum dwellers, when water is not supplied by ULBs or is insufficient for the households. At Rs. 45 per kilolitre, the premium is 4-7 times when compared with the city's Water Board tariff (Dimri and Sharma, 2006). The Baseline Assessment indicated a significant 70.69% households in Shahjahanpur relied on private tankers as the major source of water from outside the house. The monthly charges claimed by the house owners are steep for renters and could be a substantial amount of their income. Added to this is the wage loss from when men go out in search of water and wait to get their fill.

In the notified slums too, not all houses had a tap inside the house; the reasons for which were monetary, technical and administrative. Different city's local bodies charge different amounts for the water connection, with the extra addition of a meter to calculate water consumption. Some (13%) slum settlers found it high and were not ready to invest, especially if they had rented their houses.

Barriers to availability of services

As articulated at the beginning of the paper, there are various inter-dependencies that create a complex web of deterrents affecting the outreach of government programmes such as SBM and AMRUT in providing water, sanitation and sewerage connections to every urban household. The Baseline Assessment's findings point towards specific issues faced by the communities vis-à-vis availability, access and agency around the benefits of these programmes.

For instance, SBM encourages toilets in notified and non-notified slums and provides funds for their construction, categorically stating that the benefits are delinked from tenure security issues. However, the assessment highlights the bye-laws of some cities' municipal corporations restrict such provisions to prevent legalising these areas. In Delhi, for example, most of the slums await relocation or in-situ up-gradation as mentioned in various plans; water is only provided through community stand points or tankers.

Spatial barrier is the most impassable in providing household water and sanitation in non-notified areas, which affects SBM's benefits despite allowing construction of toilets in non-notified slums. The slums, as in the study area, are built in cramped spaces, characterized by narrow lanes and mostly single-room houses which make up nearly 41% of household types in India (Census of India 2011). In most cases, no space exists in the slums to construct a toilet. Toilets constructed in such narrow spaces are difficult to clean the soak pits of as well. Even in the case of community toilets, the lack of space in settlements leads to their construction in inconvenient places, affecting their access. In Agra, the assessment estimated over half or 66.7% people did not use community toilets due to their inconvenient location.

Additionally, house owners who rent their houses do not participate in the decision to construct toilets because it extends no personal benefit.

Individual finance is also a barrier in constructing and maintaining sanitation services. SBM provides assistance to house owners for constructing the sanitation infrastructure, but the expenses (up to Rs. 15,000) are reimbursed only on producing required documents. The difficulties faced by people are thus two-fold – the amount required to construct a toilet is more than Rs. 15,000 and raising the initial fund is a challenge for most. These become especially hindering factors for people at the bottom of the pyramid, who are deeply affected by low

sanitation as well as poverty. The baseline also indicated that 57.14% of the people in Jaipur and 39.13% in Noida without toilets are unable to use community toilets due to their high use charges and thus defecate in the open – extending the effects of WASH's service affordability.

Lack of information about the two government programs (SBM and AMRUT) has maintained a status-quo in many of the slum households. SBM's spent of only 8% of the fund for Information, Education and Communication (IEC) has been less as compared to 15% in the earlier Nirmal Bharat Abhiyan (Kumar, 2019) for the same purpose. This has led to many procedural details like where to apply for SBM subsidies; who to approach and; how to register for water connection and maintenance, being omitted from the information package. Such awareness generation is fundamental for the roll-out of the programmes as well as their utilization.

Absence of social capital and social cohesion in slum settlements also restrict the sense of shared responsibility to make their slums open defecation free by applying for toilets together. Most men in these communities survive on daily wages, therefore a day's work is seldom jeopardised by seemingly community work. In non-notified slums, limited data is available on ground realities at the ULBs, therefore it becomes important to engage the ULBs to upgrade their information and demand services, for which having social capital is preferable. These baseline insights have prompted the exploration of participation of women in forming groups to demand these services as an alternative by the PASS project.

DISCUSSION

The findings above from the Baseline Assessment, along with the experiences of PASS point towards a larger theme onset. The ability of WASH interventions to positively impact a city's health and feed the all-round achievement of water and sanitation for all is deterred from the lack of all-round planning. The status of urban water and sanitation services influences and is influenced by inter-dependencies- geographical, technical, infrastructural, behavioural, socio-economical and environmental. There are scales of interdependencies, their impacts and outcomes.

It is thus important to consider thinking about urban planning of WASH strategies by recognising urban settlements as inter-connected spaces, the relationships of which shape access and agency around available WASH infrastructure and services. To contextualise it to the assessment further, the access to hardware is in a dialogical relationship with WASH promotion or the community conditions as well as how enabling the environment with respect to local government and policy is. This is particularly relevant for shaping gendered and participatory outcomes as well.

Thus, planning for and looking at WASH initiatives may benefit from considering the main 'scales' of the household sphere and public arena (Carrard et al., 2013) that they typically seek to transform. The four main institutions- family, community, market and state (also suggested in the social relations approach to gender analysis by Kabeer in 1994) make up these scales. The family belongs to the household sphere while the community, market and state represent the public arena scale. Planning the implementation as well as evaluating the outcomes of WASH interventions may benefit from being informed by the interaction between these scales – their drivers and barriers. Infrastructure, alone, will not speak for whether the results have been surface-level; whether it has dominantly been local or whether the

changes were structural and contributed to a more 'enabling environment' (ibid).

Importantly, thinking and planning for WASH with a scalar approach is also enabling to capturing its intended and unintended outcomes – both, positive and negative. This is crucial as sanitation inherently comes with traditional conditionings while access and agency around it and water remain discriminatory. These hold larger significance in the political economy of WASH which is skewed against urban poor informal settlements and marginalised groups. However, the lack of access sometimes simply comes from futile lags such as building toilets without water connectivity.

There thus has to be a larger, more robust approach that is guided by technical, behavioural and environmental indicators suggested by the communities that the government aims to serve.

Role of NGOs in improving WASH situation

Thinking about WASH in such entwined ways requires experts from the community as well as technical allies closer to the communities, such as NGOs to work with the government. The ability of grassroots NGOs in collecting iterative granular level data and extensive qualitative observations around informal settlements is an asset that must formally feed into local level planning and implementation frameworks.

What happens when those in need cannot communicate with those who can provide? How do the marginalised understand the linguistic, procedural and temporal vocabulary involved in accessing basic services? How do they access information or collect funds for something as fundamental as a toilet? How does one scale up and measure shifts in societal behaviour?

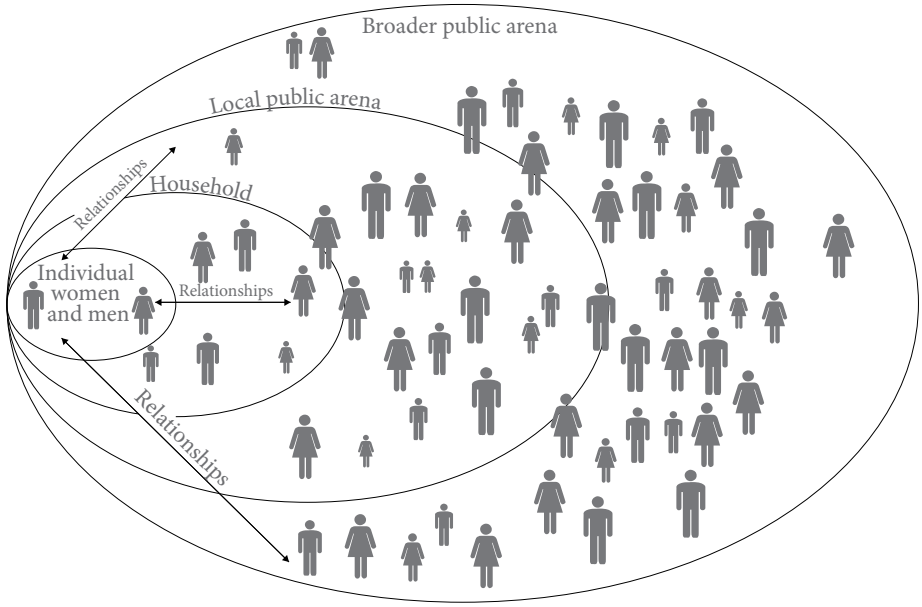


Figure 7: EHP's scalar visual of interconnected urban spaces

Under such complex situations, the role of NGOs is critical as catalysts of social change by bridging communication, technology, data and participation gaps in de-prioritised communities. They are essential in identifying the touch points for bringing change in the existing status of the water and sanitation situation; generating information on various aspects of the issue; networking with other like-minded organisations to provide or improve availability of WASH hardware; and institutionalising as well as externally driving behaviour change around WASH.

Their contribution to knowledge building and its inspired policy advocacy is pivotal for more 'voices from below' to reach the ears and actions of planners. A large dimension of utilising the baseline findings in the PASS project has thus also been building such capacities and networks that amplify participatory WASH and hygiene management – especially in engendering processes and de-engineering solutions. Achieving sustainability of such initiatives is critical in poverty alleviation, therefore CURE necessarily involves the women in the communities to demand services by networking with ULBs and assisting them to understand their demands and make decisions that ensure their sustainability.

The project works as a catalyst in the community, bringing together the user and the provider of water and sanitation services to increase availability, access and agency for these services in every household of the area. This 'bridging service' is perpetually underlined with generating more awareness and sensitivity around the socio-economic and environmental aspects of poor WASH access at the household and public scale. It collaborates with local resources to build their capacities as well as the movement itself. It aspires for the goal of capacitating urban poor communities in negotiating with their local governments in their own right and as a part of an empowered civil society to improve the status of urban water and sanitation. A visual representation of its model can be represented as follows:

Conclusion and recommendation

As the locus of poverty moves to urban India and its slums continue to grow, the increased demand of water and sanitation services is inevitable. There are typically two potential responses to this situation; government brings change in legislation and meets the demand with new policies and resources and; the slum dwellers change their behaviour, get involved in decision-making with the government and manage the consumptive demand, including maintenance of water pipes, toilets and solid waste management. NGOs working in these areas can assist both sides as they have the experience and expertise to test new models. An important model to consider here would be the one of Participatory Community Monitoring (PCM) for water, sanitation and hygiene (EHP, 2004) which empowers communities to take their own decisions around their WASH needs, guide interventions in prioritising the same and ensure collective ownership of it.

Cognizant to the shift of focus from rural to the quickly expanding urban, programmes such as SBM, AMRUT, and Jal Jeewan Yojana have laid down guidelines for making living in urban slums more inclusive, equal, and clean. Regularizing water and sanitation systems in the urban slums using NGO-tested and certified decentralized and de-engineered solutions to improve WASH situation such as simplified sewers, slum networking, cluster septic tanks, customized home toilets, financing models, slope restoration and wastewater treatment to prevent flooding etc. can help augment the objective. The long-term presence of NGOs in de-prioritised communities is also a critical asset that can lend access into and productive communication with the community dwellers.

A consorted effort from both, the government and the slum community, would be required

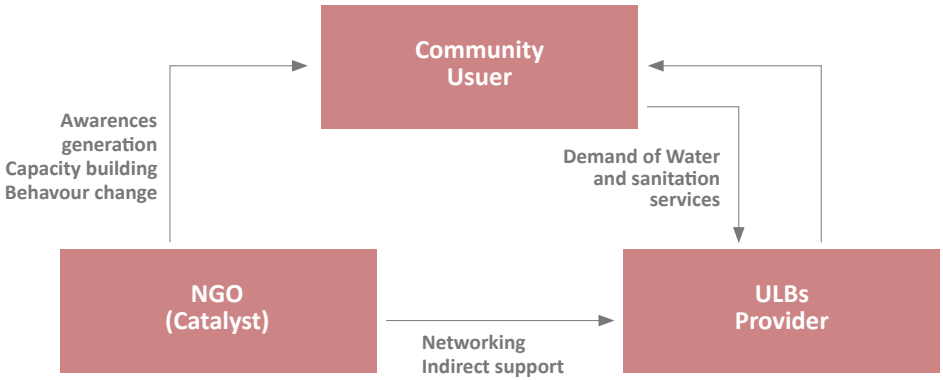


Figure 8: Role of NGOs

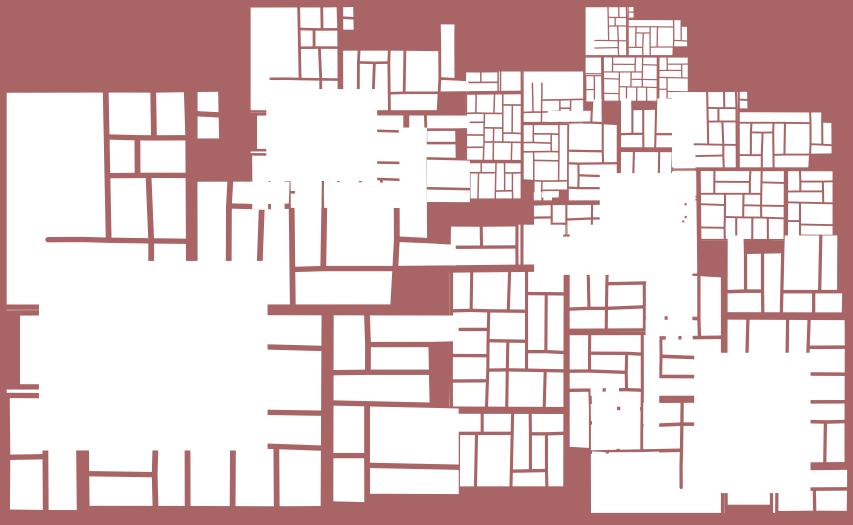
to integrate the informal settlement areas or slums into cities – a critical lag in current planning which amplifies WASH barriers. NGOs, while working with the demand side, can train and empower slum communities to negotiate their water and sanitation rights with the government and use behaviour change strategies to shift slum residents to water conservation, use and maintenance of toilets and appropriate waste management.

There remains a tendency for WASH interventions to dominantly focus on individual gender roles within the household scale, which omit the larger addressal of more complex dynamics of power and status that shape these relationships. It also points towards how inequalities, particularly gendered ones, operate at multiple scales and remain embedded in socio-economic and cultural structures that deter WASH associated changes to transcend from immediate to more strategic equality outcomes. There needs to be an explicit focus on fostering participation and agency within WASH interventions which create space for women to influence decision making. This would greatly impact how women and men interact on a daily basis and the relationship between women and WASH.

Though economic and agrarian policies push migrants to the urban areas and there is paucity of laws governing urban slums, better demand-management can be put in place by the slum residents to accept the WASH responsibilities themselves. Change in behaviour to segregate waste at source can be a starting point to make the system more efficient and check air, water and land pollution. Making segregation at source mandatory by the government may encourage this behaviour and make recycling of waste more effective. In case of sanitation, switching completely from open defecation to cleaner habits of using toilets can help decrease the stunting in children, pollution of environment and increase dignity of people.

To conclude, the public sector alone cannot respond to the aggressively growing water and sanitation needs in the urban context – particularly in peri-urban, informal settlements. There is a need for decentralised, de-engineered, simpler solutions that work for communities. Social cohesion in such settlements is weak and thus makes the feat more challenging. Long-term and sustained insights from the ground point towards adaption of participatory methods in cities as the only way forward to improve the status of urban water and sanitation. External support from private sector and civil society would be essential for the social, economic, and environmental investments needed to make water and sanitation accessible to all.

NEW ECONOMIC AND CLIMATIC CONTEXT: CHANGING MIGRATION PATTERNS IN INDIA



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ABSTRACT

Climate change and its adverse impacts on agricultural production, natural disasters, food price inflation and employment opportunities have been pushing the poor and unskilled from rural to urban areas. Such rural to urban migration is creating immense pressures on the cities, the larger political economies of which constantly affect the life conditions of migrants. This paper discusses the findings of a study conducted by CURE to understand the migration trends caused by growing economies and climatic factors in India, and whether migration contributes to improve people's ability to move out of poverty.

Four fast-growing cities across India; two in northern India (Delhi and Faridabad) and two in southern India (Bengaluru and Dodballapur), which attract large numbers of migrants were selected for the quantitative, cross-sectional study. This paper illustrates the factors, processes and impacts of migration under the larger umbrella of economic growth and climate change. Through these, it outlines the current trends of aspirational and distressed migration and its interaction with urbanization today and in the future.

INTRODUCTION

Migration has been a consistently growing phenomenon in India. During 2011, 455 million people who had migrated out of their place of residence were 45% more than the 309 million recorded in 2001 (Lusome and Bhagat, 2006). It is interesting to note that the number of migrants in

[1] This article is extracted from CURE's report ' The New Economic & Climatic Context and Changing Migration Pattern in India' based on their study between 2009-10 that explored new internal migration triggers/ trends in India and the factors shaping such migration.

this decade exceeds the population growth during this period. Migration is largely defined as the crossing of the boundary of a political or administrative unit for a certain minimum period of time. It includes the movement of refugees, displaced persons, uprooted people as well as economic migrants. Internal migration refers to a move from one area (a province, district or municipality) to another within one country (UNESCO 2009).

Beyond indicators of movement, migration is also a social, cultural and economic phenomenon that has often been overlooked in the studies of human extensions of environmental change (Martin, 2020). In an increasingly mobile and interconnected world, migration is quickly emerging as an important response to stresses and uncertainty. The way people respond to livelihood and associated threats are also culturally mediated; people either continue to adapt locally or move individually or *en masse* to safer and better alternatives, as alarmingly emphasised by the COVID-19 pandemic. Usually, the distress of increasing pressure on agricultural land, poverty and low levels of social and economic development, push the rural poor and unskilled to relocate to urban areas. Migrants in urban areas, particularly in large cities, account for more than half the urban population, and contribute to an annual growth rate of 4-5% in many cities (Breman, 1985; Breman, 1996; Rao, 1994; Rogaly et al., 2001).

However, migration is not restricted to only the masses of the poor, unskilled, asset-less, and illiterate agricultural labourers moving from the rural to metropolitan cities, as the destinations include smaller cities too, which have specialised demands for skilled migrants. Furthermore, the categorization of migrants remains limited so far – while economic migrants are easier to define, it is difficult to define environmental migrants due to the difficulties of isolating environment from other drivers of migration (Waldinger, 2015). The increasing rate and types of migration indicate the need to expand categories of migration, to enable contextual, granular level and data driven urban planning.

Factors in migration can be broadly divided into 'push' and 'pull' factors, which are the deciding principles for differentiating between forced or distress based and voluntary or aspirational based migration. Migrants are pulled into cities to access social networks, livelihood opportunities and social services, and are pushed out by rural poverty and threats. Push Factors range from natural disasters, economic collapse, to wars, conflicts, political/ social/ religious oppression and ostracism. Pull Factors include immediate advantages such as access to growing markets, better wages, education, social security and mobility. They also include larger perceptions of peace and safety at the new place, better standards of living and being protected under political, gender, sexual and religious freedom. However, on ground, these factors are multiple and intertwined, and cannot be neatly categorized into push or pull. People move because of a myriad factors, none of which can be isolated and are a mix of aspirations and distress (ODI and UNDP, 2017). Migration, thus, is not a monocausal phenomenon, but is embedded within the multi-causalities of socio-economic, political and environmental factors (Mazumdar et al. 2013).

Migration processes are often shaped by the larger environment and more specifically, families (Waddington and Wheeler 2003). These are based on micro-level factors at the individual and household level, meso-level factors at the source and destination areas, and macro-level factors such as national and international policies, and economic crises (Kothari 2002 in Waddington and Wheeler 2003).

The effect of migration is to some degree determined by the "*initial level of destitution of the household*" (Waddington and Wheeler

2003). Migration affects both, the source and receiving regions and households. Lipton (1980, cited in Waddington and Wheeler 2003) found that richer households accrue more benefits from such shifts, as they have greater access to education, can travel to farther areas for longer periods and send remittances. However, poorer households lack such coping capacity and face the risk of absence of a productive household member and/ or the direct economic costs of migration. This in turn exacerbates inequality in the source and receiving areas.

Gender in migration is studied by De Haan (2000) who argues that migration among women after marriage, even if they may only cater to domestic chores, must be counted in labour migration statistics. Studies by MSA Rao (1992) and others claim that lifetime migrants to Class 1 cities in India constitute two-fifths of city populations, with female proportions there being higher than the males, except in Uttar Pradesh (UP) and Bihar where female migration is lower. Such changes are especially a response to early literature that studied migration as a male movement, and paid little attention to the contributions of migrant women. Migration is a complex phenomenon that remains embedded in traditional roles and disparities, thus having the potential of creating new vulnerabilities for women and girls in terms of socio-economic and legal status (Bhatt, 2009). While it holds the potential of increasing women's agency if they are able to move freely, the effects of climate change induced shifts could limit such possibilities (Tiwari and Joshi, 2016).

In this study, two factors – economic and climatic – that are responsible for large scale migration in India are studied in detail.

1. Economic growth

In early 1990s, the Government of India introduced a range of measures to improve the economy. The two broad objectives of these reforms were the reorientation of a highly controlled economy to a more 'market friendly' one; and of macro-economic stabilization. However, the sectoral composition of economic growth during the period following the reforms drastically shifted within a decade, as the manufacturing and service sectors comprised 92% of India's Gross Domestic Product or GDP (Thakurta 2008) and by 2013-14, the farm sector had dropped to 5.4% (The Indian Express, 2017).

This insinuated an agricultural crisis, which stemmed from many reasons; low rise in farm productivity, un-remunerative prices for cultivators, poor food storage facilities resulting in high levels of wastage, over 60% un-irrigated cropping area, etc. These, together, have had serious implications on 263 million people who were engaged in agricultural activities (Census, 2011). A deeper look at the statistics reveal that more than half of them (55%) were only agricultural labours and not cultivators (Sood, 2013). This indicates a harder brunt for the especially poor, who entirely depend on agriculture for their survival, with little capacity to diversify.

A remarkable feature of the economic reforms of 1991 was the role of the service sector (including export, transport, construction, banking, communication etc.) in generating growth. The export-linked industrialization created employment opportunities for men and women in textiles, garment industries, appliance making and electronics. Improved transport and communication networks have made migration simpler, while financial services have made the transfer of remittances and savings easier (Sheng, 2002). These migration-enabling services and large-scale presence of these industries in cities have pulled many to migrate to the urban centres, to overcome distress or pursue aspirations. The UNDP 2009 report observes that such movement, from rural to urban (R-U) centres is natural and important to encourage

for its aid in economic integration and poverty reduction. Such observations further highlight the need for cities to change planning perspectives and look at migration as a part of the solution, rather than a part of the problem (Rajan and Bhagat, 2018).

A study by National Commission on Rural Labour (NCRL, 1991) cites two reasons for rural labour migration- 'survival' and 'subsistence'. The first category denotes extreme economic and social hardships faced by labourers in rural India; thus turning migration into an 'outlet' or a survival strategy. Such migrants are typically landless or land poor, unskilled and illiterate. Over half of them belong to the Scheduled Caste (SC) and Scheduled Tribe (ST) communities, and hail from economically backward regions of the country that are characterized by inadequate irrigation in agriculture, low employment and productivity in both dry and wet regions (NCRL, 1991). The present paper defines 'distress' the same as that of the survival category defined by National Commission of Rural Labour. The second category of migrants denotes the pursuit of better education or the aspiration for better jobs and income. The growth of modern sectors provided opportunities for both- the unskilled as well as the educated. They enabled the unskilled and economically disadvantaged in rural/ urban centres to make a living and overcome economic distress, and also enhanced the avenues for the skilled and educated workforce to pursue their aspirations and improve their standard of living.

Borrowing from these categorizations, this study attempts to footprint the migration pattern of such migrants. However, while studying the two categories of Distressed Migrants (DMs) and Aspirational Migrants (AMs), it is important to remember that DMs are also guided by their ‹aspiration' to overcome their economic distress. The fundamental premise, thus, guiding migration for all migrants is their aspiration to transcend their current constraints.

2. Climatic change in India

Developing countries, including India, that have a larger share of rural economies (agriculture and forestry), are more severely affected by climate change (Mendelsohn, Dinar and Williams, 2006), particularly vis-à-vis their agriculture and rural mortality (Burgess et al., 2014). Rural households as well as the poorest in India, rely heavily on climate-sensitive resources such as local water supply and agricultural land; climate-sensitive activities such as arable farming and livestock husbandry; and natural resources such as fuel wood and wild herbs (Hamdi and Goethert 1997). Farmers are dominantly dependent on the four-month long monsoon, which provides 80% of the year's total rainfall. As it gets scantier and/ or irregular, farmers become less certain of their agricultural outputs.

More than half of the Indian population works in the agricultural sector, or earn their livelihood through fisheries and tourism along the coast. Their dependence on agriculture thus, becomes a critical factor shaping climate's influence on rural incomes. The crisis in agriculture is evident in the growing incidence of farmers taking their own lives, with farmer suicides accounting for 11.2% of all suicides (NCRB, 2014). These interdependencies can stifle economic growth and push farm labourers and others into non-farm sectors with limited skills to cope and cities that are not equipped with infrastructural capacities to serve new population. This forceful move to find income becomes essential for migrants to remit portions of their incomes back home, to enable their families in their home communities to buy goods previously produced or harvested locally (Hunter 2007). As climatic variations multiply the vulnerabilities of poor people by adversely affecting their health and livelihoods, they jeopardize growth opportunities vital for poverty reduction.

Deciding to migrate is not an easy decision for families and prior to migration, they try and exhaust all possible options. Migration as an adaptive mechanism is also socio-economically selective; not everyone adversely impacted by climate change would be able to migrate and escape, or even weather its harsh processes (Rajan and Bhagat, 2018). Climate linked disasters displace people out of their home areas, destroy their assets and affect the family's ability to earn a living. Migration, including in response to weather changes, happens mostly in resource-dependent families, and thus, only after they have entirely used up their families' livelihood options. From an environmental justice point of view, stomaching such climate-induced disruption of livelihoods and dislocation for people who have negligible carbon footprint adds to the rampant inequalities of urbanization.

METHODOLOGY

The research aim of this quantitative study was to understand the migration trends caused by growing economies or climatic factors in India, and whether migration contributes to improve people's ability to move out of poverty.

For this purpose, it looked at the migration contexts in four cities across India, two in northern India (Delhi and Faridabad) and two in southern India (Bengaluru and Dodballapur), where Faridabad and Dodballapur were peripheral towns. The two metros, being among the fastest growing in the country, were picked to add comparable comprehensiveness to the study. The neighbouring towns were picked to trace migration patterns, as much of the spill over of large cities is captured in satellite towns. Peripheral city studies were aimed at understanding migration movements and have policy implications.

Respondents were selected using a two-stage disproportionate stratified random sampling method. A sample of 2000 respondents (500 per city) was further stratified to observe two types of migration patterns; Distress and Aspiration based migration. Since the survey objective particularly prioritised impacts of migration on poverty, the sampling was sourced from low income slum settlements and work establishments such as industrial units, *sabzi mandis* (vegetable markets), construction sites, domestic help networks, etc. in the cities.

Statistical analysis was carried out to understand the changing migration trends in urban areas at multiple levels – between North and South India; metropolitan and small towns; and distress migrants and aspirational migrants. Data from the primary research has been triangulated with macro-level data on migration to arrive at conclusions.

A second level of statistical and econometric analysis was conducted to understand the significance of different factors that contribute to migration. Tests were carried out at 1%-10% level of significance. Similar test using Chi-square statistic was also conducted to understand the level of association between variables contributing to migration.

FINDINGS

The context: Understanding the study migrants and their existing conditions

In the study areas, most migrants were young and within the age group of 21 and 30 years. Aspirational Migrants (AMs) were younger to Distressed Migrants (DMs), with an average age gap of 2 years. This is especially true for urban Bengaluru, where migration among youth (15-29 years) was high with 76% of the AMs belonging to this age-group. The data, corroborated with census findings also indicate the dominance of youth in the proportion of migrants.

In terms of gendered trends, typically men

migrated to cities; the fact that only 10% were female migrants indicated the same. Nevertheless, despite the male-dominated movement, women experienced the effects of migration at both, the source and destination cities, which carried challenges rooted in gendered roles. Since the respondents were selected at random, it represented a true gender profile. No particular community was found to migrate more than others and corresponded to their all-India population curve; most migrants were Hindus while 2 in every 10 were Muslims. It is however, pertinent to note, that there were more DMs among Muslims, and more AMs among Hindus – indicating socio-economic undercurrents of migratory trends.

In the north, migrants to both the sample cities hail mostly from the northern states of UP, Bihar and Haryana, which send more AMs than DMs. Faridabad also receives more in-state migrants. In the south too, Tamil Nadu, Andhra Pradesh and Kerala send most migrants to Bengaluru and Dodballapur; these insights are corroborated by the Census data.

State affiliations of migrants suggest a direct and negative correlation with the state's GDP; the lower the state GDP, higher the migration. The bottom states push out more migrants to growing urban areas due to the lack of opportunities in their own states. UP however, proves to be an exception. Even though it ranks high in GDP among all Indian states, its per capita GDP is low. There is greater inequality in the distribution of wealth, thus failing to create economic impetus for the poor, which leads to out-migration. In Karnataka, it was observed that occupation and income levels of migrants varied substantially, in that a large portion of DMs (who moved to Dodballapur) earned between Rs. 1000-5000 per month, whereas nearly 65% AMs who moved to Bengaluru and 50% AMs who moved to Dodballapur earned between Rs 5,001-10,000 plus.

Nearly 75% migrants came from nuclear families; more AMs belonged to nuclear units, indicative of a greater personal control over decision-making. DMs had larger families at an average of 6.5 members when compared to AMs at 5.5. However, more family members of DMs worked to help the family survive; therefore, DMs' dependency ratio was less than that of AMs.

While most DMs were illiterate or educated up to middle school, most AMs opted for higher education (senior secondary and above). This has enormous effects on the migrants in terms of employment, particularly the type of work and associated incomes.

Only one-tenth migrants were farm-owners, and hired labour was the predominant pre-migration occupation. In general, AMs earned marginally higher than DMs, suggesting that AMs did not necessarily come from better economic backgrounds, and were also driven to migration in search of better incomes. However, monthly incomes, when disaggregated, were found to vary widely between Rs. 500 and Rs. 16,000. More DM families were below the poverty line, as compared to AM families. Despite the general trend suggesting AMs and DMs both, earned an average of Rs. 2000 per month, the inequity reflected in more DM families with incomes of Rs. 500 per month, compared to Rs. 1000 among AM families; the richest among DM families earned a maximum of Rs. 10,000 against Rs. 16,000 earned by AM families.

Less than half of all migrants owned livelihood or economic assets prior to migration, indicative of their low earning potential. This trend was prevalent in equal proportions among both types of migrant families; although social assets were marginally higher among AMs. Ownership of arable land with low agriculture productivity was significantly higher among DMs. Nearly all DMs felt that farming was becoming less affordable and 61% said climate change caused distress-

timing (28%) and amount (55%) of rainfall was no longer predictable, strongly indicating the strength of climatic push factors in migration.

Land mortgaging among DMs was higher and used as a strategy to deal with financial distress and debt service. One-fifth of all DMs and half of AMs were in debt at the time of migration, adding additional vulnerabilities to the already difficult processes of migrating to a new place. Debt liability for DMs was lower than that for AMs. This could be due to low credit worthiness or demand, even though borrowings were mostly from private financers or money lenders. Some DMs were also compelled to borrow to meet expenses for shifting.

Migrants borrowed for reasons of health, social obligations, housing, and to meet migration expenses. The highest borrowings were for housing or asset creation purposes which require more finances. AMs borrowed more for social obligations, most likely because of their better socio-economic status and need to spend more on social activities. Nevertheless, the premise of borrowing money between AMs and DMs continue to highlight differing stakes of migration.

Decision to migrate

The decision to migrate depends on a broad range of factors, affected by both, adverse economic and climatic changes, as well as urban aspirations due to better skills and agency. In the case of the two study states of Delhi and Karnataka, the primary migratory reasons ranged from employment, to moving with family and marriage (Census of India, 2001) among other reasons as shown in Figure 1. Nevertheless, these reasons accompany less articulated social and climatic interdependencies, as do most migratory patterns today.

The onset of climate change is slow and occurs over time, much like changing rain patterns; the full impact of which is often delayed and realised by families after several years of declining production. Climate change's impact on migration decisions are critically tied to socio-economic, political and institutional conditions. These factors shape one's vulnerability to climate change, and how essential it would be in determining migration decisions (Waldinger, 2015). Nevertheless, in climate-induced cases, the decision to migrate is often premeditated and could be permanent.

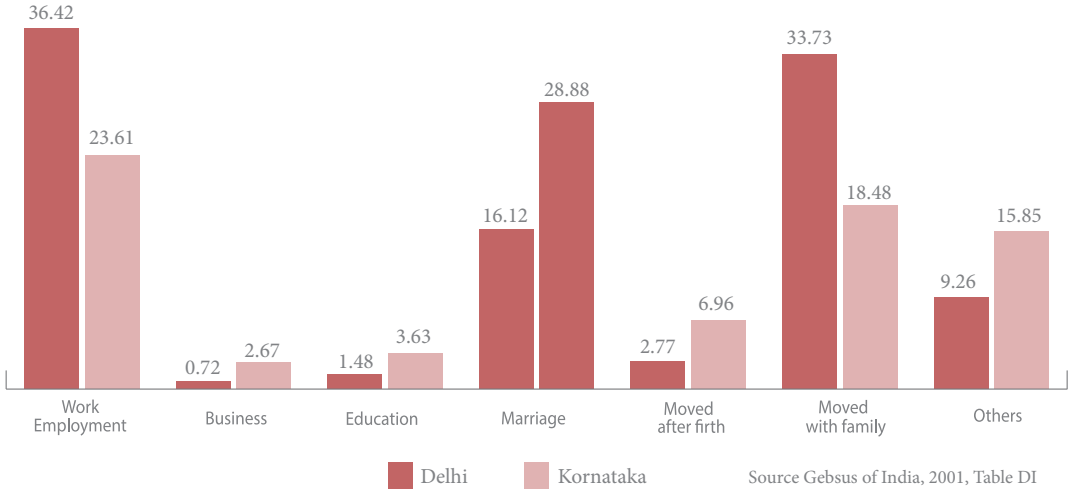


Figure 1: Reasons for migration to Delhi and Karnataka (%)

Sudden natural disasters, on the other hand, are unexpected and the effect and asset loss can be enormous. Decisions to migrate in the case of such events are generally rushed and may be temporary and reversible, as and when the situation improves in the home village. Rise in food-prices or inflation increase household expenditure, thus deepening poverty. Price rise conditions could be temporary or permanent, depending on their impact on the national economy and may result in planned migration, either brief or enduring. There are different motivators to move for different sections of the society. At its core, migration for both AMs and DMs, is inspired by better opportunities; improved livelihoods, incomes and living standards. However, the levels of need inspiring such movement is survival for some while elevation for others.

For the DMs in northern India, acute rise in farming costs followed by poverty, served as a motivator to migrate; the need for better earnings and living standards was felt out of the severity of their distress. Contrastingly, in the case of AMs, migration was ascribed to better prospects followed by better income. However, it is important to note that albeit a small percentage, some AMs in the south did also relate their migratory decisions to the declining prospects of the agricultural sector.

Most AMs and DMs who migrated to Bengaluru and Dodballapur were from within the state. Closer districts sent more migrants to Bangaluru and Dodballapur. Approximately only one-third migrants to Bangalore and one-fourth to Dodballapur were largely from other southern states like Tamil Nadu, Andhra Pradesh and Kerala. Very few other Indian states (Bihar, West Bengal, Assam and Odisha) sent migrants to these two cities.

The decision to migrate to an urban centre is generally personal. While the AMs migrate either alone or with friends because of its comfort and safety value, migrating with the family is common among the DMs- indicating the entire family being in distress. Those that stay back in the villages generally continue or take over the management of farms and other livelihoods. There are gendered dimensions to such out-migration. Migration of men increases the work burden of women who stay back. While this could be empowering for aspirational families where women may experience a greater share in decision making, it may be very challenging for distress based families with limited resources and socio-economic protections.

The decision on the choice of city one migrates to depends on many factors. While migration triggered by climate change and farm productivity losses pushes migrants towards larger cities which absorb low skilled migrants, food-price-inflation triggered migrants carefully plan their move to larger cities for the likelihood of better income-earning opportunities. Disasters significantly affect this choice, as people are compelled to make quick decisions to move to a city. In such cases, pre-disaster asset ownership significantly influences their choice, rather than their level of income.

Picking a city for migration is also influenced by literacy levels; the higher the literacy level of the migrants, the more chances of their moving to a larger city such as Delhi or Bengaluru. Similarly, higher pre-migration incomes, asset ownership, expectation of earning better incomes and better skill sets possessed also determined the choice of city in favour of the metropolis. It is important to note that despite being a factor, pre-migration income and additionally, the age of a migrant had very limited influence on such choices.

A larger trend of educated, young migrants preferring peripheral over large cities emerged from a logit analysis, while skilled, illiterate migrants under distress, particularly from the lowest-income families, opted for larger cities. In South India, skilled and educated young people were more likely to choose

Bengaluru over Dodballapur. Conversely, all lower- income groups, and illiterate people preferred Dodballapur. Similar relations and economic implications emerged with respect to education levels, i.e. low education levels decrease the probability of earning high incomes. On the other hand, possessing education and skills boost the probability of a migrant securing higher paying job. In the north, more migrants from Bihar were illiterate and unskilled compared to UP, and thus preferred a bigger city as it has multiple activities and something would be at offer. Migrants from Bihar and UP showed a significant preference for Delhi, whereas those from Haryana opted for Faridabad.

The pre-possession of (or the lack thereof) education and skills, while governing post-migration conditions, cannot be isolated from the incidence of migration in itself. Relationally, thus, the probability of skilled migrants migrating under distress is significantly lower, compared to those with poor levels of education, who almost certainly migrate under distress. Migration is thus, not a neatly cyclical process, but is instead an ecology that has extensive socio-economic, political, and environmental linkages that continue to interact– at the source as well as the destination, before and well after the act of migration.

Adjusting in the new city – Skills are important

As the AMs and DMs move away from their villages, their first preferred choice is generally large cities, expecting higher avenues for jobs and better incomes. Curiously, in the south, both cities (Bengaluru and Dodballapur) were equally preferred by them. Reasons for this could be from higher proximity to these large cities as well as socio-economic settings.

Migration is not necessarily a one-stop process; even after their first move to the cities, the migrants move a few times before setting down. It is interesting to note that the proportion of people moving into regions of the third or fourth destination is very small, almost negligible. Mobility from one town to another is more common among DMs than the AMs. The reason for the first move after migration could be the inability to deal with the chaos and clutter of the big city, inability to get a job because of lack of skill for preferred job or expensive cost of living. Peripheral cities are preferred relocations for migrants due to the higher comfort level it provides being a peri-urban area; which increasingly house large migrant populations with low affordability. Their subsequent moves are in search of better employment and income after they eventually gain the experience, additional skills and awareness of the wage structure within their chosen or preferred professions.

> Decisions in migration vary with reasons to migrate, as do the decisions to settle in the city or return to the village.

The possession of education and skills remerge as the two main post-migration determinants for better jobs, higher income and mobility to other cities. Migrants with comparatively high levels of education, skills and pre-migration income move to smaller cities, after their first migration to the larger ones. Many skilled AMs find employment in smaller industrial towns that have greater demand for advanced skills in factories. Very few DMs, despite having particular skills or better education, find employment in smaller cities more easily than large cities.

Migrants, especially AMs, tend to acquire new skills after moving to cities in response to new livelihood options and the need to compete with the tough and fast city life. The independence to hone their skill sets are enabled by the support of their families in the village and the lack of obligations to sending monthly remittances. As the proportion of the semi-skilled category

grows, the gap between the AMs and DMs vis-à-vis skills grows deeper. The ability of DMs to sharpen their skills remains challenging, making it a longer haul for them to build their skills and move on to stable jobs and income.

The entwined nature of better skills as a pre-requisite to better employment or running an enterprise leave further disparities. DMs with lower skills are left to earn their wages on a daily basis compared to AMs, who were relatively better off, nearly equally divided between daily and regular wage earners. In the absence of a job or better income, some DMs set up their own micro enterprise, which did not demand any specialised skill. Such enterprises included hawkers, food stalls, vegetable vendors and provision stores. A fairly small percentage of migrants who had the skills set up tailor shops or vehicle repair shops. None of the AMs set up such self-enterprises when they migrated to Delhi and Faridabad. However, AMs are generally more risk averse and avoid self-started ventures until well settled. They have better skills and thus, feel more comfortable in regular employment.

New home and identity – Post migration changes

One of the primary drivers of migration across the world is the disparities in income levels. The pattern held true for the study areas, wherein the focus of migrants remained on access to regular employment and better income, so as to reduce the vulnerability of their families. Studies have identified the vulnerabilities faced by urban migrant workers to be driven by feeble familial and social connections,

> Skills are important for working and surviving in cities. Low skills fetch unstable jobs, delaying the poor in being able to build the skills, which would extricate them from the vicious cycle of poverty.

insecure livelihood and housing, inadequate sanitation and ineffective coverage of social schemes (Santha, 2015).The dialogical relation of being driven by vulnerability while trying to drive away vulnerabilities seems to define the lives of many rural to urban migrants. Most of the DMs, for example, have debts in villages; however, with consistent incomes they are able to remit some money regularly to their rural homes. Regular employment also enables them to invest in improving their human, social and economic capital; i.e. send children to schools, invest in better housing, etc.

The initial income reported by most AMs and DMs was less than Rs. 2,500 per month (< Rs. 3,000 in South India), however, with time their income increased. Post-migration incomes

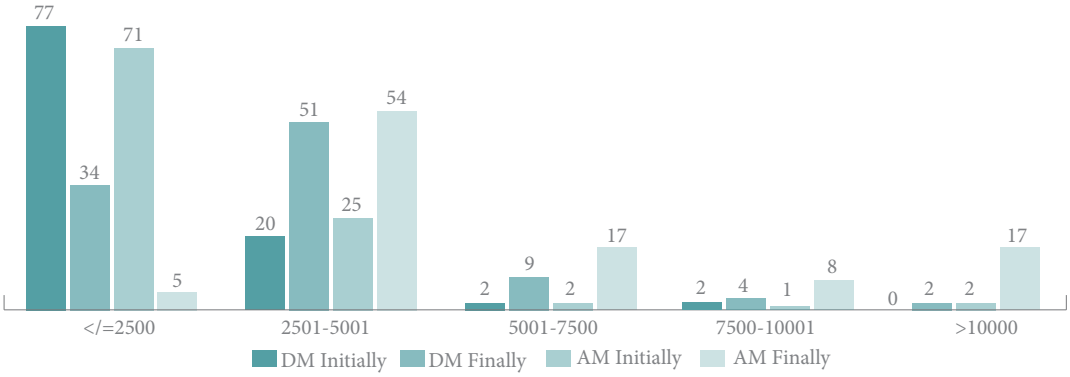


Figure 2: Income of migrants in North India (%)

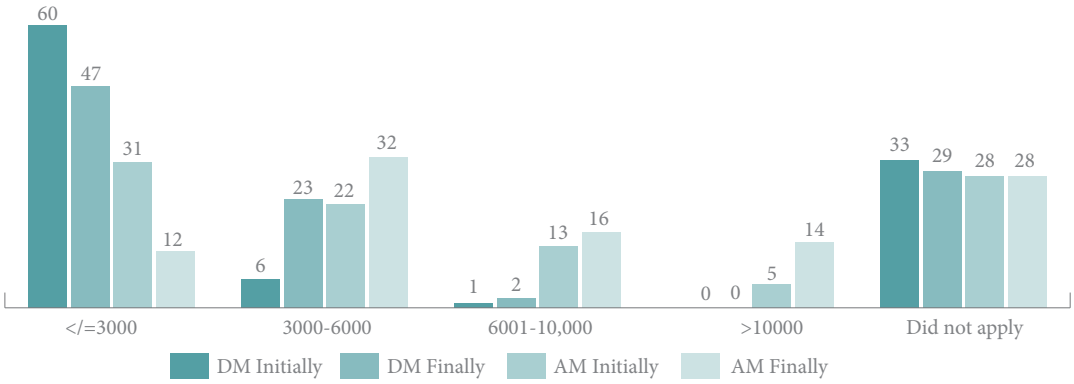


Figure 3: Income of migrants in South India (%)

doubled for many AMs and DMs, and a few even increased their income by four times; such quadrupled leaps were more prevalent among AMs than DMs. Nevertheless, the income base was so low, that even doubled income still kept them at the edge of sustenance.

The non-response rate in South India was very high regarding their income in both the groups, which is an understandable part of any survey experience.

The increased income levels, albeit not necessarily drastic, helped migrants reduce their indebtedness at their native place. Savings and sending remittances to their villages was a common and regular practice for both, the DMs and AMs in North and South India.

Responsibilities and foresight reason the spending patterns of DMs and AMs. While the DMs spent more on debt repayment, obligatory social responsibilities, housing, and asset creation, AMs invested more in the education of siblings, understanding the value of education in economic progress. Freedom from debt and dependents, both, would govern the weight of responsibilities versus foresight in a migrant's life.

To save money, most migrants lived in shared accommodations (38%), rented accommodations (51%), with relatives (9%) or on roads. Most migrants considered migration as temporary, and hoped to return to their native places after earning enough to sustain themselves. However, better incomes and facilities (such as education, health) offered by the cities increasingly bolstered their dependence on cities for improved futures. Such hopes for the future reflected in their acquiring of identity cards (ration cards, voter IDs and Aadhaar cards) to establish their presence in the city and also increase their access to food and other government subsidies.

The presence of migrants in urban areas has implications for urban (and slum) development. Climate change and other inducers continue

Table 1: Remittances and savings of migrants (%)

	DMs	AMs
Respondents who save money	90	93
Respondents who send money back home	70	74

to accelerate an urbanization boom, an aggressively fast trend that is mismanaged and unsustainable. Most cities are not geared to respond to its challenges, including the provision of water and sanitation, housing, solid waste management, transportation services etc. In such cases, the city administration often pays attention only when the services are too saturated to extend the city's infrastructure and urban civic amenities to peripheries. Access to services, social protection and the lives of migrants are perpetually complicated by the discrimination they receive from actors originally meant to protect their well-being.

> While migration improves the source economy, it takes the DMs longer to reduce their indebtedness because of unstable employment.

Migration trend

Migration theories have linked migratory decisions to factors such as distance, population and economic opportunity. Everett Lee (1996) further theorised that social factors such as age, gender, social class, caste, also influenced decisions to migrate.

Early demographers validating these theories in the Indian context had concluded that the migrants were generally low-skilled and low-income people, albeit not those at the bottom of the pyramid but from households that could afford the expenses of migration. Further, households looking for occupational mobility due to lower occupational ranks and income in the caste system (more strongly enforced in rural areas), found the prospect of migration inviting.

However, insights from this study highlight the growing role of new factors and their relationships that influence and determine migration.

Dropping agricultural productivity and thus incomes from climatic changes, compounded with land degradation and rising temperatures are particularly severe for developing countries, including India (Waldinger, 2015). With increasing climate uncertainty, those earlier able to cope due to high income and multiple shock bearing assets, are also being forced to move to urban centres with the expectations of more stable livelihoods.

Additionally, the effects of modernisation and economic liberalisation have given strong impetus to all sections of rural households to migrate. With growing peri-urbanization and informality, the opportunities now exist for both – the distressed and the aspirational to eke out their own paths to better lives through the myriad livelihood options offered by the urban boom. Globalization, social and environmental factors have diminished the comparative advantage enjoyed by the traditionally high skill and high income families in rural areas.

Simultaneously, the growth of urban centres has created opportunities for educated, highly skilled, traditionally high income migrants to fulfil their aspirations to earn even better incomes or acquire better skills. The growth of small towns has created a comfortable middle space for the migrants and provides better income options for the skilled people.

The development of the communication sector has been an instrumental enabler of these changes. It has given several tools to the migrants to gather information before stepping out and the increase in transport has reduced the distance between rural and urban areas.

The present day migration pattern is a modification of Ravenstien's 'laws of migration' (1885) where several other factors are responsible for migration, and the migrants with multiple levels of skills and income migrate to city. Now, the migrants also shift from their initial large city destination to smaller cities, which are comfortable and less

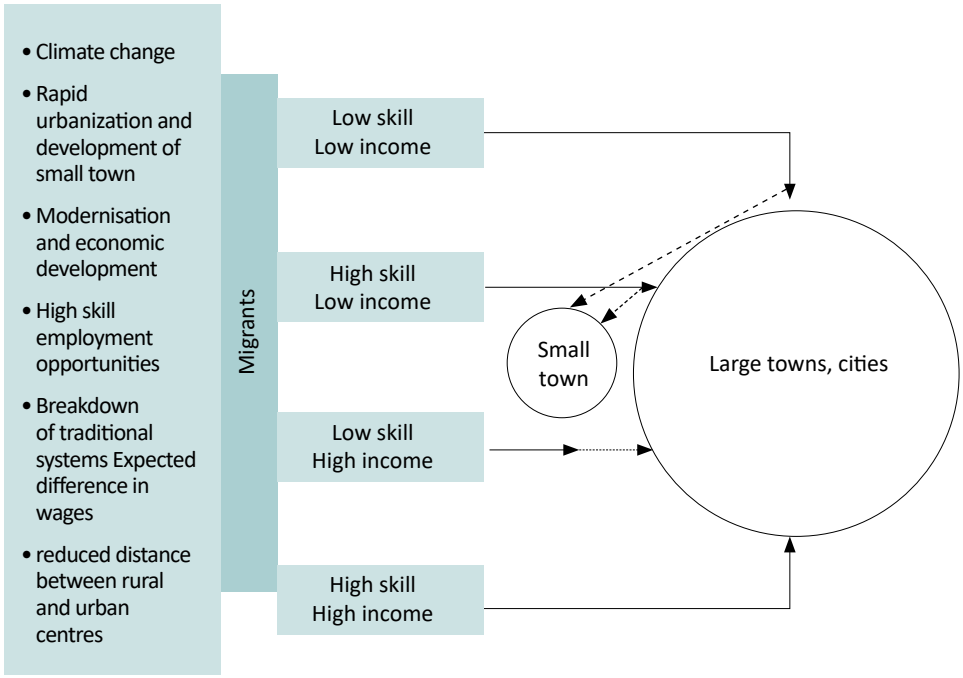


Figure 4: Modified laws of migration

expensive. This change can be represented as in Figure 4.

However, the assimilation of migrants with low-skill-low-income, high-skill-low-income or low-skill-high-income, who deliver 10% of the national DGP by providing critical labour to the manufacturing and service sectors (Deshingkar, 2020), remains incomplete in urban economy and society. It will remain incomplete until they are brought into the mainstream from the periphery, where most of them exist now. Currently these migrants are adversely incorporated into the urban economy — they are employed in low-paying jobs where all labour laws are flouted. They live in the small, satellite, peripheral towns, which offer more affordable living, along with enough closeness to the city and its opportunities.

The national lockdown during COVID-19 in 2020 demonstrated the indifferent attitude of the government and industries towards such a huge mass, which lost its livelihood and accommodation overnight. Their plight during return-migration was a tragic exhibition of how illegitimate they remain to the cities, witnessed by the world. The urgency of cities lacking the capacities (logistical and behavioural) in absorbing and protecting the most vulnerable has never been starker, nor have the impacts of economic and climatic factors on migration.

DISCUSSION

Emerging shifts, particularly climate change, impact urban slums and the living conditions of migrant areas, which are essential to now be looked into through the prism of urban infrastructure and services, affordable housing, and building climate-resilient sustainable cities (McDonnell and Kapur, 2020).

The challenges and (limited) opportunities around migration point towards two concepts

that require focussed attention and marriage. The first one is that the experiences, interactions and processes of migration are embodied in the concept of 'migrant ecology' (Rajan and Bhagat, 2018). It encapsulates the place of origin where rural people live(d) and the growing urban ecology to which they migrate. The growing impacts of capitalist development and climate change destroy rural ecologies, making migration a critical rehabilitative or survival strategy, especially for the rural poor. Hailing from already difficult circumstances, their induction into the urban system remains at the fringes, where migrants experience an entire chain of invisible structures stemming from economic domains that destroy their sense of belonging to the new ecosystem. Power holding authorities, who are embedded in the value chain of capitalist production, make an overarching system where the needs and voices of the migrants, or 'others from below' quickly dissolve.

Such dissolution of migrant voices and agency in the migrant ecology brings forth the second concept of 'adaptive capacity' (Santha, 2015), which is an inherent characteristic of migrant vulnerability. It refers to their capacity to access or claim resources for their livelihoods, environmental entitlements as well as participate in adaption initiatives of urban agglomerations against economic and climatic shocks. While strategies like livelihood diversification, risk pooling, mobility, and informal entrepreneurship enable migrants to manage their livelihoods amidst crises, their individual adaptive capacities to implement these strategies are limited by social norms, institutional processes and regulatory structures (ibid). Their capacities are further complicated by the long and short term development processes of the city, which influence their adaption strategies. Furthermore, with increasing climate impacts, the feat to adapt is dissolved under the feat to merely survive.

The urban process will remain incomplete until the migrant ecology is positively integrated with adaptive capacities of migrants. Government policy and programmes have the opportunity to acknowledge, capacitate and integrate a new form of citizenship space, shaped by the climate and its political economy. There is an urgent need to reconsider urban developmental models through the lenses of the migrant ecology and adaptive capacity, one that promotes social justice and the rights of migrants who build, run and sustain our cities.

CONCLUSION

Far from being monocausal, a broad range of factors influence migration as is evident from the study. While economic growth and its new impetuses have opened up avenues of economic and social mobility for the educated and skilled rural youth, growing impacts of climate change have forced rural-urban migration for those distressed and aspirational. The decision to migrate, its urgency, length of migration, and type of migrants are dependent on the factors influencing migration. While climate induced migrations tend to be more permanent, migrations out of sudden disasters are generally temporary. Whatever is the reason to migrate, most families who migrate to urban areas stay back in their destination cities; some may move a bit, but very few return to native homes, despite their initial intentions. The dependencies of city infrastructure and services (such as water and sanitation, education) are quick to get attached to. However, migration as an experience lends more benefits to aspirational migrants than it does to distressed based migrants – the dominant roots of which is the pre-possession of (or the lack thereof) education and skills.

Migration is no longer limited to the largest cities, but has quickly spread into small towns at the peripheries of larger cities. A middle

ground of affordable living and employment options, compounded by a growing new citizenship space for climate and economic migrants is on the rise for urbanization to respond to. It holds with it various gendered effects in the places of origin and destination, particularly for women – patriarchal structures remain embedded in this process which is not necessarily as agentic for women as it is for men.

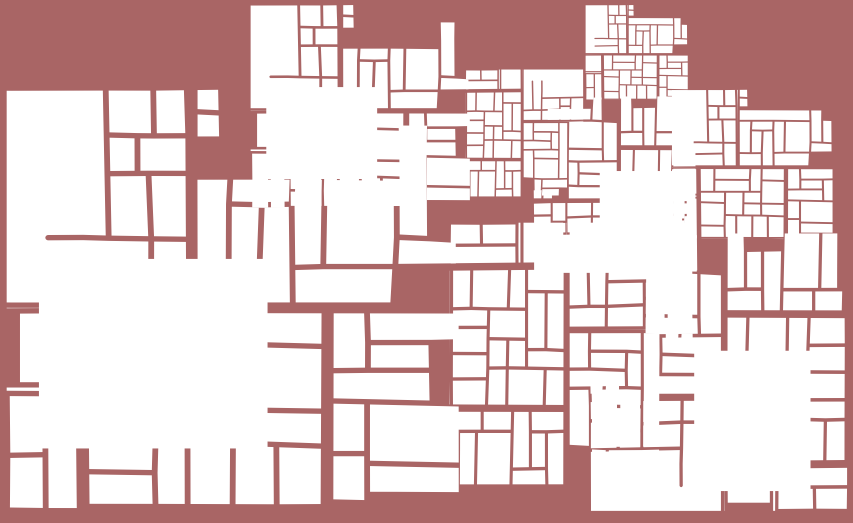
Some conclusions from this study are certain. **First**, along with economic growth, climate change is now increasingly becoming a strong shaper of new migrations. While it is not as easy to predict its impacts, there are enough indicators pointing towards its challenges and future. Low lying coasts, islands, and urban areas are especially going to be impacted from climate change and its consequences. Enough scientific and social studies have confirmed that the time to act and make our cities and its migrants more resilient is now.

Second, diversification through internal migration (within the country) is an inevitable future for urbanization. It is thus essential to develop futuristic plans, not just based on population projections but on the profile and nature of migrants that come into the city. The plans must include infrastructure provisions with affordable housing to ensure that` migrating citizens get both decent livelihoods and decent spaces to live in. Innovation and design of multiple mediums of service delivery and the application of new knowledge would be essential for urban risk reduction for migrant resettlements.

Third, cities are still not prepared (in capacities and motivations) for migrants. Considering the emergence of new factors playing altering roles in urban, it is essential that cities recognise the indispensability of migration as a growth affecting phenomenon and an essential one. Over time, efforts are required to integrate migrants into the city through the provision of better infrastructure and housing with services, ID proofs that enable them to access services and to get fully assimilated and absorbed in the city. While migration helps reduce people's vulnerability to severe climatic impacts, any and all dislocation and resettlement comes with new socio-economic and psychological costs. Government policies and programmes could play an instrumental role in making cities more 'migrant-friendly'. This would include not only securing the rights of migrants prone to adversities from socio-economic and political forces, but also the climate crisis. The evolving demographic shifts must be central to urban planning, which should be cognizant of the embedded linkages between coping and adaptive strategies of migrants shaped by the larger political economy (Santha, 2015). The role of civil society to support such risk and adversity management strategies in the migrant ecology and urban planning would be a critical bridge.

Unless the government refocuses its economic and environmental policies to assist in decelerating migration, rural India will continue to slip into deeper levels of poverty and spread it to urban areas. There is an essential need, one comparable to disaster management planning, to restructure the proposed urban planning frameworks as a parallel plan for the development of spaces and livelihoods for new migrants.

SOCIAL AND POLITICAL IMPACTS OF URBAN COMMUNITY WATER INITIATIVES



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ABSTRACT

The relationship between water and society has come to the forefront of critical inquiry in recent years. Water in the global era has acquired more meanings than simply a natural resource and the key to water management not only revolves around the need to deal with the scarcity of the resource, but also the complex interactions on the different aspects of water's social, cultural, political and ecological significance (Fontein, 2008). Political ecologists, sociologists and geographers have attempted to understand water in its varied dimensions, and more broadly, as a key ingredient of the production of cities. They have brought in a critical dimension to the social production of space through water.

This paper, based on the research of a community water intervention in Cuttack, Odisha, attempts a re-examination of water management in rapidly growing urban areas in an effort to provide safe water to all. A mixed method research design was used for this study; quantitative to collect baseline data and qualitative to explore community knowledge and perceptions on the subject. This paper attempts to understand community water interventions and their impact on the lives of urban poor and sustainable urban community water management. It illustrates community water interventions in urban areas as a way of not only providing safe water, but also a vantage point in understanding the relationship from a social, political and economic perspective, as water is emblematic of

[1]The data and the analysis in this paper is sourced from a research done in 2017 as part of the author's PhD thesis.

the connectedness of nature and society. It is in cognizance of integrating these perspectives that the paper makes a case for community approaches to participatory water and basic service management.

INTRODUCTION

Water, its management and circulation present a seminal example of how ecological, physical, social, and political processes can fuse together in the modes of organizing, regulating, controlling, and/or accessing resources. Water, conceived as a hydro-social cycle, constitutes an encompassing vector to such a degree that the ecological process of water circulation can no longer meaningfully be abstracted from its mode of political and economic embeddedness (Davis, 1990; Swyngedouw, 1996).

As water has been understood to be determined by political, social and economic power dynamics, access and availability of water is also thereby determined by these very determinates. The social and ecological narratives of water have reinforced these concerns of the social, political and economic determinates which marginalize the marginalized further from their access to water resources. In an era where technological revolutions are seen as solutions for 'in-access' and unavailability of resources, the narratives also suggest that technical solutions alone are not sufficient to ensure equitable and secure access to water resources. Access to water depends on legal rights, social relations, cultures and customs, rights to land, control of resources (including labour) and access to appropriate regulatory institutions and governance mechanisms. This realization of the role of the social within the technological debates requires to be integrated into a more nuanced understanding of water. This in turn could lead to a more enhanced focus on the governance framework of water and on inclusive and participatory approaches of water management.

The context: Issues of emerging urbanization and urban water provisioning

Cities grow throughout their life span, growing faster as they become bigger. The rural - urban fringe constantly gets consumed in this rapid growth, leading to deteriorating areas of habitation. One sees such growth all around. These peri/ semi-urban areas along with small emerging towns are a cause of concern as they grow in an ad hoc manner, usually with no people centric governance processes in place, leading to sub-standard living conditions and a poor quality of life.

Life in these small towns and peri-urban settlements are full of dichotomies. They are neither rural nor urban, but usually take on the ills of both along with some of the benefits. Critical concerns that plague these settlements are essentially lack of basic services, inequitable social dynamics, partisan politics, economic disparities and gender based discriminations. One of the issues that affects all, and is one of the most essential to human lives, is the access or the lack thereof to services. This leads to sub human living conditions and affects the quality and dignity of human life. The specific concerns are that of drinking water, hygienic sanitation practices, waste management, public health, education and livelihoods that are linked with the issues of access and equity.

Therefore, engaging people and local residents in local water management to ensure an integrated development of such settlements is one of the seminal points discussed in this paper.

The paper shares two case studies as a window to understand the socio-natural process of water flows in an urban context and

examines and analyses the viability and impact of community solutions to basic amenities. It attempts to understand community water interventions and their impact on the lives of urban poor and sustainable urban community water management.

The provisioning of urban water is an essential service and has been a significant parameter of human and urban development. The nature of urban water provisioning has always tended to be capital-intensive and large; the reason for this has been primarily towards making water available for human and development activity in urban settlements. Urban studies suggest that urban settlements have predominantly been managed by a set of people or institutions and water supply and other basic services have been typically provided for by a centralized mechanism (Hall, 1975). Water has always been a significant indicator of centralization and control and today, when it has been recognized as a critical parameter of development, water continues to be in the hands of a few- leaving behind significant numbers of population without access to safe water (Davis, 2006).

The water challenge becomes further exaggerated in urban areas where persistent poverty, ineffective governance and rapid urban growth are some of the underlying factors for inequitable water availability (Development Journal, 2008). There is a definite need to reconfigure conventional water practices and initiate a deeper engagement with people to manage and sustain water, as the lack of it is what has created a dysfunctional distribution of the resource.

The research paper focuses on the urban agglomeration of Cuttack, which is in a transformative stage and stimulated with a rise in new economic activities and the Government of Odisha identifying it as part of the 2030 perspective of building a world class millennium city (Cuttack Development Authority, n.d). The Cuttack municipality was established in 1874 and houses 48 wards today. The availability of safe drinking water has been recognized as one of the most critical issues as per the City Development Plan (CDP, 2013). Existing water distribution pipes of Cuttack are inadequate. Pipes are incrusted due to high iron content in the water, and ground water in many areas is reported to be unsafe due to its salinity with high dissolved solids and iron. Along with its water challenges, Cuttack also has an interesting community water intervention which is claimed to have increased favourable health outcomes by reducing toxicity in the ground water, making safe drinking water available to a population of nearly 5000 people. Along with increasing water accessibility, the intervention has a built-in notion of active citizenship, inclusivity, sustainability and equity.

Global and local challenges of existing water systems: Positioning the study

The centralized water provisioning system, along with catering to better public health, also demands large volumes of water. With the growth of cities and urban agglomerations, huge amounts to water were required to fulfil the demand. To cater to such growing demand, distant sources for water collection were sought and large infrastructures were built (Dingle, 2008).

Until the 1990s, across the world, water supply was primarily controlled by the state and above all, by the local governments and municipalities. In recent times, however, one sees a shift in the understanding of water and water governance framework (Swyngedouw, 2002). There has been a transformation of both, institutions and mechanisms of water management. Participation, negotiation and conflict intermediation have become ingrained within the water governance paradigm. The changing power relations and their consequences within the ongoing context of privatization and decentralization lend itself

to interesting changes today within the new forms of governance. In India too, a vibrant debate around the privatization of water is emerging in the era of liberalization. The criticality of clearly articulated roles of people in the management and governance of water is also evolving.

In this gamut of debates of centralization, capital-intensive water provisioning, global water crisis, environmental sustainability and limitations of the conservative hydraulic paradigm in growing urbanism, there is a need to look at localized water management shifts and governance structures. A more localized water management framework, involving citizens as stakeholders and micro and community based infrastructures, is increasingly being recognized as a promising alternative to the centralized piped water approach.

India is urbanizing rapidly and this massive urban transformation is posing unprecedented challenges to India's growing cities and towns. These particularly include the provision of infrastructure such as water, sanitation and sewerage to meet the needs of a future urban population of nearly 600 million people by 2031. This growth is accompanied by a proliferation of slums inside and around the urban centres. These are places of dilapidated housing, inadequate basic services, overcrowding, diseases and undignified human life (Davis, 2006). The inadequacy of water further aggravates the lives and livelihoods of these people.

Another grave challenge to the existing water discourse is the exclusionary nature of the water delivery system. Literatures on water and gender studies in the last decades have jointly reiterated the importance of understanding water needs from social and cultural perspectives. Even though water is a natural resource, the flow of water has taken on social, political, economic and cultural connotations. These connotations interfere with its flow, making it exclusionary vis-à-vis urban water provisioning, further marginalizing the most marginalized such as the poor, Dalits (the most marginalized and vulnerable caste in India) and women. Water is no longer natural, and embodies artificial man-made routes and rules of flow.

Water provisioning in India has always been the government's responsibility and therefore, since independence, been a part of the centralized service delivery mechanism. The implication of this system is that water provisioning in the urban areas comes under the local urban government›s mandate. However, with rapid urbanization, the task of providing, operating and maintaining basic services has exceeded the capacities of the central, state and local governments. Studies suggest that most urban areas in the country have witnessed deterioration in the standard and quality of public life in recent years. In almost every urban centre, irrespective of size or class, the availability of basic services has declined, and considerable populations in these settlements have no access to many of the services and amenities.

It is within this context that Community Based Management (CBM) is being recognized as a way to re-imagine urban water systems. They are primarily facilitated by NGOs and aid agencies in an effort to demonstrate a more inclusive, democratic and participatory approach to basic services in urban poor or marginal and peripheral communities in urban agglomerations.

Community based water management advocates[2] emphasize an enormous potential of this approach in engaging with people and designing water accessible solutions

[2] Based on reports and discussions with NGOs and practitioners

befitting a community's available resources, needs and requirements. They suggest that this could provide for a cheaper and effective alternative to a centralized service delivery option, help in rejuvenating local practices of water management and enhance local participation, resource mobilization and ownership. This approach also addresses challenges of equity and access of basic services faced by the marginalized and reduces the risk of improper designing and execution of large-scale centralized water provisioning services. Most significantly, the literature around this community management approach extends it as an instrument against state exclusion at various levels and works towards positioning people at the centre of planning.

Given these complex debates and discourses on water at the global and local levels, and the influx of international aid in financing different models of water servicing within the government through privatization and reforms, the urban water scenario is undergoing an interesting phase. There are both, a dominant discourse on the privatization of water on the one hand, which is being supported by the state and critiqued by NGOs and peoples' movements. On the other hand, a people centric narrative is being tried out based on the CBM successes in the country and the world, wherein local NGOs are attempting to demonstrate the role of community water initiatives as sustainable and equitable models for inclusive and participatory water management.

Amidst this evolving and oscillating context of 'privatised versus participatory' water, this paper illustrates the community water approach as a technical and social instrument – one that can help reconfigure conventional water practices as well as embed ordinary people in the management and sustainability of water resources.

METHODOLOGY

The methodology used for the study was of mixed-method research. A combination of qualitative and quantitative data was drawn upon to inform the objective of the research.

The quantitative method was used to gather baseline information on the status of water, its timing, quality etc. The qualitative method was used to garner a more in-depth understanding of the quantitative information; explore community knowledge and perceptions on water; and understand the impact of the water system on their lives.

The combination of primary and secondary sources of data was aimed at a holistic analysis of the facts, figures, infrastructure and narratives of water. Water department policies and government data were analyzed to add to the baseline and latest estimations of the water ecosystem. Further, a household survey was carried out in the two intervention communities to gather information on the ground realities of water accessibility, availability, level of service delivery, and the impact of the NGO intervention. To enrich the analysis and fill data gaps, Focus Group Discussions (FGDs) were organized with selected respondents in the area, and discussions and interviews were held with the Public Health Engineering Office, Odisha (PHEO), other government and retired officials, and the implementing NGO – Health and Development Initiatives (HDI).

At the city level, interviews with key informants and supporting analysis of the water discourse based on newspapers, internet articles, the Odisha archive, university libraries, etc. were used as primary data sources. These were essential to understand the 'pulse' of the city vis-à-vis water access. This was further supported by community-level data based on rapid environmental appraisals, surveys, participant observation, and interviews.

As introduced above, the sites of the study

(conducted over the period 2015-2017) included two low income settlements in two wards in the town of Cuttack, Odisha- four neighbourhoods were selected randomly from among the habitations. From Gopalpur, the two neighbourhoods/sites selected were Amania Patna Bhoi Sahi and Kazi Patna Muslim Sahi. From Chatra Bazaar, the two selected neighbourhoods within Ward 38 were Chatra Bazaar Behera Sahi and Chatra Bazaar Telugu Sahi.

FINDINGS

The research provides a people centric insight into the urban water framework in India and the way this specific water intervention has impacted the social and political lives of the people in the community. The inclusive approach adopted at the community level ensured that the most affected, vulnerable and marginalized people (single women households, poorest households, households with disabled family members) were brought within the water planning and services system. A few insights from the study are as follows.

1. Role of the community

The community has been a means and also the end in the entire process. Interventions have been carried out for the betterment of the community and by the community as a cohesive group. While earlier all the community activities were carried out by men only, the water interventions brought the women and the youth to the forefront of community leadership and this gradually evolved into a much stronger, cohesive and motivated group which managed to implement all the activities by itself without depending on the officers and authorities in the Municipality. Voluntary action for local issues became possible only due to the inclusion of different sections of the community in the entire process. The community has shown maturity in decision making and actions, and has seized the opportunities to improve its condition through its own activities.

2. Inclusiveness of the intervention

The entire focus of the intervention has been on inclusiveness, and right from the beginning the activities have focused on mobilization of all the marginalized groups and their participation in all community activities. The meetings of HDI are all around women and youth and those belonging to the marginalized sections. All the committee members and office bearers have been women and youth. The interventions have invested in mobilization and capacity building activities to raise the knowledge level, confidence and self-esteem of the excluded groups. The impact of these inclusive approaches are seen in the leadership of the community as most of the leaders at the neighbourhood and community level are women and youth of the area. While previously they were never seen participating in community affairs, now these groups manage and provide direction to the community groups and activities in the area.

3. Accessibility to clean water

The marginalised and excluded urban communities were organized, mobilized and supported to initiate innovative and self-managed models of water-related services. For clean water, 80% of the respondents used either boiling or filtration as a means to get safe water. In places where water quality was a problem, especially in areas affected by water-borne infections, low-cost, simple technology and user-friendly water filters were provided to ensure potable water. These models which were put up in 2012-13 till the research work (2014-15) were being managed by the neighbourhood groups. Local methods to ensuring good quality

water were discussed, traditional ways were reengaged, new wells were dug and old and dysfunctional water sources like tube wells were repaired by the residents themselves. A community pond, which used to serve as a drinking water source decades ago had deteriorated over the years to serving non-potable purposes, was revived and restored to conserve water and ensure access to marginal groups, especially during the months of water scarcity.

4. Community ownership

This has been a result of a long process of community engagement. The residents in the two observed communities were now actively involved in the operation, repair and maintenance of water-related facilities and services in the area. This was seen and observed through actual repair work happening during the field visit and was corroborated during FGDs and interviews with residents. The services, they claimed, are being managed by the neighbourhoods themselves in a manner which, for the moment, looks sustainable by collecting user fee from the residents whenever needed (the use of the word 'moment' is because HDI is still only a phone call away). They are also regularly engaging with service providers and are lodging grievances against unsatisfactory services and facilities, and making peaceful efforts for redressal of grievances. However, given the existing levels of ownership and the networks between individuals and networks to sustain the intervention, it is a difficult narrative. As discussed earlier, communities are not static and therefore to actually understand the degree and depth of ownership through this particular intervention is beyond the scope of this research at this time. It will demand a focussed study of the engagement, the resultant production of ownership and the new forms of networks to come to any conclusion of the sustainability of this impact.

5. Gender and water

Gender refers to different roles, rights and responsibilities of men and women and the relations between them. It is as understood and recognized as unequal power relations and access to choices and resources. The community water intervention acknowledged the significance of recognizing the differences and inequalities between the men and women in both, Gopalpur and Chatra Bazaar, and designed the intervention around that. This was very critical because without specific attention given to gender issues, the intervention could have reinforced the existing inequities and perhaps increased gender disparities in the settlements. The neighbourhood committees, the involvement and inclusion of women in user groups, training and capacity building were some of the ways of addressing and attending to this challenge.

In the pre-intervention scenario, the women from Gopalpur used to walk anywhere between a kilometre or two, and even more sometimes during the rainy seasons to fetch drinking water. To add to the drudgery, the frequency of the collection was at least twice a day. During the summer, the situation exacerbated and they would have to resort to commercially buying water from private providers like tankers or bottles of water sold by individuals. Post the water intervention, during the course of the research, it was found that the number of visits to fetch water had come down by nearly 90%. Since the water sources were now closer to the households and the design of the tanks were somehow less cumbersome, the water collection responsibilities were seen to be now a shared responsibility between men and women, which resulted in

dramatically reducing women's workload. Field evidence has also shown that the safe water now available after the intervention has decreased school absenteeism and improved general health indices. This result, although more qualitative in nature, shows the wide spectrum influence that a community water intervention can have apart from providing quality water. The intervention made more time available to the women which they had started enjoying. They were involved in more productive tasks like engaging with their children's schools, participating in village meetings (the collective gave them more confidence) and also enjoying more leisure time. This, they shared, particularly made them happy.

6. Empowerment

The water intervention also focused on increasing the capabilities of women and girls to realise their rights, determine their life outcomes, and influence decision-making in households and communities. This was done through awareness generation, mobilisation activities, capacity-building efforts, exposure to the outside scenario, and systematic efforts to engage them with service providers to lodge grievances and to demand their rights, especially on issues of basic services. Women's participation in the water intervention activities was particularly noticeable. The activities of the water project were all implemented by women. They were fundamental to all activities carried out around water in the area and they gave back to the community by taking leadership in all the activities- be it construction, renovation, repair, meetings, map drawing, lodging grievances or following up with the municipal authorities or the corporator.

The intervention enabled both the settlements in Gopalpur and Chatra Bazaar to understand and engage in community processes towards a social and political change. The research shows that there was re-negotiation of power in order to gain more control over their community water resources. The community pond in Gopalpur, which was traditionally a community asset but with annexation to Cuttack municipality had become a municipal resource, went through an interesting negotiation between the community and the local powers to transfer the rights of the pond back to the community. The presence of the local corporator, local municipal engineers and officials or "*babus*" in community meetings was a big boost to the community's confidence. The voice through the intervention collective, which they could now use to communicate with the '*sarkari babus*' was a significant indicator to understand and recognize the legitimacy of the intervention. The low income settlements through the community approach of the water intervention had become more confident, organized, cooperative and in some ways influential. The presence of the local corporator and his family for a community festival that the researcher (in 2014) also attended and the confidence of the women and men in their conversations with the political representative reflected an interesting dynamic tilted favourably towards the residents.

7. Membership and participation in formal and informal associations

Evidence on different aspects of empowerment of people in the intervention area is also available from discussions on related issues during the survey. On the issue of membership in organisations, a much higher proportion of people in the project area are found to be members of different organisations and they carry out various activities as members of such forums. Such participation has come out of the project activities and it further strengthens their

confidence and esteem. It also becomes a stepping stone of organised efforts and community negotiation of other locally identified needs in the future and creates a space for emerging strong collectives to interact with the wider city, its people and processes.

8. Linkages with local government

A higher proportion of people in the intervention area also sought information on water supply compared to people in the control area. The women are also seen to be active in lodging grievances with the CMC directly, whereas people in other areas just lodge complaints with the local corporator. Further, people in the intervention area are more willing to contribute to projects for better water supply as compared to the people in other areas.

The findings of the study describe the impact of the community water intervention in the project areas. The analysis also draws on the difference in the impact within the two project sites based on their spatial positioning within the city – one which is located in the centre of the city, for clarity in understanding, called the core urban settlement here because of its proximity to the city centre as compared to the second location situated in the periphery of the city. The findings suggest improvement in access and other water related indicators in the project settlements in comparison to the control sites[3]. The two settlements where the community water intervention exists have improved access and availability of safe water and also have influence on the social and political lives of people which has been analysed in detail in the next chapter.

The water intervention has enabled Gopalpur and Chatra Bazaar to evolve and develop small, economical and community owned solutions to address issues of access to safe water locally. Technology has played an important role, but as the research indicates, water is a social good; it has human connections and impacts human relations in varied ways and therefore civic engagement and participation are as much critical factors to ensure its access and equity in society as are technological solutions. By directly empowering citizens (men, women and children) through community mobilization and group formations to pursue their own development, this approach has ensured that the development projects were owned by the community who consequently developed an interest in their upkeep and maintenance.

The study also brings out the differences in behaviour, receptivity, expectations, decision making capacities, and outcomes- not only within the project and control site populations (which the study findings attribute primarily to the presence of the external agency- HDI in one and not in the other), but also within the two community intervention settlements themselves. This is a very interesting finding which reinforces that cities and human settlements are complex, diverse and varied in their entity. Cities should be recognized for their diversity and it is necessary for city managers and governments to recognize social, cultural, political and spatial differences to understand city inclusiveness and management.

The study indicates to the fact that the differences within Gopalpur and Chatra Bazaar settlements is because of specific identities typical of these settlements which are a product of different socio-cultural and political influences. Apart

[3] For the purposes of the research, these were selected to analyse the impact of the community water intervention.

from the social influences of gender, caste and class, historical influence is also a reason that the study points out for the differences in receptivity of the intervention within the two settlements. The Telugus of Chatra Bazaar, because of their historical displacement from their place of origin to Cuttack city, were keener to negotiate with the local corporators to ensure legality and surety of their tenurial rights.

The other influence which the study brings out is more political in nature, wherein the Muslims saw this intervention as a way to also secure their minority rights and legitimize themselves within the city government.

Therefore, even though at the macro city level, the low income settlements look seemingly similar and homogeneous, the micro analysis within the settlements brings out differences within groups of people and therefore explains the difference in the water intervention outcomes within the sites.

Table 2 below reflects an adaptation and analysis based on of Domenech's (2011) table on the main features of centralized and decentralized water management. The author has adapted it to reflect the community experiment in relation to the centralized PHEO water supply system in Cuttack.

The research is informed by the Political Ecology framework which helped in understanding the Cuttack water services and the community water intervention from a socio-political lens. Political ecologists like Syngedouw, Kaika and Castro (2002) have suggested that urban sustainability and the environmental impacts of urban processes can be primarily understood only through an understanding of the environmental conditions and characteristics that they display. Any change that an environmental or physical condition has is not independent of the social, cultural, political and economic conditions which influence it. This is substantiated in Cuttack. Both, the inaccessibility and unavailability of water before the community water intervention and the increase in accessibility and availability of water post the community intervention show the impact that a water infrastructure has on the cultural, social and political lives of people. Results from the field also indicate the importance of social capital for the success of a community intervention like this. The approach enabled the strengthening of community unity by facilitating spaces for community participation and empowerment. As discussed in the earlier chapters, empowerment is a transformative concept and is critical to community development, especially when communities are diverse and dynamic. The process of empowerment enables people to engage with structures and processes of social, political and economic powers to confront their disadvantages and exclusion (Ledwith, 2005).

Reconceptualising political ecologies of water

The insights from the Cuttack study indicates towards the necessity to reconceptualize water in an urban context from the perspective of recognizing cities as heterogeneous entities; water as a social construct; hybrid network of formal and informal water providing mechanisms; and the gender dimension of water access. Therefore, with a changing environment discourse, the current climate change predictions and the increasing demand for water in response to growing urban populations, and a call for community and local solutions within the political ecology framework, there is a need for transformative change in the urban water sector to ensure more sustainable water practices.

An enabling framework towards this would include reimagining:

- Policy and institutional frameworks – Governments need to play a guiding role in the promotion of these community management models. They need to stimulate and encourage the use of these local approaches by developing new policies and regulations which create an enabling environment for other actors to participate. The community approaches also require paradigmatic changes in the formal and informal water institutional frameworks. The centralized piped water systems are controlled by the state whereas the community water models are owned by the community groups- which effectively imply the redistribution of power. Swyngedouw (2005) refers to a new governance model which might be referred to as governance-beyond-the-state. This would imply greater involvement of citizens and community participation in planning, designing and implementation of water systems.
- Social and political influences – The community water approach redefines, or rather brings back the traditional relationship of the community with its local water resource. This approach would imply learning new skill sets and prioritizes developing a cultural understanding of water amongst all the water interest groups to ensure effective and efficient operations of community decentralized water systems. The Government would need to understand the local context and look at water through various social contexts of exclusion, gender, marginalization etc. Such sociological evaluations of the larger intersections of identity, political economy and spatiality in shaping water resources would necessarily have to underpin the paradigmatic changes in the urban policy and planning environment.
- Local technical innovations – This approach also encourages local innovative solutions to water management. Innovative technical solutions need to be adapted and stimulated to foster local ownership and benefits. They should be designed with and by the community to ensure maximum ownership. Encouraging local ingenuity in developing innovative water technologies would also be a crucial leverage in the transfer of power between state and community, building on (or going back to) local systems of knowledge and creating self-sufficient communities. This approach helps democratize knowledge, and views community members as the experts – bridging the gap between the settlements and external interventions.
- Urban management – Urban management today and the growing inequities within urban areas need to recognize urban informalities and community approaches to basic services. The HDI approach recognizes the informal water systems and thorough its intervention, brings in larger ownership, inclusiveness and participation to initiate and consolidate participatory governance with people. It does so through community participation in municipal affairs of area development programs, with special emphasis on poor communities. The approach empowers vulnerable sections such as women, youth, and backward castes to participate in community affairs through capacity building measures and engaging them in specific activities such as income generation, vocational trainings, etc. Through these aspects together, the HDI approach carries out interventions in water, sanitation and waste management to make visible the scope of participatory governance to the people and empower them to be active planners in their own development.

The above also strongly calls for more work to be done that emphasizes the need for local approaches, to impact the present centralized water paradigm. Numerous changes need to take place to achieve sustainable use of water resources through community management. They range

from new regulations and incentives to recognition of NGOs and communities as legitimate actors in the process. Policy makers need to invest in these local models as learning mechanisms and platforms to support a multiplicity of approaches in the urban water sector. New researches and experimental studies need to be undertaken on identifying these local models such as community/ NGO models, to ensure support for small scale water works and to influence support among policymakers for the need of multiple approaches in urban water provisioning.

DISCUSSION

This chapter summarizes the main findings of the research and their cognizance with larger themes, theoretical perspectives and conceptual frameworks around socio-political urbanization. The inadequacy of the state to provide safe water to all its citizens in the city of Cuttack was the *raison d'atre* for the community water intervention. As discussed earlier, the intervention had two broad impacts – there was an improved accessibility and availability of safe water to the residents of the two selected low income settlements and through the process of the water intervention, there was a socio-political impact on the lives of people. The study findings indicate towards the complex urban water provisioning systems in Indian urban areas and their inadequacies in carrying out their core service provision task. One of the themes that emerge from the study is the significance of small community water initiatives in providing safe water to low income settlements in urban areas.

The study also draws an insight into urban studies and the importance of developing a people's framework to urban governance which is associated with good quality infrastructure and provisioning, together with an understanding of the politics surrounding this provision of infrastructure to ensure equitable distribution of water. The findings also contribute to the existing scholarships on urban community water interventions and role of gender and collective action on accessing clean water. The study is exploratory in nature and provides possible areas for further research on understanding the influence of socio-political processes in shaping urbanization in the country. The chapter concludes with recommendations for urban practitioners, policy makers and the academia to understand community water interventions and recognize urban water provisioning from a socio-political perspective.

The research draws upon international and national perspectives on water and community management to examine the Cuttack water intervention. The macro theoretical frameworks and debates on water at the international and national level helped in informing the study. Jaglyn, Hodsun, Marvin, Robinson and Swilling's work in Africa on understanding material flow analysis in an urban context has helped in understanding "hybrid" urban water infrastructure and the significance of local solutions within this framework. Works of Alphonse Kyessi on community solutions and basic services and the importance of people and local agencies in resolving water issues in Africa provided the background to examine the Cuttack community water intervention. Kyessi in his works limits the community framework to technical and financial solutions; the study has tried to go beyond this to understand the political and social dimensions of community interventions. This research has also alluded to the new theoretical insights on citizen engagement and participation in the context of neoliberalism and has examined the community water intervention through this lens. Participatory approaches aim to take advantage of local knowledge and understanding in an effort to create spaces for the less vocal and powerful

to exercise their voices and have more choices (Chambers, 1997; Cornwall, 2003). This study examines the participatory approach of the intervention from the lens of power hegemony and monopolization of elites. The intervention's conscious effort in designing the approach from a gender perspective and with an understanding that water is about power, gender, class and space, helped in shaping the participatory spaces to negotiate and produce inclusive spaces that took into account the distinct needs and interests of men and women in the two settlements.

This study also looks at the relevance of interconnectedness and intersectional perspectives in understanding water. It is informed by urban theories, political ecology works, sociological discourses and associated narratives, and has applied them to the Cuttack water intervention to understand the dynamics of contemporary urban water systems and the challenges of water equity and access. The research indicates and reinforces Swyngedouw's work; that cities are not a cohesive identity but a set of dynamic socio-spatial processes where flow of resources is defined by socio-political influences and thereby making cities unequal and uneven.

Water is possibly the most indispensable vital resource and the social, ecological and political connect between people and water should be recognized as an essential bond. However, as the study tells us, there are significant social differences in use, access and management of water. The study has referred to works on social inequities, marginalization, gender, women and feminism to understand the reality of gender dynamics in the two wards in Cuttack. It has then used it to examine the community water intervention from a gendered approach in an effort to shape the local water access and equity challenges.

The study structured itself around the arguments of the changing urban discourse – a movement away from an unequal urban process to recognition of the inequality intrinsic in urban areas and the struggles of the marginalized populations within. It emphasizes on the need of greater inclusive deliberation in urban areas to enable citizens to transform from 'users' to 'owners' and 'makers and shapers' of services (Gaventa and Cornwall, 2000). The state plays an important role in this process of social transformation, through its mechanics of service delivery it determines who is exploited, ignored, heard and rewarded (Swyngedouw and Kaika, 2014). This study was an effort to unravel these complex power relationships within the city of Cuttack and examine the role that the community water intervention played in reconceptualizing the power dynamics to develop stronger political and moral agencies of the poor through the process of enabling socio-political change within the two settlements. The research paid attention to the impact that the community intervention had on influencing the uneven relationships beyond the settlements and create new socio-political configurations through the process.

Larger lessons from the interventions

The engagement of an NGO for the last decade in engaging with ordinary citizens and understanding ways of enhancing their quality of life and well-being through consensual planning processes in urban areas has been a learning in itself. The effort was mobilized towards demonstrating, supporting and implementing sustainable, people centric community models and providing learning opportunities, thus leading to improved governance and sustainable development. The NGO, through their interventions have been focusing on developing community management models of basic services - like clean water, sanitation and waste - in an effort to improve the quality of life of people living in low income urban areas. The aim was to bring

all the interest groups including the citizen groups/ communities as the core, to create and identify spaces for holistic, inclusive and people friendly urban development.

Given the existing reality, the aspirations of the inhabitants and the challenges therein, the approach to engage follows an inherently participatory and inclusive process. The interventions engage and facilitate citizens to understand the local contexts, take more responsibility and participate in making their settlement better. The approach encourages ordinary residents to engage proactively with the local city government and mobilizes conditions where citizens and local bodies work together. Such partnerships cut across social, political, economic, and gendered lines and move towards realizing a more just, equitable, socially inclusive and better governed settlement. This endeavour has evolved into developing models for participatory community management of basic services in a few select urban poor communities in the Indian states of Odisha, Jharkhand and Chhattisgarh.

The community urban interventions studied as part of this study and many others have tried to move beyond traditional planning methods and focus on local/ community governance structures as a mechanism for (re)ordering lived spaces. Such community governance models prioritize the role of community self organization as the prime agency of the local developmental process. They have invested in cultivating community organizations and local social leadership through various sectoral interventions like safe water, sanitation and waste management.

The efforts diverged away from conventional approaches of town planning and have instead sought to establish a participatory governance mechanism that enables citizens to meaningfully engage in the improvement of their own settlements. While meaningfully engaging citizens is a challenge in town planning and governance processes across the world, the Indian context especially suffers from the lack of social base capacity and vision among state actors and urban local bodies for a socially just and improved community. The relevance and necessity of community approaches in India, is thus essential to recognize and build on. This approach demonstrates citizen-citizen relations and provides an exceptional scope for redefining citizenship and community in urban areas. It also clearly indicates that doing so may be a prerequisite in the co-creation of a vibrant urban community.

"We have put elected officials in a difficult role. We distort them into service providers and suppliers. We relate to them as if we are consumers, not citizens. We want them to solve for us those issues that we should be solving for ourselves. The customer model, where elected representatives exist to satisfy citizen demands, is a disservice to community, even though citizens love it. Elected officials are partners with citizens, not suppliers. The most useful role elected officials can perform is to bring citizens together".
(Peter Block, 2008 in his book *Community – The structure of belonging)*

Therefore, this approach looks at transforming urban governance at the local level by facilitating and promoting citizen-citizen relations and citizen-local governing body relations. It does so to enable:

- Deeper engagement with citizens who, on the ground, are fragmented on issues of gender, class, caste, education, status, age, religion, party affiliation etc. and trying to change their behaviours;
- Redefining peoples' agencies and sharing responsibility on both, the problems as well as the solutions by the elected representatives and citizens- thereby reducing the one-sided dependence and enhancing collective capacities for coordinated efforts to serve the common good;

- Relooking at the community as being the source of agency to bring about inclusive change based on cooperation and mutual understanding.

This essentially implies rebuilding trust amongst citizens, cultivating leadership qualities amongst them, developing citizen capacity for self management in an inclusive and transparent manner and sensitizing citizens and elected representatives to social, cultural, economic and political power imbalances. Improved urban governance and inclusive and participatory democracy therefore, is something that gradually emerges as a result of new forms of interactions and relations amongst citizens and local governing bodies.

CONCLUSION

Water, as discussed above, is and should be everybody's business. However today, the provisioning of water in urban areas is connected with only engineers and government officials. This techno-managerial approach to water without societal involvement has left people entirely out of the water decision making process- thus aggravating the water challenge. The issue of accountability within the department is also not very clear. The government officials are not accountable to the people, therefore their attitude to the ordinary poor is not very friendly and the ordinary citizen is at a loss regarding her water crisis. Further, only when an elected representative sees this as a necessity to his/her own political upward mobility process does water becomes an agenda. Water is not perceived as fundamental, but as conditional by the political economy that surrounds it. The ambiguous work responsibility and relationship between the engineers and elected representatives at the local level adds to the ambiguity of the delivery process.

Through the community urban interventions, the organization of community members as formal associations became facilitative to their agencies[4] and helped in rejuvenating and developing local water systems to ensure clean water.

Scholarships around community approaches and informality discourses emphasize an enormous potential of this local approach in engaging with people and designing accessible solutions based on the community's resource availability and their needs. The debates suggest that community approaches could provide for a low cost and effective alternative to a centralized trunk delivery option while also reviving local practices of water management.

Most importantly, the water intervention approach shared in this paper is a way of enhancing social capital and strengthening peoples' agency. The inclusive approach has ensured that the most affected and vulnerable people have been brought within the community water management and service provisioning architecture.

The water intervention has helped in shifting focus away from addressing only individual needs to a collective vision building and engagement with the wider urban city processes. The interventions also focused on increasing the capability of women and girls to realize their rights, determine their life outcomes, and influence decision-making in households, communities, and societies. This was done through awareness, mobilization, and capacity building efforts towards informed civic negotiation with local governments, wider city structures as well as mainstreaming female leadership in community led efforts.

As the paper indicates, water needs to be recognized as a socio-political issue in this

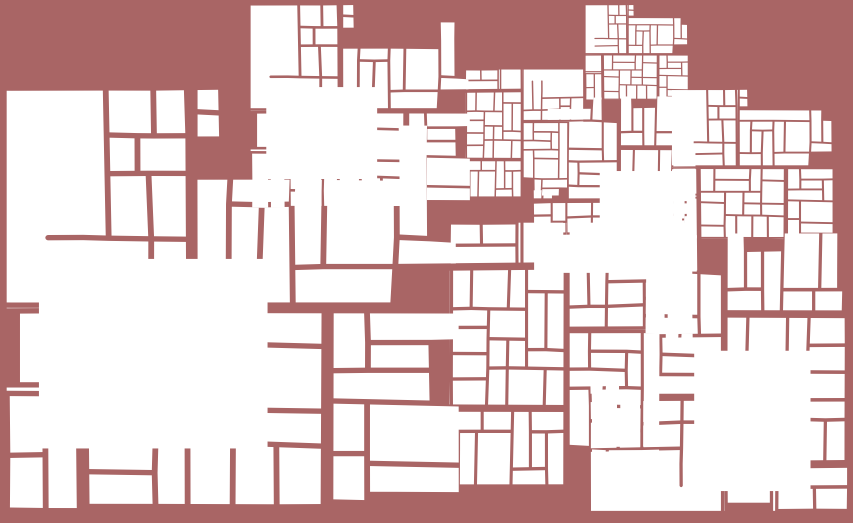
[4] Will or intent on the part of an individual or collective to act, to make a change in either a personal or collective circumstance. Both agency and social capital must be available in a community to effect social change (Krishna, 2001).

increasingly urbanizing framework of the country. Such recognition is dependent on visibilising the poor as residents of the city who are as entitled to city services as any other urban stakeholder. The research that this paper is based on also illustrates how a community water intervention becomes a medium that empowers low income communities to be their own advocates in the quest of inclusion in city development processes.

Several conclusions emerge from this analysis, which would help in supporting community solutions as ways of rethinking sustainable urban water management in India. **First, a favourable policy and institutional arrangement** is essential to create an enabling environment for non-state actors to play an active role in community management of resources. The inability of the state to meet growing demands of urbanization as well as its informalities calls for the integration of localized, community models in making basic services accessible for all. **Second, social and political influences must be recognized** in the local contexts by governments, when looking at water. Particularly evaluating water's access from the lens of gender and the context of vulnerabilities would be important in bringing back the sustainable, home grown relationships communities used to have with their water sources. **Third, encouraging local technical innovations** would act as instruments of transfer of power. Encouraging the innovation of and adapting simpler, local solutions would enable the equitable distribution of the resource, its ownership and maintenance at community level. It would also help shift the narrative from community members as the 'recipients' to 'experts' of their own development. **Finally, inclusive urban management** is the need of the hour. The growing inequities of urbanization are passive and intricate in reality, often invisible to the eyes of the city dwellers above the poverty line. The COVID-19 pandemic exhibited with starkness the alarming exclusion, if not disregard, of the urban poor, migrant and other vulnerable communities in access to water, sanitation, health and housing related services. Most of such communities survived on urban informalities, and it is thus crucial for urban management to recognize urban informalities and the need of community approaches to access basic services. The community approach recognizes informal water systems and helps to build it into locally managed systems – thus integrating the ground realities and available resources for the best possible utilization and access conditions for the settlement.

What is essential in this transformation is for governments to move towards newer, more socially sensitive governance models of policy development and planning – those guided by the contexts on field, the needs articulated by the communities themselves and integrate service delivery within community led solutions. Such integration would work manifolds in producing larger sectoral and behavioural shifts in urban planning and city development. It is only through such citizen inclusive planning and citizen-local body negotiation that the growing pace of urbanization can be harnessed, rather than barely coped with. Community approaches to urban interventions is the only future that is not only promising of inclusivity, but holds the (peoples') strengths as the very tool of keeping its promise.

WASH CONCERNS AND MATERNAL HEALTH IN SLUMS



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ABSTRACT

There exists a concerning lack of understanding of the water and sanitation issues affecting pregnant and lactating women in slum settlements. Limited availability and access of water and sanitation results not only in poor health but also increases their anxiety, affects their safety and prevents women from leading dignified lives. This paper explores the social exclusion of pregnant and lactating women as an overarching concept, to understand their vulnerabilities when exposed to poor water, sanitation and hygiene (WASH) conditions in the slum settlements they reside in.

This paper has been extracted from the data collected during CURE's study on 'Water, Sanitation and Hygiene Issues for Pregnant and Lactating Women in Slums'. Qualitative discussions at the community level have also shaped the narrative of the paper.

Covering 519 households, 254 pregnant and 265 lactating women, the study illustrates the multi-leveled effects of women's agentic limitations and negotiation with a WASH system oblivious to the relationship between women and WASH. It points towards the intergenerational physical, economic, social, behavioural and mental repercussions of lack of access to clean water and sanitation among women that are pertinent to address. The paper hopes to contribute to the currently limited literature of WASH and maternal health and encourage urban planners to address the social exclusion faced by pregnant and lactating women within already marginalised women in slum communities.

[1] This paper was extracted from CURE's report on its study 'Water, Sanitation and Hygiene Issues for Pregnant and Lactating Women in Slums' in 2019, supported by USAID. The researchers who were a part of the study also include Alok Dasgupta, Siddharth Pandey, Ritu Kataria, and Rajeev Kumar.

INTRODUCTION

By definition, slums are resource deficit – where access to improved water and sanitation is lacking (UN Habitat, 2006/7). Water and sanitation services are provided in many notified slums by Urban Local Bodies (ULBs) through community taps and community toilets for certain hours. Intermittent and inequitable distribution of water supply and poor sanitation facilities are regular features of slums and the drivers can be linked to urban poverty, lack of tenure, poor living conditions, unemployment and few livelihood options (Sen and Bhan, 2008; Sheikh, 2008).

Such slum conditions, particularly their water, sanitation and hygiene (WASH) status have an innate relationship with women's well-being. The dimensions of such well-being range from physical to their mental, social and economic health.

A settlement's WASH situation crucially dictates maternal health and the health of their foetus and new born. Repeated exposure of pregnant and lactating women to poor quality of water collected from infected sources can cause various diseases like diarrhoea, acute respiratory diseases, under-nutrition etc. Poor sanitation can cause hookworm infection, resulting in maternal anaemia, which can be fatal for both, mother and child, or may lead to preterm births (Patel, R. et al., 2019). Additionally they are prone to other morbidities. Exposure to infected human faeces during pregnancy increases the risk of disease and infection, complicating pregnancy. Hygiene is critical during pregnancy in preventing vaginal infections. WASH is also critical for the new born and breastfed children because of their high vulnerability to diseases. Studies have found that with increased access to an improved water source, Infant Mortality Rate (IMR) decreases by 1.14 deaths per 1000 (Cheng et al., 2012).

Infections apart, there are other factors related to WASH, such as gendered roles, which affect the health of pregnant women. In resource-deficit urban areas, women often have to carry water from the source to their houses every day for drinking and other household chores. Undertaking such chores involve lifting heavyweight, standing for long periods, or bending a lot during pregnancy, which could increase chances of miscarriage, preterm birth, or injury (CDC, 2019). Heavy workload can cause low maternal weight gain during the second or third trimester increasing the risk for intrauterine growth retardation (Strauss, 1999).

Social mores, traditional practices and habits restrict consumption of food and water by women in slums. These are in response to show respect to others or limit urination and defecation to minimum number of times, which make pregnant and lactating women inhabiting these slums a 'high risk' group.

Government of India's Janani Suraksha Yojana (JSY) has decreased the maternal mortality rate from 254 per 100,000 live births in 2004-06 to 130 per 100,000 live births in 2016 (Niti Aayog, 2016). However, most of such interventions have been limited to direct obstetric causes of maternal deaths. Not much importance has been associated with maternity-responsive water and sanitation facilities, behaviours and exposures during pregnancy, perhaps because its relation to Adverse Pregnancy Outcomes (APOs) still remains unclear (Padhi et al., 2016).

There remains an overarching acceptance of prioritising domestic work and care over the well-being of women, at individual, community

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and national level. Such de-prioritisation is also contributed to by the lack of knowledge of the effects of WASH on APOs, which is still preliminary; much of the evidence is weak and based on anecdotal evidence. There is a need for primary research to understand the magnitude of effects of particular WASH exposures on specific maternal and perinatal outcomes. This paper, extracted from the study conducted by CURE on WASH and maternal health, aims to build on the same.

Economics of WASH Issues

The individual costs of WASH are entangled with the national costs to the GDP. Poor water and sanitation conditions have an impact on the economy through its economic losses associated with direct treatment costs of WASH related illnesses during pregnancy or lactation periods and lost income through reduced or lost productivity (Minh, 2011). On a larger scale, time and effort losses due to distant and inadequate water and sanitation facilities, reduced income from tourism (due to a high risk of contamination and disease), and clean-up costs (Hutton and Bartram, 2008) further burden the economy.

These losses are most prevalent in urban poor settlements. Therefore the poor sanitation conditions in slums lose out on economic benefits of proper sanitation that have been more heavily dominated by convenience and time savings, representing 90% of the total economic benefit, followed by 8% for productivity gains, and 2% for health care cost savings (Hutton, Haller, Bartram, 2007).

In India, 27% women are in the work force and 95% of those women are employed in the informal sector. At any given time 5% of the women in India are pregnant (WHO estimate). However, the pregnant women working in informal sectors seldom enjoy any maternity benefits available to their sisters in the organized sector. The Government of India provides Rs. 5,000 in three installments to these women under the Pradhan Mantri Matri Vandana Yojana for medical support, nutrition and income support. However, the availability of such schemes is deterred by the lack of women's access. Many women from the low-income category often do not have the knowledge to claim such benefits, the required documents or a bank account of their own for cash transfers. Furthermore, the cash transfer benefits did not translate to rest for pregnant women, who were found working on agricultural fields until the time of delivery (Action Aid, 2017).

Beyond the infrastructural gaps in the WASH ecosystem, a severe symptom of poor service outreach is the absence of such finer details of gendered access that confront vulnerable groups, in the planning of water and sanitation services.

Water and Sanitation Program in 2007 estimated that the impact of inadequate sanitation is US$ 53.8 billion in India, nearly 20% of the economic losses of the world. It is equivalent to 6.4% of the GDP (2006) of India.

This is not, however, the complete loss estimate; the labour force that is used for computing the loss does not include the category of 'unpaid care' provision by women, the significant but invisibilized costs of which are not included in the GDP contribution calculation. These include all unpaid services like primary care of people, house work and voluntary community work. Studies have shown that the contribution of women's unpaid labour towards sustaining economic activity is equivalent to 3.1% of the GDP (Oxfam, 2019). Additionally, the cost of women's dignity and their quality of life due to poor WASH conditions has not been computed by any study yet. This remains their personal loss, despite their community and national relevance. This is also indicative of the economics of WASH to being skewed to the male universe- calculations do not consider

the subtler, oppressive, additional impacts and implications for women and children.

The existing challenges faced by women in the slums increase during pregnancy and lactation periods. They make this group of women more socially excluded among the already marginalised women in slums. Their rights (human right to water and sanitation and thereby right to life), opportunities and resources like clean water and toilets are seriously compromised. This affects both, the quality of life of women and the health of women and their children.

The larger ignorance at planning and national estimation levels also influence the quality of development sector interventions, what is funded, and knowledge building efforts. There exists almost no literature on the issues that pregnant and lactating women face due to poor access of water and sanitation services in urban slums. Very limited knowledge on the effects of WASH on adverse pregnancy outcomes has been treaded on; much of it is small-scale and observational research. This paper is an attempt to dig deeper and relate various aspects of slum life that affect pregnant and lactating women to understand the magnitude of WASH exposures on specific maternal and perinatal outcomes.

The paper looks at social exclusion of pregnant and lactating women as an overarching concept to understand their multi-dimensional vulnerabilities when they are exposed to poor WASH conditions in the slum settlements they inhabit.

METHODOLOGY

The current paper is based on CURE's study on the 'Water, Sanitation and Hygiene Issues for Pregnant and Lactating Women in Slums', which was initially conducted to provide evidence to ULBs for improving WASH facilities in urban slums for pregnant and lactating women. Therefore, this study employed a quantitative approach in order to examine, analyse and understand the WASH related challenges and associated vulnerabilities faced by pregnant and lactating women in urban slums of Delhi. The quantitative data of this study provides statistical evidence to support generalisations and scale of the issues in question. Relevant information and insights from qualitative deliberations with the study community have been added to this paper to enrich its context and authenticity.

Data was collected from 33 different slum communities in Noida, South Delhi and East Delhi where CURE was already engaged in WASH interventions. In Delhi, around 46% of the city's female population is in the reproductive age group, out of which 11.2% are pregnant (Govt. of NCT, 2012). Based on this, sufficient numbers of slum settlements having a combined population of about 5000 households were selected, out of which 400 - 500 households having pregnant and lactating women were identified for the study purpose. A final sample of 519 households, 254 pregnant and 265 lactating women (who were nursing), were selected.

In India, most pregnancies are not announced in the first trimester unless a government scheme providing monetary assistance mandates regulation of pregnancy. Therefore, for the study, women who had registered their pregnancy were recruited. Similarly, using WHO's definition of breastfeeding for 2 years (exclusive for 6 months and then combined with solid food), lactating women were recruited with children up to 2 years of age.

FINDINGS

There were only a few (9.8% pregnant and 4.15% lactating) female-headed households. The mean age of pregnant and lactating women were 24.62 and 24.35 respectively, very closely corresponding with India's highest

fertility group (25 - 29 years), according to SRS, 2016. With absolutely no teenage pregnancy or motherhood in the study area, it also meant that the women were matured to comprehend the advantages and disadvantages of WASH conditions in the settlements. Most pregnant and lactating women in the study were aware of the health facilities, accessed public or a private health services for at least one antenatal care (ANC) check-up (82.33%) or a post-natal care (PNC) check-up (86.19%) respectively. The benefits of availing such facilities, however, constantly negotiated with the agentic disadvantages of women and their WASH roles in the community.

Gendered roles of WASH:

Unpaid domestic work:

Women in the study area, like other places, undertook three roles – reproductive, productive and community managing activities, while men primarily assumed productive and community politics activities. The reproductive role is not limited to child bearing/ rearing responsibilities but also includes other domestic tasks done by women including care of men, children and other members of the family. Moving away from his defined gender role, providing care of family elders or children and wife along with doing some domestic chores were absent from a man's role in the study. An average of 2.08 people took care of the child in lactating households; if the husband was away for work, the lactating woman had to depend on others (neighbours or friends) to take care of the child while she was away to collect water or went to the toilet.

Water management:

Water management in low-resource areas is an arduous job and is also a domestic responsibility of women. Only 35.97% households in the study area had piped water inside their houses; the remaining 30% households used government's community stand points (CSP) or common taps as their source of water collection, and 34% collected water from tankers,

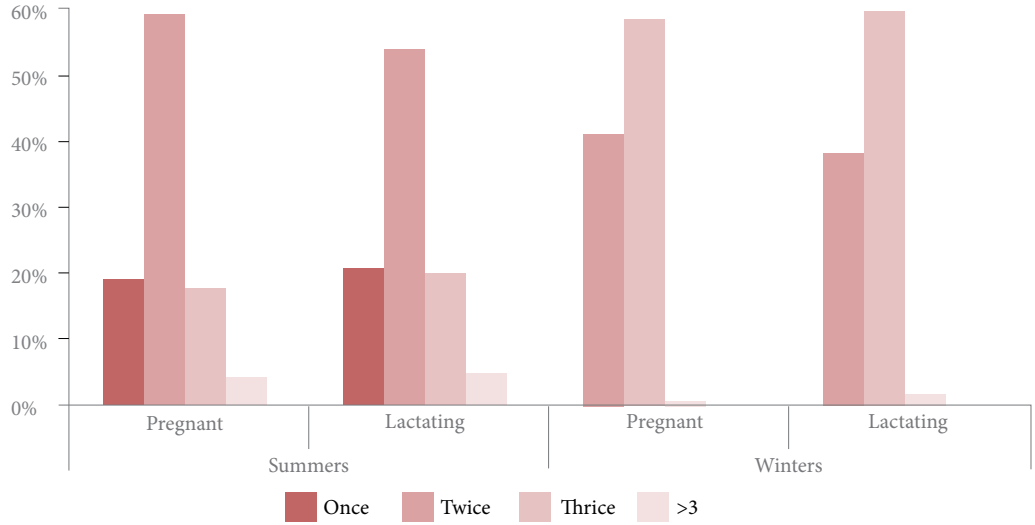


Figure 1: Frequency of water fetched by pregnant and lactating women during summer and winter

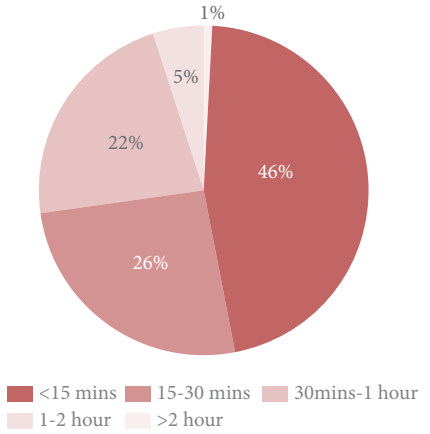


Figure 2: Time taken to fetch water by pregnant women

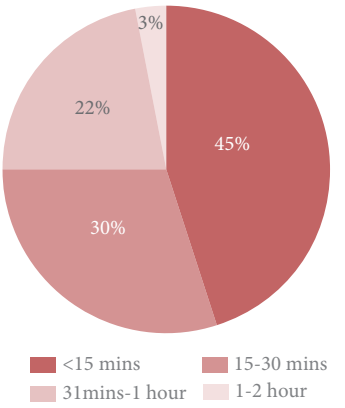


Figure 3: taken to fetch water by lactating women

bore wells or other sources. The latter 64% carried heavy vessels twice or thrice (in summers), and walked between 16 minutes to an hour to their houses. Additionally they had to wait in long queues to collect water because of overcrowding in these places; on an average, 40 households filled water from a single community stand point set up by the ULB (as per norms).

The water is available only for a few hours at a time and is distributed on first-come-first serve basis. Women, including those pregnant (21.13%) and lactating (15.08%), had to reach the tap to queue up at odd hours (at 3 am in the morning) for which they complained losing sleep and feeling anxious. The whole process of collection of water may prove fatal for mother and child. Conditions such as carrying heavy bucket loads multiple times a day were alarmingly prevalent in the study area. Thus, during the ANC and PNC check-ups, 78.65% pregnant women and 69.43% lactating women were advised not to lift heavy objects to avoid accidents such as women falling down and lifting heavy weights that were reported as causes of loss of baby. A significant 13% of women reported loss of foetus, with one third of them reporting the reason as physio-physical problems such as ectopic pregnancy. However, a longitudinal analysis of a long term WASH project would be required to understand in depth the causative relationship between gendered roles such as water collection and pregnancies.

For the lactating woman too, collection of water was difficult as she had to leave the new born in someone else's care (52%) and spend quarter of an hour to an hour before walking back home. If on a certain day she is not able to fill the water from the community stand point, she may have to collect water from sources outside the house, if she did not want to buy water.

Most pregnant (80.07%) and lactating (75.84%) women did not filter the water collected at the community stand points before drinking because they thought that the government provided clean potable water. More than half pregnant women (57.42%) reported being prescribed antibiotics during pregnancy, probably for the infections caused from drinking unfiltered water.

Many lactating women reported making baby food or feeding the infant only

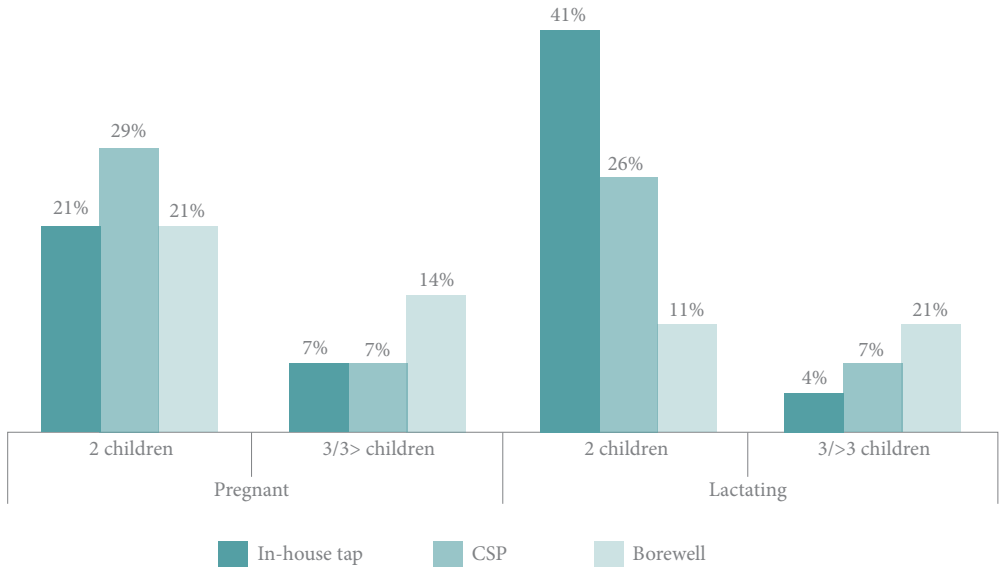


Figure 4: Correlation between Parity and Source of Water

bottled water. However, women (pregnant: 22.13%, lactating: 23.77%) complained of inadequate water for household chores (washing and bathing), cooking and drinking.

According to the Delhi Master Plan, 2001 norms, the per capita water requirement is planned for 60 gallons per capita per day (gpcd). Compared to that, the amount of water that women from slums are able to collect is not nearly sufficient for household requirements. Additionally, after delivery, the need for water increases; 43.77% lactating women mentioned increase of water by 2-4 buckets. However, accessibility of water was further limited for the lactating women, as carrying the child to the water source was a challenge. Nearly two-third of them (67.92%) left their child at home, either with other children or any elderly person.

All these conditions did not encourage the women to possess taps and toilets inside their houses. In the male-headed households, there was no correlation between having the source of water inside the house and education of the women or parity (default for number of years of

Table 1: Correlation between education and source of water

	No education		Primary		Secondary/ more	
	Pregnant	Lactating	Pregnant	Lactating	Pregnant	Lactating
Home	35.71%	37.66%	14.81%	13.33%	39.44%	30.4%
CSP	20.24%	32.47%	37.04%	40.00%	25.35%	29.1%
Bore well	21.43%	15.58%	40.74%	43.33%	23.24%	29.7%
Water tanker	5.95%	3.90%	3.70%	3.33%	2.82%	4.4%
Others	0.00%	0.00%	0.00%	0.00%	0.00%	1.4%
>1 source	16.67%	10.39%	3.70%	0.00%	9.15%	5.1%

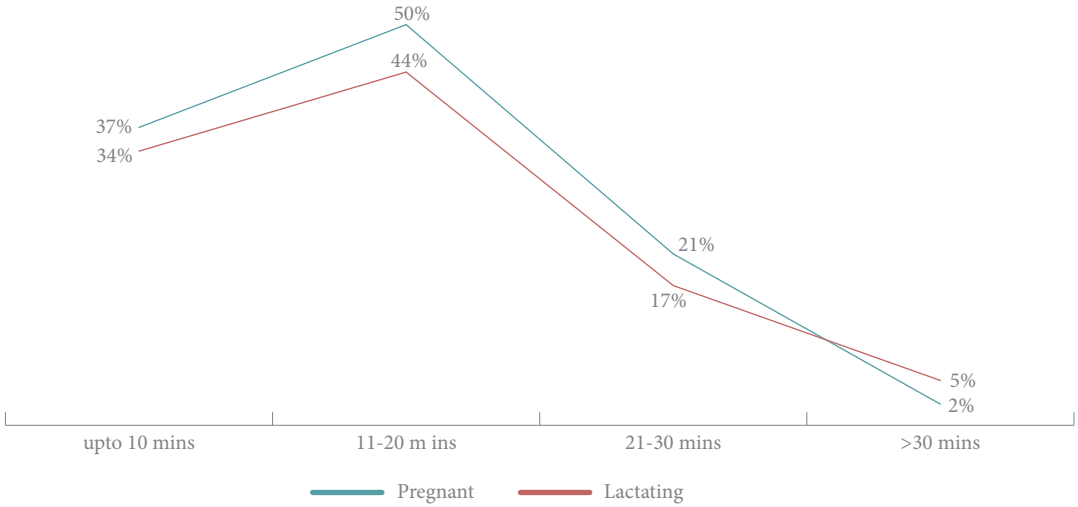


Figure 5: Waiting time at the community toilets

marriage). A significant 48.59% of pregnant women and 58.6% lactating women who fell into the education category of 'secondary or above', drew water from community stand points and bore wells – indicating severe maternal health risks despite awareness. However, more female-headed households had taps inside the houses to decrease the drudgery.

Sanitation:

Nearly one-third women (pregnant: 39.29% and lactating: 39.62%) used in-house toilets. Community toilets are the most commonly available and hence used by both pregnant (51.19 %) and lactating women (49.53%). The community toilets were reported by both, pregnant and lactating women, to lack water, being clogged, and wet with slippery floors. Therefore, they often controlled their urge and did not go out to relieve themselves. Such practices were directly against the medical advice for pregnant women in the study area, who were advised increased intake of water during their pregnancy

Mobility, particularly covering large distances for pregnant women is a significant inducer of physical and mental discomfort. Travel time to the community toilets differed for pregnant and lactating women. While most pregnant women (62.79%) felt that they needed up to 20 minutes to reach the community toilet, many lactating women (70.77%) mentioned it to be only up to 10 minutes. Besides this, they also needed to wait at the community toilet during 'busy times'. 71% pregnant women had to wait between 11 to 30 minutes to access community toilets during such busy hours. Holding urine, especially during pregnancy, is a worrying stimulant of infections.

Due to inaccessibility of toilets most pregnant women consumed less water. Therefore, while 69.96% pregnant women were advised increased hydration during their ANC check-ups, there was no correlation found between having a toilet inside the house with education and years in the family, and thus also their relieving practices.

Health and hygiene practices:

Apart from access to water and sanitation, personal hygiene maintenance has significant effects on pre and post natal care, the healthy growth of women's new born and long term health. In fact, poor hygiene influences all

stages of a woman's life, especially during pregnancy and lactation, which may leave intergenerational effects. Poor menstrual hygiene practices among adolescent or young girls, for example, have the potential to cause malnutrition and anemia which would affect the baby's growth when they become pregnant.

Lactating women were advised to maintain proper personal hygiene after delivery during the PNC checkups. Women regularly washed their hands before preparing meals (pregnant: 88.93% and lactating: 84.91%) and before eating (pregnant: 84.58% and lactating: 76.23%).

However, every second lactating woman (48.68 %) washed hands after cleaning baby's stool and only 2% washed hands before feeding the child. Furthermore, 64.86% lactating women reported throwing single-use diapers directly into the drain while 16.99% wrapped them in plastic before throwing them out of their house/ in drains or in the open. A small percentage (1.16) also flushed them down community toilets or toilets at home. These indicate larger, potentially adverse impacts on community health, their WASH and environmental conditions.

DISCUSSION

WASH conditions are an indispensable dimension of maternal and child health. In poor resource settings like slums, water in the taps has high risk of contamination due to punctures in illegal pipe extensions into houses and their proximity to broken sewage pipes and drains. Dirty water from households and water used to wash in-house toilets, precipitate into dirty water cesspools and become breeding grounds for vector-borne diseases before seeping underground to contaminate the groundwater aquifers. This is especially relevant to address the study's indication of most pregnant and lactating women not filtering the water supplied through government systems (community stand posts and water tankers) for drinking and other purposes, assuming the water is clean.

Furthermore, availability and access to WASH infrastructure and sanitation services interact with external, socially constructed WASH based care roles which deter pregnant and lactating women's agency from prioritising their own well-being.

There are **two routes of physical damage** to pregnant and lactating women caused by poor WASH conditions- infectious and non-infectious routes.

Infectious routes:

Exposure to contaminated water may cause various types of infections that could affect the mother and child. Poor sanitation practices that may lead to any infection for the general population can be especially dangerous for pregnant and lactating women and may lead to adverse pregnancy outcomes (Failey, 2016). In low-resource areas, the lack of personal hygiene among pregnant women may heighten the occurrence of yeast or bacterial infections in the vagina, as it doubles up as the birth canal. Poor WASH exposures are known to cause life-long and severe consequences of morbidity in children, such as malnutrition, delayed development and reduced cognitive function (Mills, Cummins 2016). While there is still paucity of research linking open sewerage to adverse pregnancy outcomes, it is difficult to assess our findings in the context of other study findings.

Many theories explain immunological alterations occurring during pregnancy; there may be increased susceptibility to certain infections like tuberculosis (Yip, McCluskey, Sinclair, 2006) which spread through unhygienic conditions and habits. As compared to non-pregnant women, pregnant women are more seriously affected by infections with some organisms, including influenza virus, hepatitis E virus, malaria parasite etc. (Kourtis, Read, Jamieson,

2014). Many WASH-related hazards have intergenerational effects too; either because contaminants or infectious agents pass through the placenta and affect the foetus, or because they have systemic effects on the mother, such as fever, an altered immune response including inflammation, low weight gain, absorption into bone or anemia. The consequences for the foetus include spontaneous abortion and stillbirth, but also malformations, infections, anemia, preterm birth or low birth weight in the newborn (Campbell, 2015). Many pregnant women were prescribed antibiotics in the slum; use of antibiotics during pregnancy has also been associated with increased risk of asthma in early childhood, increased risk of childhood epilepsy and childhood obesity (Kuperman and Koren, 2016).

Non-infectious routes:

The non-infectious routes affecting the health of pregnant and lactating women are the physical effects of heavy work, distance of water source or toilets, harmful behaviours, social mores and traditions. Heavy work during and soon after pregnancy are risk factors for spontaneous abortion or uterine prolapse, where the muscles and supporting ligaments holding the uterus in place become too weak to keep the uterus in position (Henok, 2017). Apart from this, it is a labour intensive work, which uses more calories than the normal household chores and restricts the recommended regular increase of weight for pregnant women.

Fetching water at least twice every day and covering a distance of 0.5 to 1 km, spending 30- 60 minutes as indicated by the study's baseline data, must be tiresome for a pregnant or lactating woman. Her job does not end at this as she filters and stores the water separately for drinking and other household chores. The calories lost during the pregnancy when she essentially has to show a constant increase in body weight by 15 kgs puts her in substantial risk during delivery. There are very high numbers (13%) of miscarriages, stillbirth (foetal death) or spontaneous abortion reported as loss of foetus. For this reason, most pregnant and lactating women were advised not to lift heavy objects.

Water in the slum settlements is provided only for a few hours daily and its procurement is competitive among households. The everyday compulsion of getting up early, queuing up to collect water causes stress and anxiety in many pregnant and lactating women, which have harmful and sometimes fatal effect on them. These include increased blood pressure, which may cause pre-eclampsia during childbirth.

Men do not participate in these activities because rest and sleep of the primary earning member is considered essential. This corresponds to the gender discriminatory trends identified by OECD data (OECD Stat, n.d), that indicate Indian women spend 352 minutes per day on domestic and care-giving work, which is 577% more than men (52 minutes). The consideration of 'paid labour' in national planning validates the exclusion of the actual estimate of most urban poor women working and staying awake for 17-19 hours to complete domestic chores (Sanghera, 2019). The complete onus of unaccounted care and domestic work on women in the settlements responds to the 68th round of NSSO (2014) survey, which found that up to 64% women were forced to take up care work because there was 'no other member to carry out the domestic duties' – implying either small family sizes with limited number of adults for care-giving or the unwillingness of adults other than the mothers to undertake care work. In the study area, men were involved only if the water source was distant and a vehicle (cycle or rickshaw) or clambering on a tanker was necessary to get the water. In such extreme cases, the involvements of men is complicated by other costs associated to distant WASH services, as men then lose their day's wage, and

water becomes even more expensive. Financial outlays, particularly for urban poor women and their households, are thus also determining of the health compromises they make.

Proper hydration is important during pregnancy because it allows the body to help manage the change in external factors like temperature. Drinking water also influences the amniotic fluid volume, foetal well-being and removes toxic products from the pregnant woman's body (Kodindo, 2011). However, pregnant women in the slums desist from drinking water or eating food at recommended quantities to avoid accessing the toilet more than once in a day. This is because of inaccessibility of the community toilets at all hours (and absence of night toilets), harassment, threat or violence faced while walking to the community toilet or open defecation site and the stigma of open defecation/ urination. Though only a small percentage of women agree to eating/ drinking less, it is also an involuntary reaction of the body not to feel thirsty or hungry if urination and defecation is not regular. Psychological anxieties only strengthen such involuntary conditionings. Such behaviour has long-term consequences for their health, such as constipation, urinary tract infections and gynecological problems, besides causing poor nutrition and dehydration for the pregnant and lactating women, effects of which are unhealthy for the foetus and the new born respectively. Other studies too have shown that women who did not have access to a toilet within the house had a higher risk of adverse pregnancy outcome (Patel, 2019; Padhi, 2015; Patel, 2015).

During pregnancy, several mechanical and pathophysiological changes occur, such as a decrease in respiratory volumes and urinary stasis due to an enlarging uterus. In such cases, immune adaptations are required to accommodate the foetus (Kourtis et al., 2014). Pregnant women have frequent urge to urinate and cannot hold their urine for a long time. They need quick and urgent access to toilets because the bladder bearing increased pressure from the foetus often wants relief. Most women were discouraged by the distance of community toilets, their frequent crowding and the fear of catching disease or infections from them due to the high susceptibility during pregnancy. The study's indication of pregnant women taking double the travel time to reach community toilets compared to lactating women points towards a severe gap of disability or special-needs-friendly planning of WASH ecosystems. A pregnant woman feels breathless if she has to travel long distances to access toilets. Additionally, there is a long wait at the toilet too. While it is difficult to hold the urge with an increased weight on bladder for the pregnant woman, for the lactating it is the stress of leaving her child with someone else at home or with neighbours and sometimes alone. Poor WASH systems planning thus, also becomes a vehicle of non-infectious routes of physical damage to maternal health.

The sanitation-related psychosocial stress across women's reproductive lives and the level of perceived severity varied based on site and life stage (Hulland et al., 2015). The plight of women during pregnancy and lactating stage of life is understood well by all women. Therefore, when women are in decision making positions, they prioritize water and toilets in their houses. Access to piped water connection inside the household is a major source of labour relief for women which helps decrease their time poverty and increase their quality of physical and mental health and their safety. The present study shows less than a third (30.38%) households in the settlements had taps at home compared to 40.73 % households that were female-headed. The inability of pregnant and lactating women to assert themselves for better WASH facilities in the male-headed household or desisting her husband from gender roles by extending it to household chores depicts her exclusion in the family itself. Women are not involved in decision making of the toilets that were constructed at

home, and most women had no knowledge of the type of toilet at home.

Even independent variables like education, when compared with source of water or choice of toilet, does not show very different results. This is also indicative of larger behavioral entrenchments of WASH systems in patriarchy and the dismissal of female perspectives in judging the efficiency of a system. Respondents with the education level of secondary or more did not have the advantage of having a tap or a toilet in-house. However, there were 1.36% educated women only, who agreed that they defecate in open if the toilet was busy. This shows that the women, whether newly married, pregnant or with children, may not have the agency to choose a house with in-house tap and toilet but still want to make a difference.

Hygiene is closely related to these issues and is thus, both behavioural and infrastructural. Using (single use diapers) that are most commonly used in the study area (70%) and strewing (diaper and menstrual) waste in the open, clogging the drains, polluting the environment, contaminating the water and ultimately causing water-borne and vector-borne diseases are a few behavioural aspects that can be changed using pointed behaviour change communication. However, reasons of limited hand washing after cleaning the baby's stool or before feeding the baby may originate from lack of water for household chores or the inability of lactating women to fetch more water from outside. These need to be dealt with at more infrastructural levels, as limited hand-washing are indicative of potentially severe impacts on infant children's health, especially in terms of contracting noroviruses, airborne illnesses, Hepatitis A, and diarrhea among other infections.

Gender Discrimination in Slums

Globally, the most amount of domestic, unpaid work is undertaken by Indian women, compared to any other country, indicating the poor status of social care investment by the government (Sanghera, 2019). Water management, also an unpaid work, has traditionally been a woman's role in most societies. Through the activities involved in water management such as carrying water from distant sources, worrying about its availability, managing its storage and usage, women in slum settlements have been disproportionately affected. Their familial responsibilities, the societal normalization of physical hardships during pregnancy and lactation periods and infrastructural restrictions in using common WASH facilities are some key shapers of the disproportionate affects.

The women in slum settlements are already disadvantaged and are relegated to an even more challenging situation on getting pregnant. The announcement or registration of pregnancy obstructs them from various rights informally, including right to work, especially in the informal sector. Their health condition is a concern for the employers who, instead of providing maternity benefits to a pregnant woman, replace her with one who is not. Her rights to clean water and sanitation are already compromised. Access to WASH has intrinsic inter-connections with different sectors, most of which also function on systems exclusionary to women, especially pregnant and lactating women. Thus, not only is the estimation of unpaid labour by women absent from planning, but so is a sound, system-integrated sectoral understanding of their male-biased benchmarks that women fall short of.

It is pertinent to note here that unpaid care work, water management responsibilities, other domestic chores and gender-based industry biases decrease the ability of women to engage in paid economic work. This has a chain of reactions, as the lack of income decreases their agency and decision-making power within the household – perpetuating multiple poverties of already marginalised women in informal settlements.

The social exclusion of women in civic

participation and governance of water worsens their access, maintenance and assertion of rights on water, even though they are the main drivers of the process of collecting, using and conserving it (Ilavarasi S, 2016). The multi-level discrimination of women in water issues has had intergenerational impacts. At the familial level, women do not have much decision-making power regarding water and sanitation facilities inside the house. This, apart from being a social perpetuation of women's (and their daughters') lack of agency in WASH systems, also creates opportunities for biological deficiencies and infections to effect the next generation of children birthed by women. Water management being a reproductive function (as it includes care) can improve only with participation of women in decision making around it. The demands of pregnancy and lactation period on women's physical and psychological selves and the time spent on water collection restrict investment into their own welfare (rest and nutrition) or participation in community, social or economic activities. A pilot Time Use survey conducted by the Ministry of Statistics and Programme Implementation (NSSO Sarvekshana, 2018) found that women spend 8 hours less than men on learning and personal care activities. This has domestic as well as community repercussions, as they are too time poor to play an effective role in the community, which is essential in generating more women participation in WASH planning.

The access to toilets too, is weighed down with discrimination. The fear of physical harm while using the wet, slippery and often unclean community toilets or being threatened of their safety and dignity during open defecation causes anxiety. Women thus resort to lesser consumption of food and water during the day to avoid going to toilets. This has problems at two levels – firstly, pregnant and lactating women fall short of the recommended amount of calories and hydration and secondly, the condition of pregnant women warrants precautions while venturing into dangerous places for open defecation after sunset to avoid accusatory gazes. Such recurring anxieties impose a burden of fear and an ongoing legacy of stigma (Bhattacharyya, 2015) and shame, besides physical detriments.

The complex dynamics of a community that chooses to normalise this stage (pregnancy and lactation) of a woman's life do not to cogitate women-oriented WASH facilities for the safety of women and the requirements around maternity. Most committees (if present) in the communities are male dominated and women have to vehiculate their thoughts through male members of their family or get branded as 'leader type' in the community. There are thus also negative connotations associated with female leadership, which make it even harder for women to demand their WASH and maternity rights. The regular quarrels at the water collection taps are passed off as habits of contentious and bad-tempered women rather than their anxiety to secure a portion of this deficient resource. Their concerns are not considered at par with those of men, and thus especially the challenges of pregnant and lactating women are left unarticulated in both, the demand and supply side.

At the level of policy makers and urban planners, the collective inability to analyse WASH needs of the gender it is being planned and designed for and the special requirements for children, pregnant and disabled women fails to end urban water and sanitation poverty. This also raises the question of whether women are less equal citizens in policies of the state.

Inter-linked discriminations at household, community, sectoral and national level together perpetuate the marginalisation of urban poor women, which is further aggravated during their pregnancy and lactation periods. These together, have ensured inter-generational health, WASH, time, and economic poverty

of women residing in slums – finally resulting in bolstering the social poverty of an already marginalised group.

CONCLUSION

Slums are notoriously known for their high level of deprivation. The lack or denial of "*water that is enough, safe, acceptable, physically accessible, and affordable water for personal and domestic (household)*" and "*sanitation service that is secure, hygienic, physically accessible and affordable, and that provide privacy and ensure dignity*" (UN Water, Human Rights to Water and Sanitation) is denial of the human right to life. The slum dwellers hence are a marginalized group.

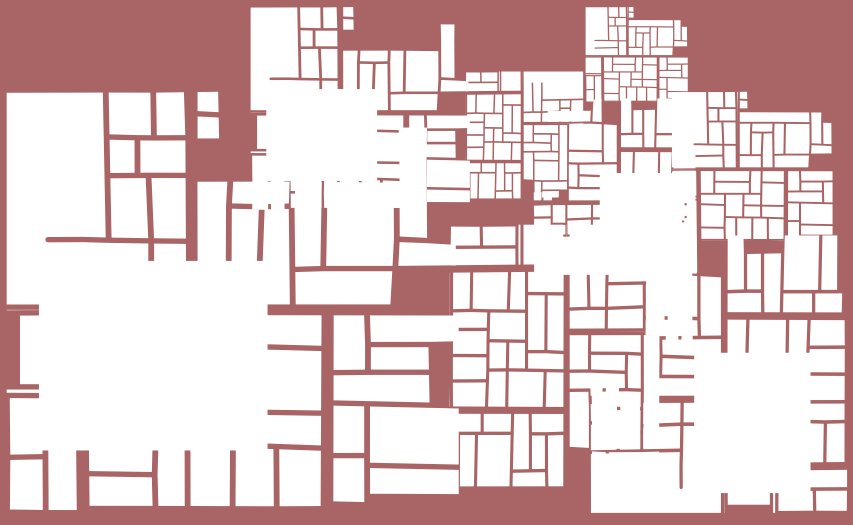
WASH affects the risk of adverse maternal and perinatal health outcomes; these exposures are multiple, overlapping and may be distant from the immediate health outcome. Pregnant and lactating women brave the intense challenges of collecting and using these meager WASH services available in or around their slums in their special conditions. It makes this group of women more socially excluded among the already marginalised slum women as their human rights (to water and sanitation), earning opportunities and resources like clean water and toilets are seriously compromised. This affects both, the health and quality of life of the women and may cause adverse pregnancy outcome. It also plays an instrumental role in enabling a WASH planning system that is entirely unaware (and unaccountable) of the diverse needs and conditions under which women and their relationship to WASH are shaped inter-generationally.

Limited availability of water and sanitation facilities causes stress and anxiety in pregnant and lactating women and the poor quality of these services encourage infections and other diseases. Accessibility challenges of sanitation services force them to flout medical advices of eating and drinking at recommended quantities and intervals, affecting their health and potentially that of the unborn child too. It also perpetuates patriarchal practices that relegate limiting toilet consumption as a practice of 'respect' towards the elderly (especially males) at home, linking visiblising women's reliving needs to taboo. These conditionings act as the binding agent of gender discriminatory WASH systems – deterring the creation of spaces where the actual estimation of demand and supply of water and sanitation in relevance to maternity are considered.

Besides the health outcomes, economic losses associated with the direct costs of treating sanitation-related illnesses during pregnancy and lactation period and the lost income as soon as the woman registers her pregnancy, burdens the economy and the family. Despite such losses, women's voices continue to be absent in decision-making around household WASH infrastructure and needs. Similarly, the community and the designers of urban spaces normalise the life stages and difficulties (of pregnancy and lactation) and do not consider special WASH facilities for the safety of pregnant and new (lactating) mothers, leaving them to suffer this period until efforts of making cities more inclusive are actually successful.

It is essential to include perspectives of women in how WASH systems ought to be designed. There has to be shift in urban planning strategy towards an integrated sectoral-level planning model to truly make gender cognizant WASH systems – a large part of which would be to understand the kind of paid and unpaid labour women shoulder in relation to water and sanitation. What needs to be addressed is the explicit social exclusion of women's narratives (despite being drivers) in systems such as WASH which are fundamental to the economic growth and health of the populace. It is addressing this systemic exclusion that would act as a vantage point to making our systems equitable and agentic.

WOMEN'S LIVES MATTER: BUILDING EXPERIENCES AND AGENCY



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ABSTRACT

Urban living and the opportunities it harbours for one and all has dramatically transformed the lives of urban dwellers. However, it also replicates and perpetuates inequality and exclusion, especially in access to basic needs like water, toilets, drainage, housing etc. between slum and non-slum areas**.** These together reproduce multiple poverties which interact with and influence each other, making urban poverty a complex concoction of socio-economic, political and environmental denial of rights. Community-led development is spoken of as the silver bullet that will bridge such gaps through organized localism and use of local knowledge for planning solutions**.** This paper uses empirical data from the author's research and work with women grassroots leaders in urban slum communities in Faridabad, Gurugram and Jaipur, to map the ecosystem that can nurture community leadership, voice and democratic engagement. While the programme reviewed is old, the participatory processes that it spawned and the challenges it highlighted in women's (un)involvement in planning processes, continue to resonate today.

Building communities to express shared needs and work towards solutions and strategies is complicated because of pressing existential needs, mistrust and work uncertainty among poor people. According to the World Bank, substantial outcomes can be achieved by investing in women and their collectives for community development. However, absence of household basic services can reduce simple routine tasks to drudgery and conflict for women,

[1]The data and the analysis in this paper are sourced from a research conducted in 2002 as part of the author's PhD thesis. Larger theoretical literature and government produced reports and statistical data have been triangulated to inform the author's findings and analyses.

which adversely impact their abilities to engage meaningfully in their communities. Positioned in the lens of the Urban Basic Services for the Poor (UBSP) programme, this paper explores what it means to be urban, poor and a woman in the context of community leadership; the factors that contribute to women's leadership and the kind of leaders, agency, and community conditions that unfurl. The paper embeds these explorations within the theories of Community Led Development and the ways in which urbanization expands its meanings and scope. It illustrates how the identification and articulation of shared needs of a community function in a dynamic space of civic potential, particularly of women leadership; which if organized and capacitated, can enforce an accountable State and be the key to community change.

INTRODUCTION

Urban living has, among other changes, dramatically transformed women's lives and roles. Their participation in work outside of the family occupation, specifically among the poor, has come with enhanced awareness and freedom of thought and action. This agency can be capitalized to produce influence in communities and in making societies equal and inclusive. This stems from the belonging of people's, particularly women's voices and perspectives originally at the core of community-led development. In its essence, community-led development is about empowering communities, especially women, and building their capabilities to co-create local solutions-thus taking charge and ownership of one's own living conditions. The process is one that builds their agency, which then helps translate community goals into action; transforming lives for the better and decreasing intergenerational affects of poverty.

Historically, women have found voice through gender movements that have been crucial to the structural and policy changes in the country. Such collectivization has helped them confront the deep, social and economic inequalities to find space in local planning processes. However, women's disadvantages are far too many and much too deeply ingrained within institutions and behaviours. According to Rowland (1997, p12), "*(when) a group of people is systematically denied power and influence in the dominant society (it) will internalize the messages it receives about its supposed roles and capacities, and will come to believe the messages to be true.*" The power of iterations in discriminatory gendered narratives through the years has concretized women as the inferior gender in public memory and organisation. Women's economic betterment is thus more due to the general increase in State wealth, and not because they are liberated (Ahmed, 1992). The gender glass ceiling is almost indestructible and is so by design – of institutions, processes and behaviours.

Rethinking gender roles is key to embedding inclusive urban development at the city level and for achieving the Sustainable Development Goals (SDGs) at the national level. Empowering women to negotiate, both, within the family, and outside with the local government, can rescue them from the cultural ideal of womanhood that is skewed against their agency, expand individual and community notions of women's role in building communities and promote gender equality. Gender-just societies that curate democratic spaces for women, include them in the formal economy, enhance their access to public resources, information and new technologies, and build their capabilities, can effectively challenge familial and social gendered power relations (Ahmed, 1992).

This paper thus reflects on the potential for, and challenges to women's collectivization, collectives, and agency creation for

community development. The lens used here is that of the Urban Basic Services for the Poor (UBSP) programme, India's first and foundational effort at participatory urban development.

Urban India

Urbanization is changing the way we live, move, work and socialize in cities. India has been a reluctant urbanizer, growing unhurriedly at 1.2%. As per Census 2011, only 377 million people or 37.16% of India is urban. The World Bank disagrees; alluding to considerable hidden urbanity at peri-urban fringes, as per its brief on Leveraging Urbanization in South Asia (2015), and estimates India's to be 55.3% urban.

Cities may be wealth creators, but are highly unequal. The Gini Index for income inequality in Indian cities based on IHDS data for 2011 was 0.54. While inequality is largely about having less money, it is also about education, health, nutrition, basic services, opportunities and agency. In 1996, Moser et al. (UNCHS) redefined poverty as vulnerability from: i. inadequate services, assets, housing, choices, tangibles such as savings, property, tools, or intangibles such as safety nets, isolation, powerlessness, defenselessness, insecurity, etc.; ii. loss of assets due to shocks; iii. low capabilities and productivity thereof due to bad education or health; and iv. exclusion from democratic processes and spaces that dilute people's right to the city.

Indian researchers further localized the vulnerability parameters by adding to the mix: exclusions due to caste, age, literacy, physical and mental abilities; family size, nature and security of employment, food security, land and asset ownership, indebtedness and access to welfare (Sinha, 1997, Singh and Kishore, 1993). In the urban context, Sengupta (1999) introduced the notion of insecurity - from lack of tenure and eviction threats in illegal slums, pavements, ecologically fragile areas such as river beds and health risks of living along sanitation corridors. It is thus multiple poverties together that perpetuate one's economic poverty; these poverties interact with and influence each other, making inequality a complex concoction of socio-economic, political and environmental denial of rights.

Inequality of basic services

The access to basic services such as water, toilet and drainage is fundamental to living healthy, dignified lives irrespective of where one is. These services dictate one's mortality, productivity, reproductivity, and agency. Differences across slum and non-slum areas, especially in access to basic services deepen inequity and have intergenerational impacts on a community's life span and its quality. There is a long-standing disarticulation between what cities must supply and what is delivered. Access to water in slum homes ranges from 11% in Delhi to 60% in Agra as against the national average of 62% (Census, 2011). In 2011, the Office of the Registrar General and Census Commissioner reported 81% urban households and 66% slum households having home toilets; 21% slum households using community facilities and 26% defecating openly. Along with capacity limitations in planning and devolving service delivery to local bodies, the absence of a citizenry that is empowered to demand State accountability has played an enabling role in the lengthy history of such service failures.

Why community led development

Communities emerge from the economic and social life of people. They are small for people to know, understand each other's problems and foster close interactions and relations. Socially integrated communities achieve three things; one, participation in community decision making and task responsibility (Turner, 1996); two, place-making by use of local knowledge for localized solutions; and three, participation in local

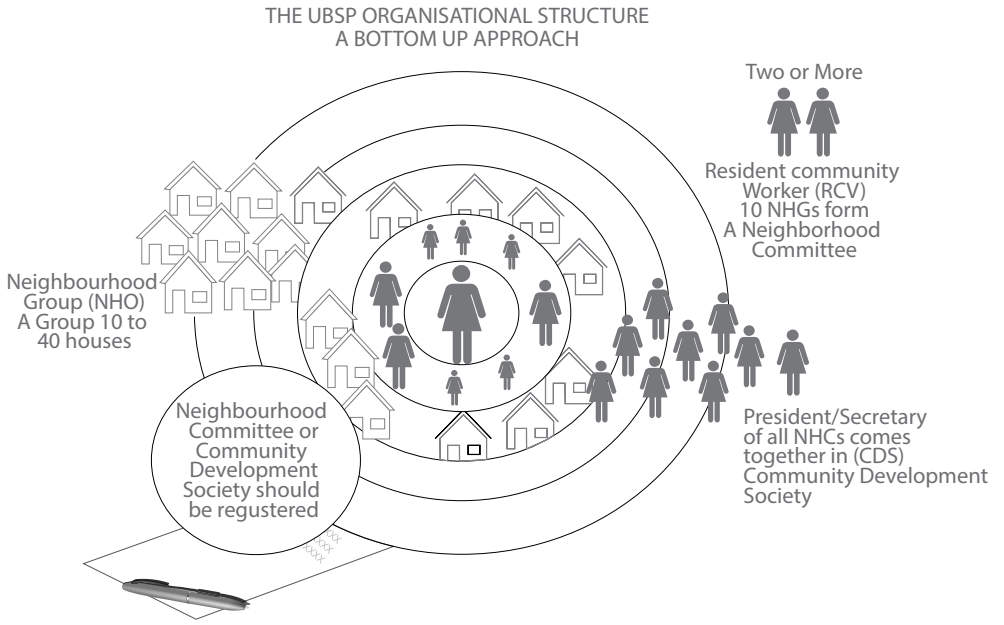


Figure 1: Organisation Structure under UBSP, NIUA, 2001.

governance as *inperts* or insider experts (Turner, 1996). Community participation is therefore critical for sustainable development and an instrument of empowerment by which power is shared with the disempowered or weaker groups (Samuel, 1986; Moen, 1995; Boeren, 1992; Checkoway, 1993; Rahnema, 1993).

Such participation is particularly important for women at multiple interactive levels. It helps them overcome their educational, social, cultural and economic disadvantages; alleviate their normal sense of alienation, secure and protect their rights, and address issues of violence and safety to their personhood. It capacitates them to grow beyond individual realms and create efficient, transparent and accountable governments and increase resources at the disposal of cities by their contribution and participation in the construction and use of services. However, women do not naturally assume leadership roles. By convention they are socialized for non-leadership - leadership being valued as a male trait (Molyneux, 1986). They have low self-esteem and household, child and family-care responsibilities (Bhatt, 1995). They lack mobility (Sharma, 1998) and depend on men for transportation (Datta, 1998, CWDS, 1995). Gendered social conditioning, poor access to economic and social capital and limited mobility restrict the visibility of women in civic spaces, despite them being the drivers of public and private well-being.

Building community leadership: Urban Basic Services for the Poor

Urban Basic Services for the Poor (UBSP) programme was launched by the Government of India in 1992 to significantly transform slum habitats with good basic services and up-skilling (Parikh, 1999). UBSP was designed as community and women led. Its participatory framework comprised: a. ***interactional structures*** at the neighbourhood, ward and city level; b. ***enabling processes*** for women to identify and prioritise needs, plan collective

action, mobilise community resources and implement solutions; and c. ***connecting ecosystems*** to converge services, maximise benefits and ensure effective targeting. The core of the program was the informal neighbourhood group (NHG) with a Resident Community Volunteer (RCV) chosen by the group. The RCV was tasked to mobilize people, plan and implement community solutions, and represent the groups' interests at appropriate forums (See Figure 1; NIUA, 2001).

UBSP's impact on women's agency was mixed. There were tangible benefits like up-skilling, business credit, better basic services, and intangible gains such as knowledge, democratic spaces for participation in governance, voice and choices (NIUA, 1999). Better informed women contested gender injustices and demanded equality. They even curated an at-risk index of non-economic parameters for benefit targeting that became the bedrock of UBSP.

Other researchers were, however, less enthusiastic reporting; i. low participation and control over decisions (Wishwakarma and Gupta, 1994); ii. benefit capture by RCVs (Wit, 1993; Khosla, 1998; Ward and Chant, 1987); iii. uneven service delivery, and exclusion of non-leader streets (Ali, 1990; Ghosh, 1995); iv. lack of community ownership and high dependency on the city (Ali, 1998); and v. little community contribution (Raj, 1995).

Interestingly, groups were seen to demobilize on immediate need gratification (Ghosh et al., 1995; Asthana, 1994), which meant the initiative could not nurture sustained and systematic community organisation. Further, women did not develop abilities to negotiate with or navigate local bureaucracies (Wit, 1993) and question injustices (Ghosh, 1995).

UBSP's impact on local government's community capabilities, intent to engage, and create democratic spaces was minimal, except for isolated cases. Officials mistrusted communities, avoided them, only engaged leaders and planned for them. The mistrust was mutual. Only women leaders with strong personal city linkages could get services delivered (Wit, 1993). Official indifference weakened leader credibility, provoking non-participation, top-down and non-local decision making and community dis-ownership (NIUA, 1999). Design fault lines within UBSP, such as inability to deliver localism, integrate local plans into city plans, convergence solutions or address the complete value chain contributed to the dis-engagement (Chitra, 1991; Ali, 1990, Wishwakarma and Gupta, 1994). UBSP, said Wishwakarma and Gupta (1994) *"was working for the people and not with the people",* highlighting the fundamental problem in the programme's approach to community led development.

Community-led development: The theory behind

Community-led development is a process by which communities are empowered to take charge of their own development, rather than being externally led. It is about; a. amplifying the voice and agency of people, especially the poor, women and girls, by helping them articulate their needs, take action and be self-reliant; b. assessing the wisdom, strengths, skills and assets of communities and their contribution to sustainable and resilient development; and c. transforming attitudes of local governments to recognize people as change makers and not beneficiaries, and creating a transparent and accountable government. The social architecture of community led development includes groups, associations, federations, and other community-based organizations that give people a shared vision, voice, agency and confidence to act collectively. Some key concepts and theories underpinning them are discussed below.

Community participation: Participation according to Arnstein (1969, Figure 2) is a journey up a ladder from the symbolic or

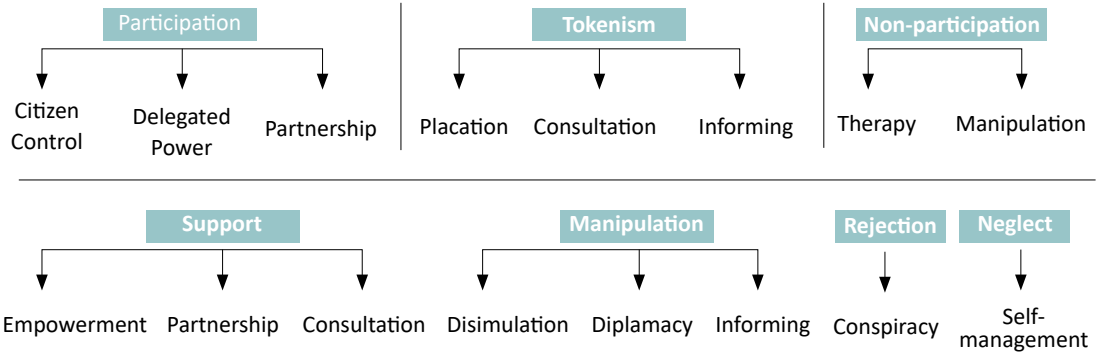


Figure 2: Arnstein's Ladder of Community Participation and Chougill's interpretation

manipulative participation at the bottom to influence and control at the top. The goal of community participation is to deliberately include the excluded in the political and economic processes of the city and empower them. Chougill (1996) observed that the poor, who largely managed by themselves and had no control over State resources, were clustered at the base - to empower them, creative partnerships and democratization is required.

Community organization: Community participation is also a process of bringing people together as organized groups and collectives. Bass and Avolio (1994) observed that groups are formed through a step-by-step and cyclical process. Groups generally navigate four serially linked stages: forming, storming, norming and performing. Forming is when groups start to associate, build mutuality and develop collective confidence. They storm through a contentious process where they examine diversity of needs, ideas, perspectives, solutions, and build consensus on the rules of group engagement. As groups mature, they develop norms and protocols, and co-plan solutions. In the end, the groups are empowered and capable of working towards their goals with flexibility. The four-staged process repeats as groups encounter new problems or people. Group leaders need various skills to facilitate, build solidarity, resolve problems and conflicts, achieve common task and functions not realizable individually, and manage internal and external pressures, tangible or unconscious needs of individuals and disruptions (Adair, 1984).

Community needs: Human needs are an important reason for people to organize. Maslow (1943, 1954), bracketed such needs into five types, bound in a hierarchical sequence (Figure 3). Physiological needs for food, sleep, water etc. are basic to survival and at the base. These must be gratified before moving to the next levels and to self-actualisation.

Table 1: Maslow's Hierarchy of Needs

Level of Needs	General Rewards
Physiological	Food, water, sex, rest
Safety	Safety, security, stability, protection
Social	Love, affection, belongingness
Self-esteem	Self-esteem, self-respect, prestige, status
Self-actualisation	Growth, advancement, creativity

Basic Physiological Needs	Safety Needs	Social Needs	Self Esteem Needs	Self-realisation Needs	Maslow's Needs Theory
1st	2nd	3rd	4th	5th	
Hunger, Thirst, Sleep etc.	Security and protection from danger	Belonging Social activity Love	Self-respect Status Recognition	Growth Personal development Accomplishment	Adair's Functional Leadership Model

Figure 3: Interaction of Needs: Maslow's Needs Hierarchy represented graphically by Adair

Alderfer (1969) observed that needs were not necessarily serially linked and satisfaction of one was not obligatory to activating the next need level. Adair (1984) tested the needs theory on groups, concluding that groups have needs that overlap and reinforce each other, enhancing motivation especially when community needs get satisfied.

Community leadership: Leadership is contextual (Hughes et.al.1993). At the community level, leaders must have the knowledge, think and act decisively, be articulate, empathetic and persevering (Seaman, 1981). They must be able to define goals for the group and strategies and tasks to attain them (Adair, 1984). They can be grouped into four types; legitimisers, effectors, activists and the general public (Rossing and Howard, 1992). *Legitimisers* are those that have influence. They are not actively engaged on the ground, but their approval is needed for any community action. They can occasionally become gatekeepers and prevent change. *Effectors* are active decision makers and actively engage in the ground work. *Activists* are doers or connectors. They mobilize, spread information and provide the critical mass needed to be a pressure group. The *General public* is the fourth group of community people who have no overt participation, but support the action.

Community leadership, theorized Andreson (1998), is a transformative process. It requires (Figure 4); envisioning - imagining what can be; planning action and resolving conflicts; teaming and allocating roles and responsibilities and motivating people to act; evaluating achievements; and rethinking the vision. Since urban slum communities have no history and few shared values, goals or place ownership, community leaders must manage the pluralism to create trust, build consensus and be flexible.

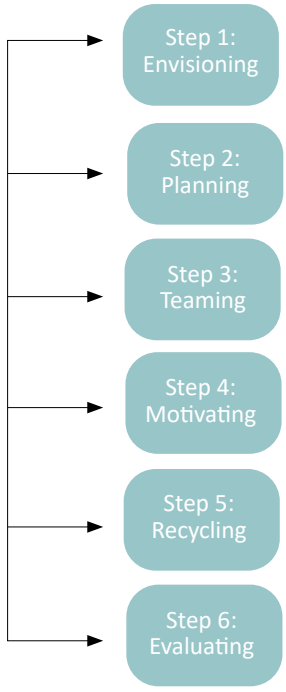


Figure 4: Process of community leadership

Community leadership empowers women: Community-led development empowers women. Women's empowerment, says Rowlands (1997) is complex and takes different forms and 'spaces' in their lives. It includes "*a consciousness-perception about herself and her rights, her capabilities and her potentialities, awareness of how gender and socio-cultural and political forces affect her.*" Empowered women have higher self-confidence, esteem, agency, sense of self and dignity. Women who participate in communities develop a sense of belonging, collective agency and group identity. Personal empowerment can be as small as being able to leave the house and neighborhood unaccompanied, to something bigger such as negotiating for their rights with the city. Nevertheless, women's leadership in community work has transformational powers of elevating their capacities, agencies and potential beyond the everyday drudgery of household care work to driving awareness, mobilization and positive change in community living.

Re-contextualizing study objectives

This study of women's participation and leadership was undertaken in 2002. Its purpose was to understand the organization, mobilization and planning processes underpinning community-led development; in particular, the personal, situational, environmental and institutional determinants to women-led community development. The present paper has thus revisited the study with the objective of identifying lessons for the current urban programmes - improving their efficacy to localize, include and deliver sustainable urban solutions. It is aimed at strengthening community processes under urban missions such as the Swacch Bharat Mission, SMART City Mission, and Jal Shakti Mission.

METHODOLOGY

This paper is based on an empirical research with a qualitative approach to data collection. Secondary data published in books and government reports was used for sampling and comparisons. The data was generated from slum communities and slum women leaders from three cities– Faridabad and Gurugram in Haryana, and Jaipur in Rajasthan. The cities and states were chosen for their high rate of urbanization, slums, and their prevalent gender inequality.

Sample

Data was collected from 102 UBSP women leaders from urban poor communities in the three cities. A participatory process was used to select leaders in the sample - community women itemized preferred leader traits and then picked women who they deemed fit as community leaders.

Tools

Several tools and tests were used in the study to understand community organization processes and community leadership by women. These included Participatory Learning and Action (PLA) tools, Focus Group Discussions, Muthayya's Multivariable Personality Inventory (MPI, 1973) and Murray's Thematic Apperception Test (TAT) adapted for Indian contexts by Prayag Mehta (1969).

PLA tools[3] collected data on change, challenges, motivations, task performances. The MPI assessed community leader personality traits - dominance, dogmatism, self-confidence, empathy, need achievement, introversion, neuroticism, ego ideal and pessimism. The

[2] MOUA&E. UBSP-MIS General Tables-GC8. Management Information System for UBSP. Volume II. Proposals for the State Level. New Delhi, 1994.

Table 2: Total number of UBSP projects and respondents in the study[2]

Variables	Faridabad	Gurugram	Jaipur	Total
City population (1994)	771312	145158	1657984	
Percent population in slums in 2001	35.8%	19.7%	29.9%	
UBSP beneficiaries reported (City Reports, 1994)	40000	20000	40000	
UBSP coverage as percent of total slum population	18.2	75.2	12.0	
Projects in the study	6	2	4	12
Women leaders	50	30	22	102
Community organisers	5	1	1	7
Family members	50	25	23	98
Neighbourhood group meetings	8	2	1	11

TAT was adapted to urban-poverty-gender context and measured community awareness and need for improvement, influence and collective action. Schubert's Participation Empowerment Index was used to score level of community participation.

Statistical tools used to test correlations and significance were; Central Tendencies, Hypothesis Testing of Difference between Proportions (z score); Pearson's Correlation Coefficient and Rank Order Correlation; and Regression analysis.

FINDINGS AND DISCUSSION

The findings are presented in three sections; community leader context, leader types, and community organization processes. The purpose of this phased narrative is to analyse the interconnectedness of the findings and draw and discuss associated conclusions.

Being urban, poor and a woman

Development data is a clear indication of gendered socialization in India. Life expectancy at birth for girls is lower (61.97 years) than for boys (63.41 years 1986-91); fewer girls are literate (F: 64.6%, M: 80.9%, Census, 2011); girls get less food to eat or health care; more girls die in infancy than boys (F: 36, M: 33 per 1000 live births); more women suffer from anemia (15-49 Years: 53.1%) than men (22.7%; NFHS, 2016); fewer women compared to men are at work in the organized sector (M: 331.9m, F: 149.9m), but outnumber men in the informal sector (M: 17.7%, F: 40.4%, Census, 2011); fewer women participate in household decision-making (84%, NFHS, 2016); and outrages against them are common. Of all crimes against women, dowry deaths comprise 3%; eve teasing, 25%; and rape, 11.5% (Crime in India 2016, NCRB). While statistical in nature, the data strongly exposes the health, education and occupation based, and social exploitation that encircle being a woman in India, especially for those hailing from poor economic and highly traditional backgrounds. According to Bumiller (1991, p11); "*the… tragedy for women (is) their profound powerlessness to control any aspect of their lives. (They) do not have the right to decide if they desired to study and how far, who they wished to marry and when, how many children they wished to bear, or whether they could seek employment and if so, what particular job could they undertake*."

[3] PLA Tools: Community Resource Mapping, Family Tree, Daily Routine Diagram, Trends Analysis and Problems/Events Analysis

Being poor and living in cities without access to basic services exacerbates women's disadvantages. Data disaggregated for urban, gender and poverty from all sources (GOI, 1994; NFHS, 2016), confirmed lower achievements for the city's poor on all development indicators compared to all city averages; immunisation, birth weight, primary education, nutrition and access to basic services.

Slum living: no time for community engagement

Life in overcrowded, under-serviced and illegal slums without toilets and with dirty drains, festering trash and poor quality water is a challenge. It strips dignity off the poor woman. Simple routine tasks for her become acts of drudgery and conflict. Much of her time is spent collecting water from shared stand posts (and dealing with fights over sharing), using community toilets or defecting openly, commuting, getting ration, going to dispensaries for treatment, etc. While the poor may earn much more in towns, their work is informal and insecure. High living costs have pushed women to work outside the home, adding to their childcare and house work responsibilities. One in two women in the study worked; had set up schools or tuition centres, cooked and sold food, tailored clothes, managed provision stores, were domestic helpers, etc. Cities had no requirement for her traditional farming skills, and as she was not too educated, she received less pay. Consequently, very few found time for community work beyond their double burden of labour – of domestic/ care giving work and that of earning additional income to keep their families afloat.

Who becomes a community leader: The leadership ecosystem

Women who contribute to community improvements are easy to spot. They have smaller nuclear families; are young, literate, and school their children - both girls and boys. They have a long history in the settlement and strong, durable social networks. Many run small businesses, have higher risk appetite - borrowing money for businesses and building assets. Personal income enhances their agency, voice and sense of self. Access to social credit strengthens their position to mobilize and organize further, as is reflected in their work in the community.

Community leaders, it was observed, have some innate abilities that are nudged by a defining life moment - a childhood trauma, marital violence or death, abuse, or are inspired by some role models. Family and community support helps women find the time to help people – such as accompanying them to city offices, trouble shooting, counseling, etc. They become better time managers and delegate tasks. Over time, they sharpen their community engagement and organization skills. Every success on the ground enhances the communities' trust in them and their credibility, which grows when they share information, create space for active discussion and plan collective action.

The process of becoming leaders is transformative. Mature leaders become confident, empathetic and visionaries - the vision often encapsulates their own aspiration and need for achievement and influence. They diverge away from the narrow, socially constructed female archetype to become community activists - leading delegations, negotiating, raising demands for their rights and justice. Issues of such advocacy involve land tenure - preventing demolitions, domestic violence, alcoholism, illegal liquor vending. They become vigilantes and oversee shoddy construction, mobilize community resources, and take legal recourse. Most significantly, they stand up to politically influential male leaders.

Of all factors contributing to leadership in women, five emerged as most significant

in the regression analysis - how long they have been leaders, being unemployed and married, having time for community work and family income. Years of being a leader and marriage were highly significant at 1% level of significance (R square: .28); suggesting experience and being older and therefore, more mature, mobile and less constrained by their gender counts heavily in leadership. Honesty (R Square: .34, *Significant at .05 level)* and capable of influence (R Square: .34, *Significant at .01 level)* were other significant leader virtues.

Building on the community leadership typology developed by Rossing and Howard (1992), the study grouped community women leaders into three, stacking them in a pyramid form. According to the study, at the base are ***Support Leaders (SLs),*** women who support, add bulk and strength to the collective, but have little independent thinking. Next are ***Community Influencers (CIs)***, who play a definitive role but are inward looking and fenced inside the settlement. At the top are ***Emerging Grassroots Leaders (EGLs),*** at leaderships' cutting edge, with expanded boundaries and networks.

All three leaders showed high need for achievement (personal and social) and dominance on Muthayay's Multivariable Personality Inventory (MMPI). EGLs however, had greater need to influence, had confidence and were idealistic, but lacked empathy. CIs were seen as available, approachable and understanding. Trait variations across the three leader types was highly significant at 1% on Spearman's Rank Order Correlation Coefficient *r.* Together with MMPI scores on need for achievement, dominance and influence, Emerging Grassroots Leaders clearly stood out.

Facipulating collectivism

Building communities in cities is complicated. It requires a combination of facilitation (mobilizing people) and manipulation (nudging

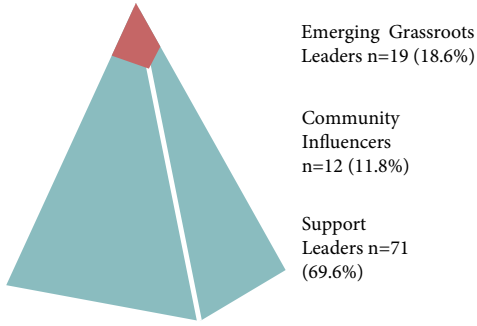


Figure 5: The leadership pyramid

them to take decisions) or *facipulation*. There has to be a sensitive balance that must be struck between the two; wherein mobilization is channeled in cognizance with central and peripheral activities of consulting, ideating, informing, resolving and decision-making collectively. Such facipulation is difficult to achieve in communities with different interests and circumstances. Existential needs, land and work uncertainty and mistrust of the other, dissuade collectivization, even when people may have shared history in the community. People would affiliate to gratify urgent needs but disperse once gratified or are left un-responded. Delayed gratification or sustained efforts for long term results are often difficult to mobilize people, patience and participation for. Unlike the exclusive and sequential stages of collectivization (Bass and Avolio, 1994, see theory), communities are loosely stitched, and may perform actions using local resources, influence decisions or resolve conflicts before they write up the rules of engagement. This makes it harder to create an expression of shared needs and co-production of solutions and strategies. Local collectivism cannot be limited to organization but must focus on organization building.

Expressing collective community needs

Community needs, as of people, grow from survival, security, affiliation to aspiration and empowerment. These can be overlaid on

Maslow's chain of needs. Survival or basic needs - water, food, shelter, etc. cluster at the bottom of the needs' chain. The second set includes toilets, electricity, etc. for a safe and dignified life. At the third level, people wish to associate and collaborate to solve problems, followed by need to enhance social capital, capitalizing on the opportunities that emerge from collectivization. In the end, communities seek power. Nevertheless, need unfolding does not need full gratification of the previous need stage and even partial success will nudge people to aspire for next-order needs. For example, as settlements improve and get water, shelter, paved pathways, they start discussing issues of safety - private toilets, pre-schools, land tenure, etc. Shoots of social needs for interpersonal connect, harmony, identity, recognition, collective power start to emerge alongside safety needs.

While there are a myriad challenges to community organiation, it is precisely the potential of the chain reaction that ensues after one collective effort success– the satisfaction and empowerment of such successes lends more confidence and ambition to collective imagination. Thus, even if partial, success of collective action can have significant ripple effects in organizing for other identified need – slowly building an organized collective for negotiating future needs.

Making decisions in community settings

Community leadership and decision-making, theorized by Andreson (1998), follows a six-step process as discussed above. However, in this study, community decision-making was found to navigate a much more elaborate route (see figure 7). It begins when leaders engage with people - influencing, building trust by realizing small goals. They support and inform people by sharing information so that they make informed choices, and lead delegations

Basic Physiological Needs	Safety Needs	Social Needs	Self Esteem Needs	Self-realisation Needs	Maslow's Needs Theory
1st	2nd	3rd	4th	5th	
Hunger, Thirst, Sleep etc.	Security and protection from danger	Belonging Social activity Love	Self-respect Status Recognition	Growth Personal development Accomplishment	**Adair's Functional Leadership Model**

Collective Needs of Community Women from Urban Poor Settlements					
Survival Needs	**Security Needs**	**Affiliation Needs**	**Aspiration Needs**	**Empowerment Needs**	
Basic physical needs of water, shelter, paved roads	Access to health, nutrition and other social services; Private toilets and electricity connections; Community cleaning, drainage; Land tenure and regularization; Security gates	Postal services; Communal harmony; Settlement of disputes by community associations/ women leaders	Improved literacy, skills for employment; Identity Cards for women leaders	Empowerment through association with women's organisations; Resource mobilisation	**Collective Community Needs Model**

Figure 6: : Collective Community Needs Model

to demand their rights with a clearly charted path. They work towards implementing civil works, supervising or overseeing these, planning, evaluating, and recycling. Planning is a higher order task that may come down the value chain.

Community agency manipulated by local government

The goal of community participation is to empower women to take formal decisions, participate in local government, and complement municipal resources. Formal systems (policies) and structures (committees) are needed to enable communities to participate in local planning and enable such integration. However, governments' reluctance to engage with people and tendency to decide for them, ensures participation becomes co-option and paternalism, or manipulative as says Arnstein. Such groups behave and travel differently on the Participation Ladder - straddling various rungs simultaneously, moving up and down the ladder depending on context and strength of their sub group affiliations of kinship, street, state, language, religion, caste, occupation, gender, politics, etc. and exiting on need gratification.

Weak agency can be measured using Schubert's Community Empowerment Index (1990), and its three metrics: functionality, intensity and extent. Functionality related to user participation - in distribution, maintenance, implementation, planning or total management. Intensity measured depth of engagement - information, consultation, decision-making, or informed action. Extent measured its breadth - just leaders to women's groups, all interest groups or every household. Community groups in the study were barely empowered, scoring an average 13 of 96.

Such poor levels of empowerment make it even harder for communities to be strong negotiators with their governments. Governments are easily able to manipulate, neglect or reject communities that have weak affiliations, paying little attention to community plans and delivering a standard shelf of services as per legacy practice. And since these interventions did not serve people's real needs, they remain un-used, un-durable, un-owned. The obligation to maintain services stays with the State.

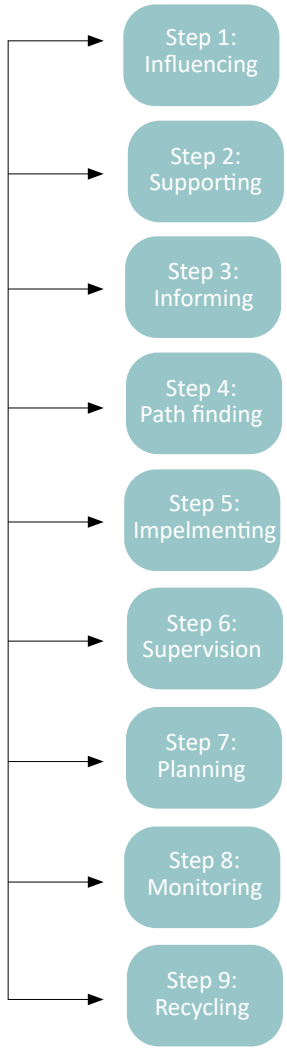


Figure 7: : Cycle of community leader's decision making

CONCLUSION

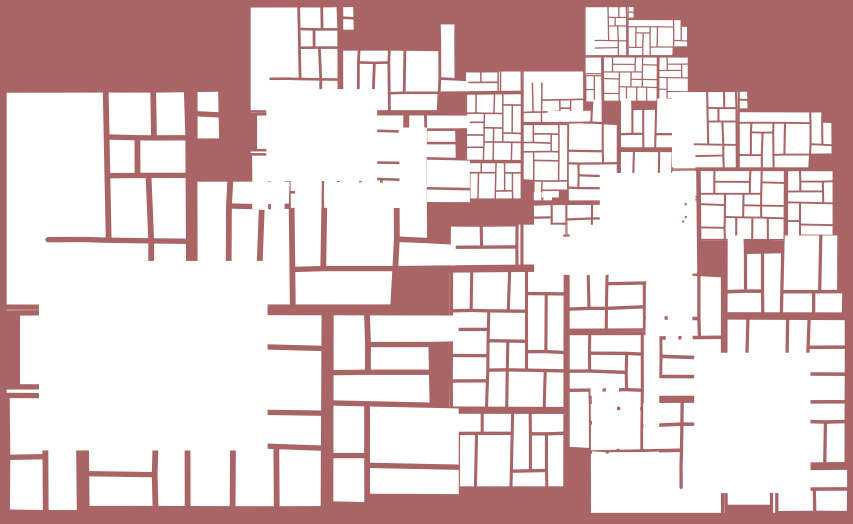
Community groups emerge from the lived experiences of people and the normalised social structures, relationships and networks embedded within their societies. Social networks and affiliations that unfold from shared regional, linguistic, religious, ethnic, gender, economic, geographical, political connections, and good quality and quantity of social interactions, produce a profound effect on people's well being. It gives them a sense of identity and common purpose, access to information and resources that can be invested in the development of their communities with solutions that are local and owned. It creates reliable and strong social capital, solidarity and reciprocity.

Women's experience of poverty is profoundly different to that of men. Increasing feminization of poverty makes women's engagement with the city even more vital to their integration within the local and national planning frameworks. Organizing and investing in women and their collectives drive significant and larger outcomes in social transformation. It raises productivity, promotes more efficient resource use, produces significant social returns, improves child survival and reduces fertility with considerable intergenerational payoffs. The most significant outcome is poverty reduction. Poor women living in slums are capable of being collectivized, organized and nurtured for local participation. They can play an instrumental role in creating an environment or the kind of state of mind in the community, where people become aware of their obligations and their rights. They can hold communities together and help them define and articulate their most cherished values and goals. Women are key integrators of society at logistical, infrastructural and behavioral levels. Their dexterity in shouldering care work along with economic and community work instills the potential of great leadership in them, for care is fundamental when envisioning and planning for an inclusive community. Care thus, needs to be the premise of urban planning and implementation too.

The process of community organization needs a sustained experience that creates trust, knowledge and produces solutions for change. Continual efforts, premised on participation, produce long-term memory, community data and local context that ensure sustainable development. Just the way iterative public narratives of gendered discriminations prevail in public memory and consciousness, iterative public narratives and actions of participatory planning led by women have the potential to change such dated beliefs. Collective efforts of such organizations can demand an accountable State, and ensure government resources reach their settlements, and to the most vulnerable within. Women leaders can change the way cities are governed.

Community transformation needs both, individual and collective empowerment. Individual change is the basic building block for community change, and transformation happens when needs become a collective aspiration. Improved self-esteem and security of individual women can help them overcome their biases, distinguish between present and future goals, and individual and collective interests. Its architecture must begin in the street, of small, localized, informal groups and shared pains. Street groups must build their own information base, local leadership and a way of working that manages diversity, biases and agendas. Small street group associates at the settlement level become repositories of knowledge and rights consciousness. Gender inclusive and federated at the ward and city level, they gather the critical mass to enforce an accountable State; this is key to community change.

AGENCY, ASSETS & INFRASTRUCTURE: GENDERED HOUSEHOLD DECISION MAKING IN SAVDAGHEVRA



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ABSTRACT

The ability to make choices, based on agency and not coercion, is the fundamental exercise of one's rights and civic presence. However, choices are rooted in socio-historical conditioning, which result in the favoring of certain groups to hold positions of decision-making power while some remain entirely absent or exercise their choices passively. Women, particularly from socio-economically disadvantaged communities, remain one such categorically excluded group. Their inability to make household decisions amplifies gaps in access to resources and basic services such as toilets and sanitation infrastructure. In the larger context, the exclusion of women from decision making positions strengthens a planning and governance system skewed towards men.

Premised on a theoretical framework analyzing access, agency and achievements, this paper illustrates the findings of a survey conducted by the Centre for Urban and Regional Excellence (CURE) in the resettlement colony of SavdaGhevra that investigated women's household decision making powers across different decision types. With a focus on toilet construction, it explores the economic and social barriers to decision making, and indicates the importance of asset ownership as an essential strategy to enhance women's decision making powers at home and beyond. The paper hopes to also inspire thought and action against the embeddedness of gender biases within policy itself, and towards the role civil society can play to address the gaps in policies and

[1] This article is extracted from the findings of CURE's report 'Agency, Assets and Infrastructure: gendered household decision making in Savda Ghevra' and Project Evaluation Report 'Platform for Resettlement: CURE's adaptive approach in Savda Ghevra' submitted to Sir Dorabji Tata Trust in 2017.

programmes aimed at enhancing access to sanitation and women's agency.

INTRODUCTION

Women's position in any society represents its index of civilization (Titus et al., 2017) and it is only through their full participation, along with those socially marginalized, that true development is realized (United Nations, n.d.). However, despite the overwhelmingly high contribution of women's unpaid labour to households and the economy, they are hardly empowered to participate in or influence decision-making processes. Furthermore, for these contributions, neither are women paid nor are these contributions accounted for in the national income (WEF, 2015) – perpetuating their socio-economic isolation, which in turn deter them from positions of power and decision making. It is a wicked problem.

Decision making comes conditioned with history which is saturated with inequality, just as it is with opportunities. Thus, when a wicked problem is linked to gender and basic needs such as water and sanitation, which are innately linked to women, their marginalization unhinges a negative domino effect on their individual, household and national wellbeing.

What influences a household's decision to construct a toilet? The dominant motivations would include improved familial health, reduced chances of sexual harassment of its female members, and reduced time and money spent to go elsewhere. This insight is the premise of the present study conducted by CURE in SavdaGhevra, a resettlement colony in the western periphery of Delhi.

The premise above has also inspired many awareness campaigns, one of the most large-scale ones being the Swachh Bharat Mission launched by Government of India in 2014. However, the mission's approach, like most State led interventions, focused on availability (of toilets) and operated on the presumption that households make decisions in a utilitarian manner, weighing benefits against costs to arrive at informed decisions.

Such an informed decision-making process rarely occurs. The access to resources including Water, Sanitation and Hygiene (WASH) are governed by social relationships (Kabeer, 2005). Household decisions are far less informed by social or economic rationale, but more dictated by the control of certain members over resources. This control is a gendered category and based on social norms. The benefits of a toilet at the home largely accrue to women. However, as this paper argues, women have little control over decision making in households over most purchases.

Tangentially, the study explores whether or not the acquisition of toilet or water connection, or other assets, enables women to take control of more household decisions and also have more time to pursue income generation. The idea was to gain insights on the enablers and barriers to decision making, allowing us to build upon the common articulation of the cost and benefits of toilet adoption in a gendered manner, and also target barriers to equal decision making. Through this, the study aims to inform government and civil society led sanitation interventions that contribute to immediate and strategic outcomes for women and marginalized communities.

Theoretical framework: Assets, Agency and Achievement

Why households?

Women are most visible at home and the meanings and outcomes of their choices are physically located at the household – making it a useful site of study. Gendered ascriptions perpetuate power inequalities in the family system (Titus et al., 2017) such as gender-specific division of labour, access to resources, and decision-making power.

Multiple studies (see Bala, Moorti, and Sharma, 1993) show that women's role in decision making remains only supportive in nature for most decisions. Despite the household being often considered as the territory of women (UNCCD, 2006), they are considered less competent to participate in decision-making processes (Minaxi and Lopamudra, 2000), and in most cases may initiate but may not execute major household decisions (Baliyan, 2014). It is in this context that the question of what influences a household's decision to construct a toilet must be studied.

Power to make decisions – a triumvirate of balance

Studies, including the present one, have explored multiple factors such as women being married or not (Jan and Akhtar, 2008), education levels, parity, income (Biswas et al., forthcoming) and their effect on women's decision making power; the dominant findings and reality across all factors suggest that decision making power remains with men. This recurrent finding indicates the need to explore decision making as a combination of two aspects – 'welfare weight', i.e. the extent to which a household member's preferences are reflected in household decisions – and social norms that influence the exercise of that weight (Afzal et al., 2016).

Using the 'welfare weight' as a vantage point to evaluate equal (or the lack thereof) weight of preferences between spouses helps the study exhibit power relations that shape choices and opportunities available in decision making (Mosedale, 2005). It naturally integrates into Kabeer's work (1999) on power, which the study found to be a suitable framework for unpacking the gendered components influencing decision making.

Kabeer crucially suggests looking at power in the context of one's ability to make choices. The process of decision making can be understood as involving two components. The first refers to the possibility of another alternative; decisions necessarily involve the possibility of choosing otherwise. Implicit in this is the assumption that different choices have different consequences on the lives of different people. Kabeer goes on to position the decision making process within an interdependent and interactive three-point framework which guide decision making within households and in fact, gender at large:

1. **Access** to resources or assets, or the conditions under which choices are made. Here, resources include the material resources upon which decisions can be executed, as well as social and cultural resources that influence the distribution and exchange of value.
2. **Agency** or the process through which choices are made. Here, agency includes collective, as well as individual. It incorporates all forms of negotiation and analysis; bargaining, deception, denial, manipulation, subversion, resistance and protest.
3. **Achievements** or the outcomes of these choices.

However, the debate around gender and household decision making calls for attention to the differences between the inequalities within women's capacities to make choices as opposed to the choices that they actually make. It is unlikely that all household members place equal value on the mode of 'being and doing' (Sen, 1999) with regards to choice. It is thus important to distinguish, for example, the differences in preference for the infrastructure itself, from the denial of choice for that infrastructure among women. There are also larger articulations of complex gendered familial interactions and wider gender relations outside the household that shape the same, which formal frameworks of household studies incorporate limitedly.

The framework thus opens up more complex

questions in the manner in which it links power and choice. Human experiences, including the experience of one's gender, are varied- the iterative behaviours and practices of which embed themselves in social cognition (Fade, 2004). In simpler words, women will believe they are inferior if they have been told and treated so that way for a long time. Such cognition of subordination, along with active discrimination by those in power, i.e. men, make women more prone to making sacrifices and deny their own needs in the interest of their home (Titus et al., 2017).

How can choice be understood in this context and what does it tell us about agency in a context constrained by power?

Particularly in the decision of toilet construction, it would be useful to consider that choices are motivated by interests that are self-evident and conditioned by daily routines, which are also intensely gendered. As households condition gendered norms, they also affect individual characteristics to decision making among women. Along with norms curtailing their ability to make decisions, they also dictate which decisions can be made by whom, and who bears the responsibility of executing the tasks.

One of the most significant divides between men and women is that of sanitation and hygiene, particularly in developing countries. Despite their driving role in providing and managing water, sanitation and hygiene at home, women's participation in decision making processes regarding toilet construction, access to WASH infrastructure and programmes remain curtailed by social barriers (Routray et al., 2017; Dankelman, 2009). Research from India overwhelmingly confirms that decision-making power, in terms of infrastructure, rests with male household members, however their maintenance and use are expected to be borne by women (Wijk-Sijbesma, 1998). There remains a literature gap in the contexts of women's agency within households, their contributions and the household dynamics that influence toilet construction. This has also rendered policy inadequate in targeting direct factors of household decision making like enhancing agency and asset control by women rather than just awareness generation.

METHODOLOGY

Sample and data collection

This paper is based on a survey conducted by CURE in SavdaGhevra. A total of 338 households were surveyed using a 10% sampling rate over three groups:

- Households with toilets connected to the Cluster Septic Tank (CST) and Decentralized Waste Water Treatment System (DEWATS)[2] designed and built by CURE;
- Households with a toilet but not connected to the CST-DEWATS;
- A control group with no toilets.

This paper has been extracted out of the edition of the study report that finally utilised data from 296 households, as information was verifiable for only these data points.

The survey questionnaire was designed by CURE and received support in design and implementation from Jagori and Suneeta Dhar. The survey was complemented by a series of Focus Group Decisions conducted separately with women, girls, men and boys at the study site. The insights from both processes were triangulated with relevant theoretical and statistical data to arrive at informed conclusions.

[2] The CST and DEWATS system is a simplified, or de-engineered, sewage management system constructed by CURE in block A of SavdaGhevra. It involves a dual septic tank system which manages the solid waste and a gravel and reed bed filter to manage the liquid waste. It has been designed to handle the waste of 322 households.

The primary data collected also underwent the primary analytical tool used for this study- the Gender Decision Index or GDI that is explained below in relevance with the Findings section.

Study site

SavdaGhevra is a 250-acre area near the western edge of Delhi, established in 2006 by the Municipal Corporation of Delhi (MCD) as a Jhuggi Jhopri Resettlement Colony. The colony was made to house residents being cleared out of bastis (informal settlements) city-wide. Located in an agricultural area adjoining the villages of Savda and Ghevra, and surrounded by farmland, the colony consists of 8,686 plots. Its gridded blocks of mostly pukkah (concrete) homes, built up to three stories, are home to an estimated 46,000 residents.

CURE has been present in SavdaGhevra since the first months of the colony's formation in 2006, and has been formally working in partnership with the community since 2008 on issues of livelihood, WASH and civic participation.

FINDINGS

A 'Gender Decision Index' – investigating agency

The primary analytical technique utilized in this study to characterize disparity in household decisions is the 'Gender Decision Index' (GDI), which attempts to track the 'welfare weight' of female members of households. The study survey asked households a total of 60 questions across a range of aspects that household members take decisions regarding. These included aspects such as appliance and asset purchases, water and toilet decisions, and control over money.

The GDI is a simple metric which reflects the proportion of decisions taken by women in a certain category. For example, if women took 30 out of the 50 decisions within a certain category, the GDI would be 60%. Households where all decisions are made by females will have a GDI of 100%. Households with no decisions made by females will have a GDI of 0%.

The index, however, only approximates the control of females over decision making and does not account for social norms where females frequently make decisions for the betterment of others. Nevertheless, it serves as a useful indicator when viewed comparatively between households and types of decision. Larger community discussions during the data collection and validation also helped offsetting the GDI's limitations in capturing subtler power play.

Basic profile

Out of 296 households in the sample, the study found 191 had toilets and 224 had water connections. The income-wise distribution of households with toilets (blue) versus households without toilets (red) is represented in the histogram (Figure 2) below.

The clustering of households without toilets between incomes of Rs 5000-8000 indicates that partially, the barriers to toilets is income

Appliances Fridge, Fan, Bed, TV, Computer, Iron, etc	**Toilet** Toilet at home, type of Construction etc.	**Water** Decision to get water at home type of connection etc
Household expenditure On everyday items such as food, mobile bills, cosmetics	**Bank and assets** On large financial decisions such as bank tranfers, taking loans, managing assets.	**Social** Children education, marriage, permission to work

Figure 1: GDI to quantify agency – aspects covered

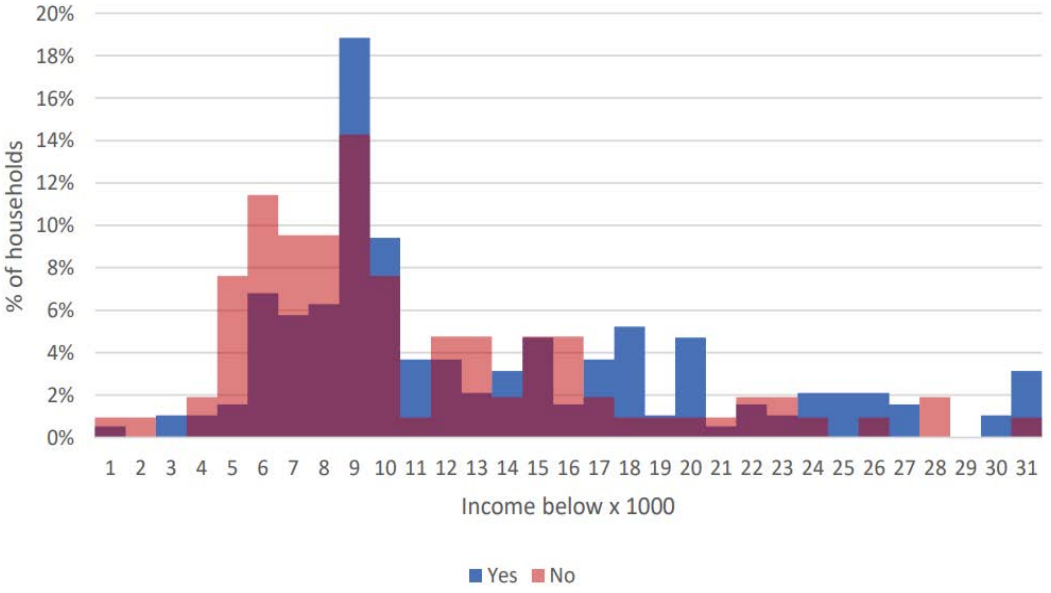


Figure 2: Income wise distribution of households with and without toilets

based. However, while the mean income of households with toilets was slightly higher (see Table 1), there remained considerable overlap between the two distributions. Nearly 27% households without toilets had incomes exceeding the average of households with toilets. A staggering 60% households without toilets earned above Rs 9000 or the mode of income for households with toilets. Thus, the barriers are clearly beyond income alone.

Further, when disaggregated based on female-headed and male-headed households, households headed by females reflected higher incomes. Although this may potentially be due to multiple incomes, as there is a higher likelihood that the female head of the household also worked. This is indicated by the higher percentage of female income on average in female headed households, but also the incremental difference between

Table 1: General household characteristics by toilet ownerships and gender of head of household

HH Income			Female Income	Female Income %
Toilet	**No**			
HoH	Female	11888.89	2648.15	21%
HoH	Male	10540.38	1664.74	12%
	N Total	10887.14	1917.62	15%
Toilet	**Yes**			
HoH	Female	14522.00	2266.00	16%
HoH	Male	13368.79	1407.80	9%
	Y Total	13670.68	1632.46	11%
	Total	12683.28	1733.61	12%

female and male headed households is similar to the jump in female income.

There exists a general impression that working outside the home improves women's abilities to participate in decision making activities (Gopal and Shobha, 2012). The study however, found that broadly, households with toilets reported higher incomes, but housed a lower share of female income. This may be due to households with high income discouraging women to work when there is no 'need' for additional income. Such conditions reflect the patriarchal premise of income generation as one of necessity rather than building a sense of self and civic presence among women.

Studies exploring women's access to and control over resources and economic decision-making power show that educated women fare better than uneducated women (Mehta and Saraswat, 2014; O'Neil & Domingo, 2015). However, there are limits to education as a route to empowerment because education inspired changes are also likely to be conditioned by the context and social relationships that it embodies or transforms (Kabeer, 2005).

Broadly, the study found that toilet ownership increased by the highest education level of the household. While only 49% of households with the highest education level up to 8th standard (middle) had toilets, the number jumped to 69% for households with Matriculation. However, beyond this level, the value plateaus; households with members that are 12th pass or are university attendees or graduates only have 72-73% toilet ownership. This indicates that households with education up to 10th standard have similar levels of knowledge on toilets with those beyond. To pull the statistic higher, the awareness of toilet ownership benefits would have to expand to a behavioural and practical change.

GDI based findings

Male/ female headed households vis-à-vis income

A perpetual comparison while investigating women's agency will be that between female and male headed households to discern major factors influencing decision making. While the study found relatively egalitarian proportions of households having toilets (with female headed at 65% and male headed at 64%), comparing the two show gender control in decision making. Presuming the Heads of the household would exert control over resources and therefore would be primary decision makers, one can safely assume that the female headed households will be on the upper-end of the sample. This would imply that females in those households are likely to have higher control over decision making. What may seem

Table 2: Toilet ownership by education

Highest Education level	Toilet ownership No	Yes	%Yes	Total
Uneducated	3	1	25%	4
Preschool	1		0%	1
Primary	9	11	55%	20
Middle	30	29	49%	59
Matric/High	33	75	69%	108
12 Pass	17	44	72%	61
Uni	11	30	73%	37

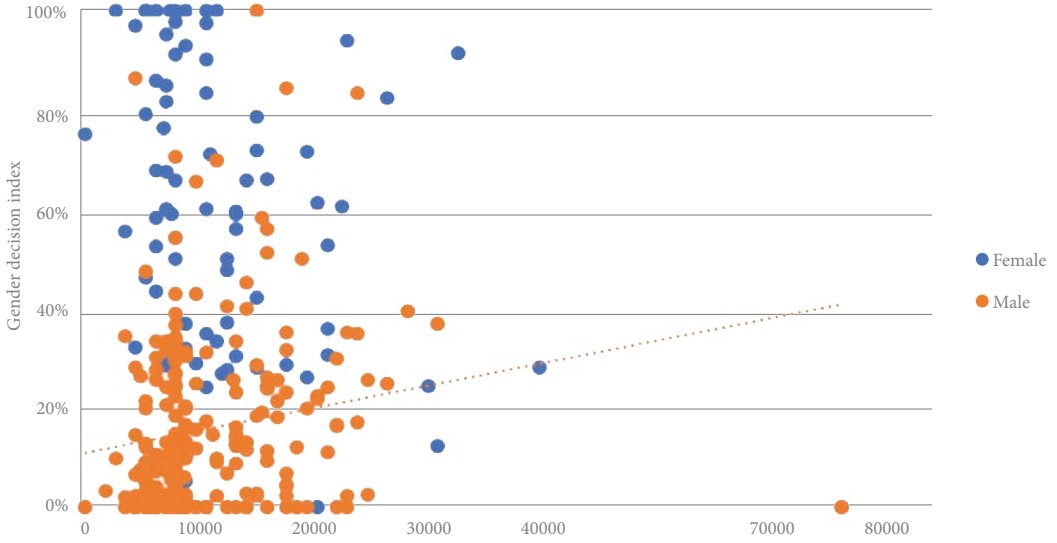


Figure 3: Gender decision index by reported income and head of household

like a benign insight is in fact quite critical.

By disaggregating the households based on female/ male headed, the study highlights the seeming upper and lower ends of gender control in decision making. What the insights move to categorically highlight is that any other factors, such as higher education, own income stream, etc. will potentially have limited positive influence on women's ability to make decisions as household heads. The female head of household indicates the upper end of female control over decision making more usefully than other variances. As indicated by the histogram distribution, there is also little income variance in the sample.

The study found that female headed households, on average score higher than males across income groups. In male headed households, as income goes up, so does the GDI, implying equalization of certain decisions in higher income households.

Decisions by category

Primary and secondary findings highlight substantially that women and men have control on different 'spheres' of household decision making (Titus et al., 2017); the long term financial and asset-based ones often accruing to men. To explore differences of decisions, and the factors directly affecting them, the study conducted a GDI analysis on specific categories. Based on an index, with aggregates across different types of decisions, the study thus disaggregates across 6 key categories:

- Overall GDI, across all decisions;
- Appliance GDI, for decisions on the purchase of a household appliance, tool or furniture;
- Water GDI, for decisions taken on water (bore well, connection etc.);
- Toilet GDI, for decisions taken on toilets;
- Household expenses GDI, for decision on daily expenditures and;
- Bank and asset management GDI, for decisions of bank withdrawals and asset management.

The study posits that categories 2-5 express different, intersecting aspects of control

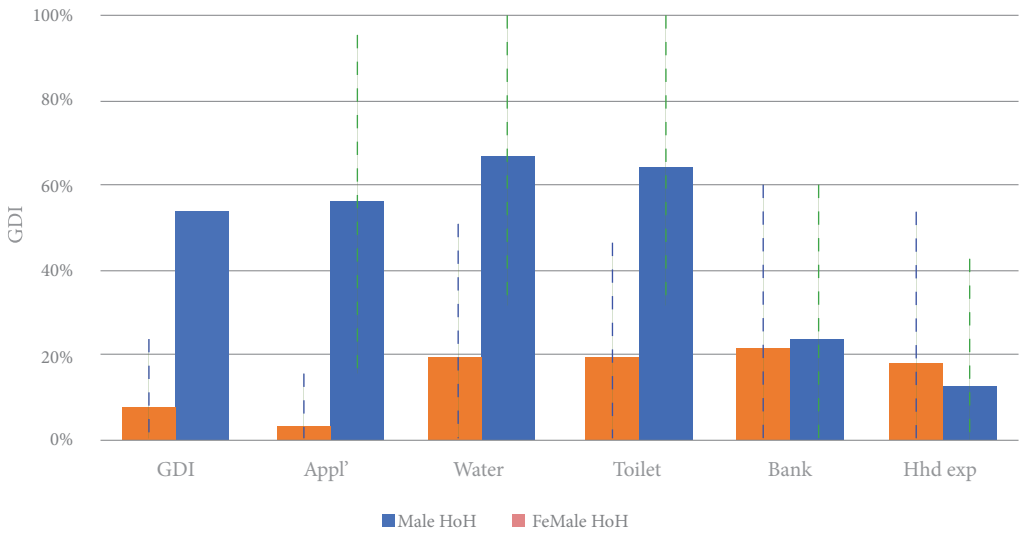


Figure 4: GDI by decision category

over household decision making. They speak across temporalities. For example, household expenses are more short term, but also rooted in habit; appliance decisions are more medium term and affected by consumer trends and desires; and bank and asset management are long term. The disaggregation of the GDI along these categories will allow us to see how *differently* gendered decisions across the categories are.

Figure 4 maps the mean GDI across households for each category. The standard deviation across the sample is indicated by the error bars. On an average, females are able to make most of the decisions in female headed households. This implies that males have more control over decisions in male headed households than females had in female headed households. This particularly highlights a socio-cultural limit to female control over decision making in the sample, and in cognizance with similar trends that have observed women's role to be most prominent in petty household issues (Baliyan, 2014) or their dependence on masculine or familial decision making (Jan and Akhtar, 2008).

Further disaggregation of the control over types of decisions found water, toilet, banking and household expenditure decisions as the categories that women in male headed households had more control over, compared to appliance purchase decisions. In female headed households, females exerted more control over appliance purchase, water and toilet decisions. A key insight that emerged was that asset and household expense related decisions did not significantly alter between male and female headed households. Therefore, despite females heading their households, the dominant reigns of control over daily decisions and asset management remained with males.

To ensure that this is not a function of averaging out change, Figure 5 reflects distribution of households with GDI for that particular type of decision. On the X-axis is the GDI of the household. For example, households with 91-100% GDI will be in the '100%' bucket, while households with 41-50% GDI will be in the '40%' bucket. In the Y-axis is the percentage of households. Triangulated with qualitative insights and compared with mean data, the

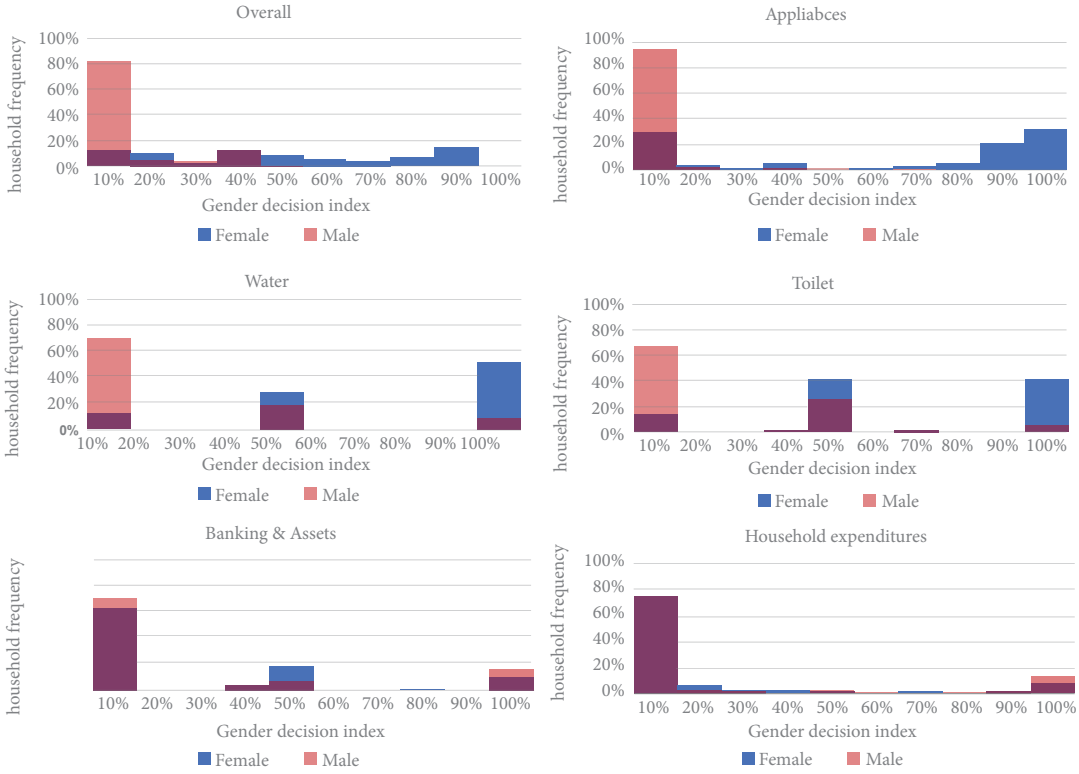


Figure 5: GDI histograms for different decision types

conclusions are the same as inferred above.

The study found the distribution was starkly skewed towards the low-GDI end for male households, confirming the trend of male decision makers holding firm control over decisions made across categories. The histograms for water and toilet indicate women had more control over toilet decisions in female headed households. 50% and 40% of female headed households have full decision control over water and toilet decisions respectively, while about 80% to 90% of female headed households secured some female input. This makes sense considering the socially normalized WASH management role that women play; thus decision making around its efficient management would logically be the priority should women have the control.

Toilet and water decisions also tend to have some female input, even in male headed households. An estimated 20% and 25% of male headed households take joint decisions on water and sanitation respectively. It would be timely to consider here Susheela, Surendra, and Phadnis's (1990) observation that the type of family was found to be an important factor in decision making, as the percentage of joint decisions was found to be higher in nuclear households, compared to male-headed joint/ extended families. Building on the same, histograms of GDI for household expenses and banking and asset decisions indicated that there was little difference between female and male headed households, reiterating male control over money matters across all households.

A comprehensive understanding also warrants

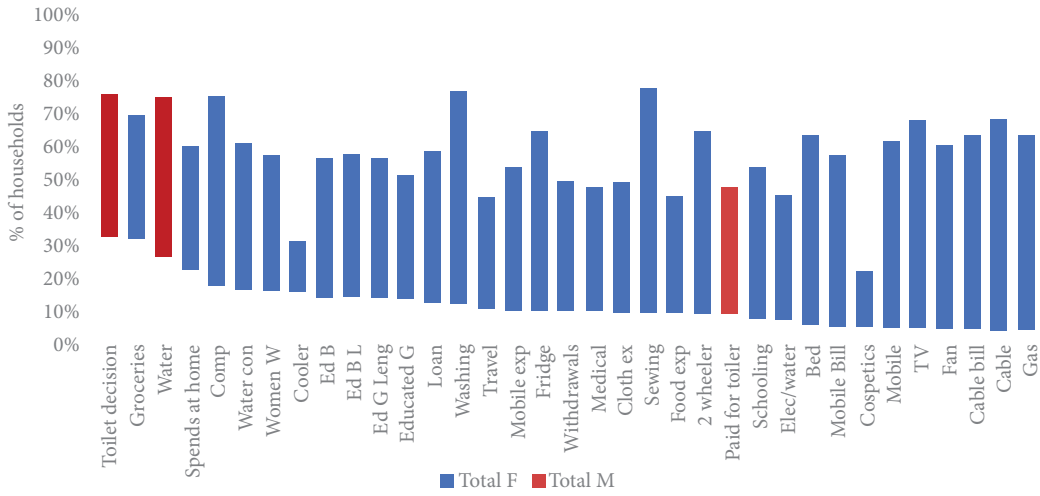


Figure 6: Differences in male and female headed households

looking at the portion of households with females controlling decisions. Disaggregated in Figure 5, the top end of the bar chart indicates the proportion of female headed households with control over the decision, and the bottom end indicates the proportion of male headed households with female control over the decision. The bar indicates the drop between the two. Among many insights, the figure indicates that toilet and water decisions tend to have high female input in male headed households. For female headed households, up to 75% have agency over the decision. However, a much lower portion (10%) of male headed households had females making decisions to actually pay for a toilet. This rises to only 50% for female headed households. Thus, while having the ability of initiating significant household decisions; women do not necessarily have the capacity to pay for the infrastructure (Baliyan, 2014).

Impact of education on GDI

Across all categories, education emerged as a positive impact to household decision making. The Y-axis in Figure 7 represents the average GDI of households at a particular level of education. Households with the highest education level of 12th pass have consistently higher female involvement across all decisions apart from water. On average, the value for university educated households is lower, however this could potentially be the function of a smaller sample available of those pursuing higher education in the settlement.

Does control over assets imply control over decision making?

The insights above nudge one to explore why females cannot replicate their decision-making powers on matters of money, the way they can on toilets or water infrastructure. Both, household expenditures, which involve the daily, habit-based handling of money and management of assets and bank account, reflect overarching male control; female headed households are no exceptions, either

Figure 8, thus, investigates into asset ownership between female and male headed households. The prefix “F” or “M” to each of the bar labels indicate differentiation between female headed households and male ones respectively. For example, “F Home” refers to home asset ownership in female headed households, while “M Land” refers to land asset ownership in male headed households.

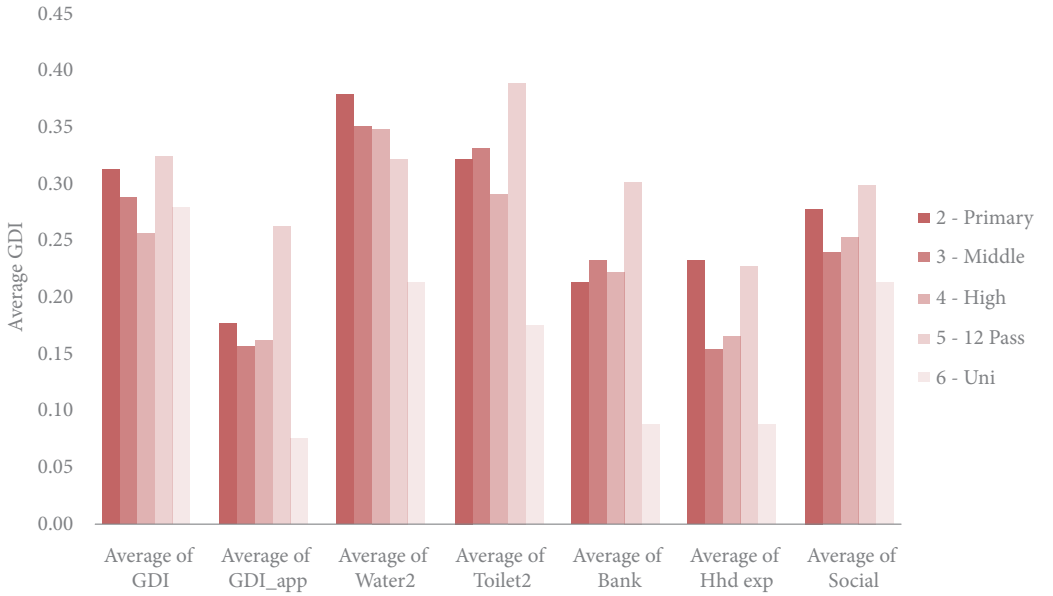


Figure 7: Impact of education of GDI

The data on the table indicates, and perhaps paradoxically, that females do have more control over assets in female headed households. Their percentage of assets reaches up to 50% for home and jewellery rights under their name, 40% for land in the village, and only 32% for vehicles. The findings also notice the rise of "joint" ownership in land, jewellery and vehicle ownership in female headed households – indicating more equality in them. In male headed households however, their ownership rates for each of the categories falls to about 10%, and joint ownership also shrinks.

While as a general pattern, males do have significantly higher control over assets, it is encouraging to note that in female headed households, female asset ownership increases. To arrive at an informed understanding of whether female control over assets enhances infrastructure access and female control over decision making, the study considers three questions.

First, how does asset ownership, and the gender of the owner of the asset impact toilet ownership? Consider the results on Table 3. The proportion of households that own toilets and that do not own the asset are indicated by the bottom most row. The rows above indicate shifts in toilet ownership depending on whether a male or female owns the asset, or it is jointly held by both.

The results show that the ownership of land is the least impacting factor for toilet ownership. Largely, it is the ownership of jewellery and vehicles that increases toilet ownership. In the case of female ownership of land, however, the factor emerges as the biggest nudge for toilet ownership – suggesting a previously identified, but poorly capitalized link by governments to enhance access to toilet infrastructure. In households where there is no ownership of the place of residence, incidences of toilets are low at 48%. In households with their deeds held by males, the share of households with toilets increases to 66%. For households with female ownerships of the house, toilet ownership is at 70%, or an increase of 46%

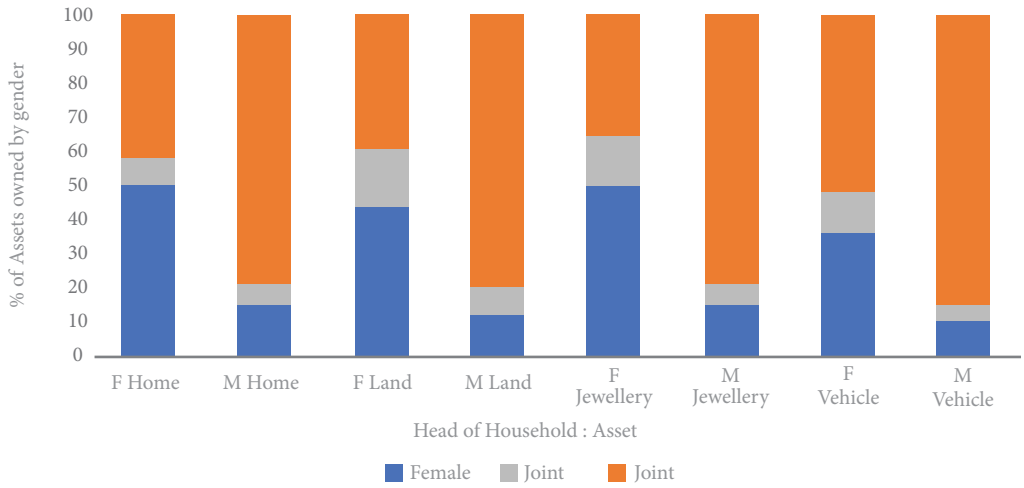


Figure 8: Asset ownership by gender in male and female headed households

from households without deeds.

Second, does the ownership of household toilets or water connections increase female decision making in households; and does it increase overall female income? Along with the GDI metrics used in the previous section, the study also investigated impacts on household income, female income, share of female income, and gender decision making on social issues. Table 4 summarizes the results.

There is a clear prevalence of toilets and water connections in households with higher incomes. A curious finding emerges– while female income is higher in households with water connections than those without, the opposite is the true for toilets; households with toilets on average have lower female income. Income differentiations are not significant enough to fully explain this. A possible explanation may be socio-cultural limitations to women pursuing jobs in households that

Table 3: Toilet ownership by gender of asset ownership

Land	N	Y	
Female	30%	70%	2%
Joint	41%	59%	-9%
Male	38%	62%	-6%
None	32%	68%	

Jewelry	N	Y	
Female	36%	64%	5%
Joint	28%	72%	13%
Male	34%	66%	13%
None	41%	59%	

House	N	Y	
Female	30%	70%	22%
Joint	44%	56%	8%
Male	34%	66%	18%
None	52%	48%	

Vehicle	N	Y	
Female	30%	70%	10%
Joint	27%	73%	13%
Male	36%	64%	4%
None	40%	60%	

Table 4: Table 4: Characteristics of households with and without water connections and toilets

HHD Home	**10280.28**	**13441.50**	
Female Income	1301.41	1870.00	
% of Female Income	11%	13%	
GDI_	24%	29%	5%
GDI_app	18%	17%	-1%
Water	35%	32%	-3%
Toilet	34%	30%	-4%
Bank	25%	21%	-4%
Hhd exp.	19%	17%	-2%
Social	14%	29%	-15%

HHD Home	10887.14	13670.68	
Female Income	1917.62	1632.46	
% of Female Income	15%	11%	
GDI_	27%	28%	2%
GDI_app	16%	18%	1%
Water	28%	34%	6%
Toilet	29%	32%	3%
Bank	19%	24%	5%
Hhd exp.	12%	20%	9%
Social	20%	28%	8%

are generally afloat.

Nevertheless, the findings indicate that water connections steer overall decision making towards more female control, from 24% to 29%. However, this is dominantly driven by an increase in control by females over social decisions from 14% to 29% - an essential enabler of women's agency. Toilets nudge overall female control from 27% to 28%, though the impact is positively spread across all categories. Crucially, these include the construction of toilets increasing female control on decision from 28-34% for water related decisions, 19-24% for bank related decisions and 12-20% for household expenditure decisions. Notably, the latter two imply incremental increase of control over money matters by females due to ownership of toilets. These also have significant relevance in participating in strategic decisions around the family's long term financial and social health; one which can also help transform the intergenerational gendered poverties experienced by women and their daughters.

Third, the study explores (in Table 5); how does the gender of asset ownership nudge female welfare and decision making in the household? The findings are largely similar across assets, as well. Female control over assets reflects positively on their incomes, while male ownership of assets reduces average female income. Most critically, the data indicates that female ownership of assets indeed and significantly boosts female control over decision making. Compared to this, joint ownership positively boosts gender decision making though to a lesser amount, while male ownership adversely impacts decision making among women.

As anticipated, the study found female ownership of assets most significantly impacts their decision making power over water, toilet and social issues. Albeit not to the same extent, but it also positively impacts decisions over bank and household expenditure. Multiple cases also exhibit that female ownership of asset, when compared to a base of male ownership or no ownership, can double decisions made by females. One of the most telling examples is that of house ownership and decision making on toilets. Female ownership of house can increase toilet related decision control from 20% for no home ownership and 26% for male home ownership to 48%, a relative increase of 140% and 85% respectively. While assets are skewed towards male households, female ownership of assets can significantly boost control over decision making and probability of owning a toilet. Toilet ownership incrementally also increases

Table 6: Household characteristics by gender of house, car, land and jewellery ownership

House ownership	F	J	M	N
HHD Income	12047.83	12833.33	12840.59	13200.00
Female Income	2917.39	2477.22	1205.65	1873.91
% of Female Income	0.22	0.22	0.08	0.10
GDI_	53%	36%	18%	20%
GDI_app	24%	21%	15%	10%
Water	45%	38%	27%	28%
Toilet	48%	25%	26%	20%
Bank	32%	25%	19%	13%
Hhd exp.	22%	22%	15%	13%
Social	55%	37%	14%	9%
Vehicle Ownership	**F**	**J**	**M**	**N**
HHD Income	11422.50	12333.33	12755.31	13228.40
Female Income	2497.50	2033.33	1104.59	2543.21
% of Female Income	0.21	0.21	0.07	0.17
GDI_	55%	46%	20%	27%
GDI_app	28%	23%	16%	13%
Water	51%	40%	27%	33%
Toilet	44%	35%	28%	30%
Bank	40%	27%	19%	19%
Hhd exp.	25%	24%	14%	19%
Social	61%	47%	16%	21%

House ownership	F	J	M	N
HHD Income	11375.93	13051.85	12579.94	14143.40
Female Income	2774.07	2200.00	1122.53	2303.77
% of Female Income	0.24	0.18	0.07	0.13
GDI_	57%	34%	18%	35%

House ownership	F	J	M	N
GDI_app	24%	24%	14%	15%
Water	45%	38%	25%	37%
Toilet	39%	41%	27%	28%
Bank	34%	26%	17%	23%
Hhd exp.	25%	21%	14%	18%
Social	64%	33%	12%	23%
Vehicle Ownership	**F**	**J**	**M**	**N**
HHD Income	13221.19	12388.89	12331.33	13065.22
Female Income	2461.86	2028.78	1122.67	2362.32
% of Female Income	0.20	0.18	0.08	0.15
GDI_	49%	42%	19%	25%
GDI_app	26%	26%	15%	12%
Water	50%	44%	25%	25%
Toilet	47%	46%	25%	25%
Bank	38%	28%	18%	17%
Hhd exp.	22%	25%w	15%	16%
Social	53%	38%	13%	24%

female control over decision making, though not as much as conventional assets. Further, the ownership of vehicles among women can increase social issues related decision making to a significant 61%, compared to a mere 21% for no vehicle ownership and an alarming 16% for male vehicle ownership. Here, it is interesting to consider the role of physical mobility in enabling other household decisions, participation outside the house, and thus social issues of concern, that owning a vehicle may provide to women.

Quantifying the barriers

It is clear that the barriers of toilet construction, particularly vis-à-vis female decision making are both, a product of economic and social conditionings. To enhance availability and access to toilets, and therefore better agency and achievement among women, subtler, ritualistic and behavioural barriers have to be planned against. However, the barrier of income or the money required by the decision maker for toilet construction is so fundamental that without its addressal, not much else is possible. How much money would it cost to construct a toilet and how realistic is its financial commitment for a household's savings?

According to the surveyed households, the average cost of a toilet in SavdaGhevra is Rs 10,500, with most toilets costing between Rs 6000-10000. Toilets help households save an average of Rs 190 per month. If households intend to finance toilet construction entirely through average accrued savings, they are looking at a mean payback period of 55 months, or nearly 5 years. Time savings would be around 30 minutes per person per month.

The average savings from having toilets at home are only 2.5% of the mean monthly

expenditure of Rs 8000. Households on average save about Rs 1000 per month. This would imply that, on average, households will only be able to construct a toilet if they were to invest *all their savings for a year*; while constructing a more basic one would require investing nearly half a year's savings. This is a significant investment for households to follow through in SavdaGhevra.

Considering such a steep commitment, the study considered what lines of credit were available to households. Most loans were available up to Rs 12,000; however the average loan was around Rs 20,000 due to a significant proportion of large loans. The most common reason for taking out loans was to construct homes, implying it was an available form of credit to these households. However, only 4 of the 80 loans taken out were for toilets, which were between 4000 to 6000 INR. The average household loan available was Rs 24,000, although most loans undertaken were up to Rs 5,000. Again, reflecting on the loans available for toilets, the credit limit for such household construction is around this limit, however more capital could potentially be leveraged for the purposes of household construction.

DISCUSSION

Agency among women, and in general, takes two forms – 'passive' agency, which is practiced when there is little choice. The other is active agency, which is purposeful behaviour that challenges oppressive structures and is transformative (Kabeer, 2005). Passive forms of agency remain prevalent among women in SavdaGhevra and settlements alike. This passivity is also embedded in policy. Policymakers continue to see the benefits of better access to water, toilets, educating women and girls, etc. in terms of improving family welfare, rather than preparing women to participate as equal stakeholders in society.

Gender inequalities are multi-dimensional and cannot be reduced to generalized priorities. By this, the study findings imply that policy and planning have so far been unequipped with sociological sophistication to address these inequalities or evaluate 'true' achievements. For example, while women pursuing waged work may be evidenced as progress, interventions need to consider the difference between women pursuing jobs in response to new opportunities or personal growth and women resigning to 'distress sale' of labour (Kabeer, 2005) to cope with poverty. Even in terms of access to sanitation, government interventions do not address ancillary activities such as integrating trunk infrastructure, enhancing women's access to assets, equalizing work opportunities and pay, etc. – which together govern the success of sanitation interventions in specific and women's decision making power at large. Perhaps it would be interesting here to consider CURE's adaptive approach to programmes as a useful lens for planning.

The adaptive approach pursued in SavdaGhevra took into account longer time scales and more strategic goals than project outcomes (Bhardwaj et al., 2017). While its core focus has been on livelihoods and building access to toilets, sanitation, and services, the implementation prioritized capacitating long-term civic participation and ancillary activities such as skill building, microenterprise development, employment diversification, etc. These ancillary activities together integrate multiple capacities for the success of strategic achievements among women and vulnerable groups. This unique approach reflects a deeply responsive and collaborative decision making processes, recognising the centrality of beneficiaries' agency in improving livelihoods and sanitation. The approach adapts to evolving needs of a community, and builds agency in a holistic manner. The depth of the approach has resulted in CURE curating extensive data on the settlement, and addressing barriers to sanitation and decision

making among women in a way even the local government has been unable to.

Perhaps it is this iterative, strategic approach that should guide the inception, implementation and evaluation of development interventions. For this, local planning must bring in grass roots organisations that sit on expansive knowledge about the communities they work with, and have dedicated years to understand. The contextual and granular data they hold would be essential in informing interventions meant to enhance women's agency at large.

Furthermore, as obvious as the futility of men holding control over decisions affecting women disproportionately is the futility of men planning policies for women. Local governments most directly affect poor communities and that recognition has lent reservation for 33% seats for women in them. Studies show that women representatives in positions of power were likely to allocate resources differently from men, implying that their presence allowed a different set of priorities to be expressed (Kabeer, 2005). This expression is indispensible in inclusive planning and empowering women with decision making power at State, community and household levels. However, the output based approach of governments and forms of institutional and political bias operate to exclude women from all societal rungs. This discussion thus brings forth an important question –

How can one empower decision making among women, if their associated interventions originate from decisions prioritized by my men at positions of power?

CONCLUSION

The study exhibits a deep disarticulation between the access to toilets, infrastructure and services, and the harnessing of direct factors that impact decision making powers essential to procure access. The findings correspond with FAO's (2010) reporting that women are less likely than men to access credit or financial services, own land, livestock, receive education or adopt new technology. These are important, ancillary resources that dictate agency and short/ medium term achievements in particular and larger and long-term gendered outcomes. Considering the direct factors that affect women's achievements, decision making power and enquiring into their distorted distribution is essential for policy to respond against.

Women's association with water and sanitation is well established, especially in developing countries. While access to toilets has implications of privacy, security, and efficiency, their larger role in WASH management makes decision making an especially important power. A woman has to walk long distances, invest time in the procurement of water, manage its utilization at home and negotiate with the wider community on its procurement, payment, behaviours and practices. She has to maintain the toilet and the upkeep of the general household sanitation level. There are thus social, financial, medical and environmental implications to positive or negative decisions undertaken, especially with regard to toilets, water, household expenditure, baking and assets. It is therefore critically essential that decision making involves equal weightage of female choice at household level with male, if not more.

There has to be an integration of women's capacities to make decisions around long term financial health, which cater to more strategic life outcomes. This integration will not be quick socially, and must be stimulated through policies and programmes adept at identifying direct and interdependent (often invisible) barriers to women's decision making in a holistic manner. It is critical to expand the scope, timelines and strategies of government campaigns and interventions beyond the social benefits of toilets, and towards enhancing

women's agency through ancillary, financial, and asset based capacity building.

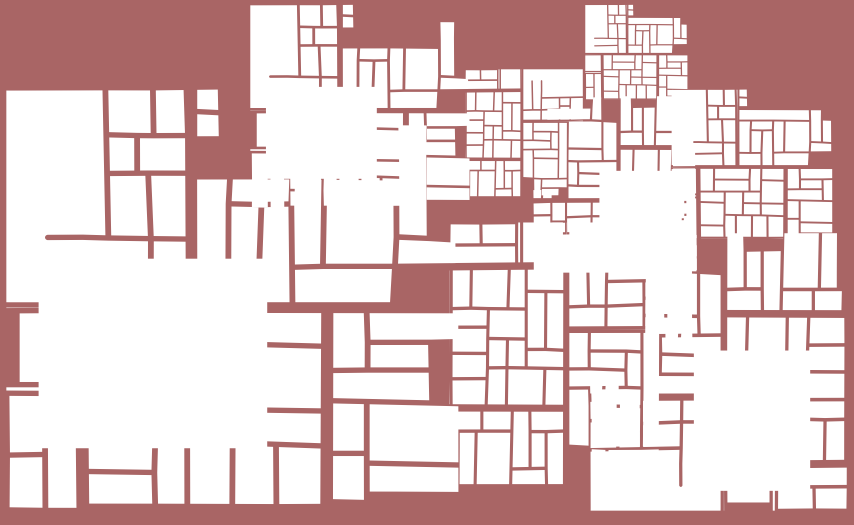
Paired with the impetus that household land ownership provides broader female control over decision making, a possible route of action thus, would be to incentivize female ownership of assets, especially housing, through opening lines of credit. An integrated focus on tenure security under female members, and structuring loans for toilets coupled with loans for home construction targeted at women can help incentivize toilet construction. Integrating ancillary activities supporting income generation and civic participation would be essential in enhancing women's decision making powers at home and position in the community.

Female members of households overwhelmingly appreciate the benefit of toilets and already exert relatively higher agency on these issues. However, further action is needed to enable asset and agency based empowerment of women to achieve better infrastructure and civic presence. The three dimensions of access, agency and achievements make up the concept of empowerment; change in any one dimension can result in change in others. Policy changes that enhance women's access to new social and physical resources will have direct impacts on their agency and achievements on multiple levels and intergenerationally so. Development interventions thus need to plan for transformative forms of agency that go beyond addressing immediate or technical inequalities but build towards long term processes of structural changes.

Structural changes through transformative agency require a more patient, nevertheless, dynamic approach to development. It would be important here for planners to consider approaches premised on adaptability. An adaptive approach allows the space for detours. It centers community in interventions, thus making mistakes and experimentation a vantage point to success that is community led and owned. It requests collaboration – between community, civil society bodies and the government, and prioritizes building agency that is transformative. It allows planning processes to be more inclusive of women and enables communities to work with a government that listens. It works to remind an intervention that its outcomes are larger than its outputs, and that ancillary activities are the essence of building an integrated system of rights, services and participation.

There has to be greater acceptance of 'detours' in development than 'delays' in development – planning needs to prioritize women leadership and work with an approach that is flexible, iterative and strategic. The addressal of basic sanitation needs and services need to integrate 'agency' as the premise of all human ability, and consider that as the starting point when debating targeted interventions. Civil society and bodies closer to the grounds must be brought into the framework of inclusive planning and women leaders and female voices need to have more say in the policies and decisions that affect them, than men in positions of power – such engendered institutionalization would be fundamental for transformative change on ground.

CONCLUSION: INDIAN CITIES AND SUSTAINABLE URBAN FUTURES



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Sustainability and the Urban in India

There is no doubt that India is urbanizing (albeit slowly) and that the scale and nature of this urbanization is huge, generating significant economic, social and political uncertainty and turmoil. Some of this turbulence was reflected in the wake of the current pandemic wherein a lockdown to prevent spread of infection spurred a significant loss of livelihoods and a scale of return migration to villages that was catastrophic. Conditions amidst which this urbanization is occurring include 'demographic intensity, hyper-globalisation, centripetal state politics and the looming spectre of environmental catastrophe' (Fox and Goodfellow, 2021 pp1). Each of these conditions and their interconnections produce specific challenges for varied countries as the process advances. In the Indian case, the demographic intensity has meant that the scale of urbanization is very large, even though the urban settlement system is itself large, comprising over 7000 towns. Another aspect is that a large segment of the urban population is youth, however many of them do not possess the skills required for a service sector-oriented economy and hence find themselves redundant. Indian urbanization is also highly gendered with skewed male-female ratios in cities and low work participation rates of women. It has also meant large infrastructure deficits. Fox and Goodfellow (op cit) note that the patterns of accumulation, flows and rent seeking have significantly changed in late urbanisers like India and cannot be compared to urbanisers of the eighteenth, nineteenth and twentieth centuries when the focus was on industrialization, manufacturing, the world was much less filled up, and environmental concerns were not pressing. The specific import of hyperglobalisation for

India is that the last few decades have seen very few incentives for capital to invest domestically and especially, in the productive capacities and infrastructure of cities; instead capital is moving out while state is often seen to be involved in facilitating private extraction rather than productive investment and redistribution. Finally, a lot of these changes are occurring in a context of a looming environmental catastrophe. A lot of Indian cities are water-stressed, several are experiencing an increase in the intensity of floods, the loss of natural water bodies and dying of rivers has become commonplace. Indian urbanization has become equated with unplanned, uncontrolled construction and real estate activity which besides other perils also significantly contributes to the rise in energy emissions. The recent IPCC report (2021) predicts that several Indian cities will be under water and experience adverse impacts of climate change in the next fifty years or so. It asserts that the window to act has significantly shrunk with a corollary that mitigation itself may pose extremely large challenges. In this context, it is also critical to note that the adaptive and mitigative capacity of Indian towns, and cities in cognizing these issues, planning immediate or long-term actions and acting upon them is severely compromised.

One challenge that invites more specification and particularization is the human dimension of sustainability, which often gets lost in societal or collective discussions. The demographic intensity of Indian urbanization, whether by way of migration or by way of morphing of geographies, is also one that reflects deep inequities and several groups that are marginalized, stigmatized and who experience and work against societal and state neglect. The aspiration of inclusion is a difficult struggle, significantly layered, uncertain and contingent upon vagaries of politics and local conditions. The Indian city is experienced as an adversarial, tough terrain by groups marginalized by caste, gender, age (the seniors and the children), disability that necessitates multiple everyday navigations, contestations and negotiations. These are also aspects that the Indian city does not cognize, possess information of, nor has the capacity or will to act, except in knee-jerk, populist and short-term manner.

If the above seems like a listing of challenges, perhaps one should begin with an acknowledgement that this list potentially requires many more additions, and that several of these challenges are intricately interconnected. The intersections of these challenges posit a situation of simultaneity, where no action can be thought of as independent, isolated and confined to a particular sector. The intersections also bring forth the layered nature of these challenges that demand a convergence between top-down and bottom –up processes and policy. Multi-sector, multi-level, multi-institutional and multi-actor arrangements and actions are the call of the day. Given that the current level of urbanization is only 34% and that a lot of urbanization is yet to happen, the geographies of action may also need to span the metropolitan- nonmetropolitan divide, as well as the city core-periphery –rural divides.

The ‘urban’ and ‘sustainability’, with all their dimensions at present seem like polar opposite ideas at the present, with few prospects of concerted action in the horizon.

An interesting part of the Indian reality is however, the myriad ways in which initiatives unfold at the ground level through particular and diverse constellations of civil society- professional – academic- bilateral/ international agencies- government agencies. It is these initiatives which illustrate the complexity of challenges and intersectionalities while simultaneously demonstrating the possibilities of change in situations that seem unsurmountable. It is here that we locate the papers in this collection, each of them discussing the multiple dimensions of particular issues, the manner in which they are cognized by existing policies, the attempts to move beyond the

shortcomings of these policies and changes required of a supportive eco-system.

Locating the Discourse on Informality in the Indian Urban

Informality has emerged as a major lens of understanding the dynamics of urbanization in India. For a long time, urbanization in India and other countries of the South was identified with everything that was problematic – pace of urbanization outgrowing pace of development of infrastructure, lack of productive growth that could encompass the migrating millions, rising spread of insanitary conditions and slums in cities, so on and so forth. Some theories explained this as an issue of overurbanization, advocating more planned urbanization as an antidote; others saw it as a consequence of the larger dependency relationships that the Global South had with the developed world pointing to the deeper, structural causes of the issue. It was in the late 1980s that there was a substantive change in the theoretical lens.

The changed lens began to demonstrate that what was seen as a problem was essentially a set of solutions or coping mechanisms arrived at by ordinary people in 'ordinary cities' (Robinson,2002) to cope with lack of options for living and infrastructure available in cities, one which gave them means of alternate economic mobility. A simultaneous expansion of literature around informal work arguing its integral relationship to the more 'formal city', and the nature of vulnerabilities of workers demonstrated that the 'urban poor' weren't burdens upon the city but active contributors to the city economy and society. This change in the lens deployed was a significant contribution of several practitioners and their global networks (Mitlin and Patel 2005) Benjamin (2008) showed that some of those very attributes of local economies that were perceived as problematic in fact, offered modes of inclusion to the marginalized in urban societies. The porosity of local bureaucracies, the intermingling networks of officials and settlers, the practice-based knowledge of systems exposed a distinct texture of inclusionary processes beyond the more formal and much-rebuked process of inclusion via the political society or vote bank route. In a similar vein, Appadurai (2001) demonstrated how the urban poor were engaged in a process of gradual and incremental expansion of aspirations and that their inclusion also meant a deepening of democracy. On the other hand, experiments that were often celebrated as 'inclusive' often opened the pathway for more destruction and were responsible for creating 'slumming' cities (Dewan- Verma 2003). By the 1990s, a stage was set where informal settlements and work began to be recognized as part and parcel of Indian urbanization. A pinnacle of this recognition was reached when the Draft National Slum Policy (2002) declared that 'slums are an integral part of Indian urbanisation'. Other significant policy changes signifying a more inclusive environment such as a 'slum census' instituted since 2001, certain governance reforms included as part of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in 2005 (Mathur, 2013). The significance of such 'inclusionary moves' remains contested given their marginality in comparison to the threats posed by other prominent moves such as infrastructure projects (Kundu, 2014), the emphasis on resettlement as opposed to improvement or upgradation (Patel,2013) and the modes of implementation which often defeated the purpose of inclusion. Nonetheless, there is a definite change in an overall ethos where eviction is no longer the sole response by local and state governments to the urban poor; the struggles have moved beyond that to struggles of justice, equity and recognition. Significant policy changes in the form of 'National Street Vendors Act', 'Policy for Shelters for Homeless', 'National Urban Livelihood Mission' signal a new and more positive environment for the urban poor. The current situations on ground

are more nuanced and complex. There are myriad tales of deepening patterns of exclusion, increase in the gentrification and expulsion by neoliberal economies and instruments of state-capital nexus (Bhide, 2021). On the other hand, there is also a rise in 'inclusive' projects and expansion of initiatives by state and local governments to 'include' the poor.

Working towards a future: The Imperatives and paths for transition

Every paper in this collection is an illustration of this emergent complexity existing on ground in Indian cities. On one hand, there is a larger dynamic of an urbanization process that is yet evolving and growing in places that are ill-prepared for the same. Climate change is spurring more migration to cities; on the other hand, the cities themselves are vulnerable to the impacts of climate change. In this increased propensity to environmental risks there is no doubt that it is the informal settlements and the poor who will bear a larger burden. In most Indian cities, plans act as a legislative marker of control that illegitimises several uses and users but fail to make viable places. As cities move towards some preparation of local climate action plans, can we afford to approach these plans in the same trajectory in which previous urban plans focusing on land use? The intersection of physical geographies and differential risks with social marginalities should necessarily be recognized in these plans which should also be more actionable, multi-scalar and incorporative of local agency and dynamism.

There is a visible and distinct presence of efforts for inclusion; these however exist in a larger environment of systemic exclusion. There is some commitment to provisioning of services to the urban poor while there is an absence of comprehensive engagement with the communities and a persistent othering linked to legacy issues of infrastructure and inability to envision an integral future. On the other hand, the forces of neoliberal economics seem to be paving way for city geographies that peripheralise the poor through relocation projects, despite the increasing evidence that resettlement can impoverish and that upgradation, despite its complexities provides better opportunities for mobility. Further, the planning of resettlement itself through a myopic perspective of 'slum' often ensures the perpetuity of poor infrastructures, continued uncertainties of tenure and livelihoods and lack of self-governance. The limits of clientilism and the discourse of informality are beginning to reveal themselves in all these approaches. This is not to say that informality itself has ceased to exist, it is very much embedded within the processes of urbanization. Several cities continue to treat informal settlements through highly populist, short-term lenses that see inclusion as optics without exploring medium-term, long-term solutions. This is a reason why projects grounded in speculation (see Mumbai's Slum Rehabilitation Scheme), relocation projects based on erroneous ideas of beautification and propelled by real estate values, water and sanitation services that are compartmentalized, or creating vending zones that are economically unviable, continue.

However, as the scale, temporality of informality expands and deepens, there is a push towards concerns of justice, equity in the city rather than remaining confined to a marginal space to which it was confined in the past. Thus, in several cities, one now witnesses several struggles that contest the injustice in planning and asserting greater visibility in these processes which previously were seen as anathema to informality.

Within the informal settlements themselves, dynamics of power are no less powerful. The marginalization of women, the control over their bodies, voice and agency is substantive, their vulnerability to the poor environmental health exposes them and young children to several hazards in the course of everyday living. Leadership is concentrated in the hands of

a few powerful elements which control crucial resources and mediate the relationship of communities with the state. As this collection demonstrates, voices that contest this vicious grip on resources, demand greater democratization are certainly on the rise; however, these are few and need much more strengthening. These voices cannot be dismissed as micro-level, singled out and bounded initiatives but rather should be seen as seeds of aspiration that now seem to be sprouting in multiple places. A huge opportunity for transformation exists in terms of state interventions such as the ones envisaged in the UBSP (Khosla, 'Women's Lives Matter') that invest in women's agency and leadership capacity, or those that invest in community empowerment (Poricha,'Social and Political Impacts of Urban Community Water Initiatives'). Yet such community-state partnerships are also difficult to execute and currently do not find scope beyond 'projects' that are bound in time-space.

There is a significant lack of capacity among local governments to innovate and to identify and implement re-engineered solutions to the several issues linked to services and infrastructures in informal settlements – whether hardware in the form of safe housing, water supply at doorstep, household or community sanitation services and the softer aspects such as institutional structures for management of these services, identifying viable revenue models that situate communities as key actors and not passive beneficiaries, engendering infrastructures and communitising them. Some papers in this collection argue that this mediation may be more effectively done by civil society organisations. While several civil society organisations have excellent track records in terms of such innovations; it should also be recognized that civil society organisations themselves vary in capacity and orientation. Civil society involvement is also no substitute for state engagement and hence, an investment in local government capacity for engaging with informal settlements through resources, power and trained, oriented personnel is critical. The future of these settlements has to be seen in a more integrated city that accords a due place and assures liveability for all its citizens through participation in multi-scalar governance, planning, budgeting and implementing processes. That alone can be the path towards a more sustainable urban future.

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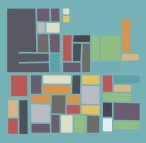
This journal is an attempt to put together experiences of urban practitioners in an effort to strengthen the understanding of urban informality in India. It is a compilation of articles and studies linked to deep engagements with urban poor across diverse urban geographies. It is hoped that this compilation will help academics, students, practitioners, city managers and others to appreciate the evolving nature of urbanization and the significance of community engagement and localized solutions for inclusive and resilient towns and cities.



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