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Urban Planning, Water Provisioning and Infrastructural Violence at Public Housing Resettlement Sites in Ahmedabad, India

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ABSTRACT: This paper examines the links between urban planning and the politics of water provisioning and violence and conflict in people's lives by drawing upon research in a low-income locality in Ahmedabad, India. By focusing on public housing sites constructed to resettle poor and low-income residents displaced from central and intermediate areas of the city for urban development projects, the paper looks beyond poor, informal neighbourhoods to explore the dynamics of water provisioning and inequalities in the city. A close examination of the water infrastructure at the sites and their everyday workings is undertaken in order to unravel the socio-material configurations which constitute inadequate water flows, and the ways in which urban planning, policies and governance produce infrastructural violence at the sites. It also traces the various forms of water-related deprivations, burdens, inequities, tensions and conflicts that emerge in people's lives as a result of their practices in the context of this infrastructural violence.

KEYWORDS: Water, infrastructural violence, urban planning, public housing, resettlement, India

INTRODUCTION

Water is the very basis for life, not only in terms of staying alive but also in terms of how it makes possible our social, economic, cultural and political lives. Despite assertions around the right to safe water as a human right, many people in the global south continue to face inadequate water supply. The last two decades of research have provided significant insights into the policies, governance and politics shaping water inequalities in cities of the global south. However, where this research has zoomed into urban localities it has almost exclusively focused on poor and low-income informal localities as spaces of water inadequacies, precluding a study of water in the context of the formal housing of these groups, which is generally produced through state-driven programmes. This paper contributes to addressing this gap through a case of public housing from India to advance a more nuanced understanding of the spaces and dynamics of water inadequacies among urban poor and low-income groups and their practices and experiences in this context.

The literature on water in informal neighbourhoods in Indian cities argues that where there is a lack or inadequacy of water supply by the state this emerges primarily from residents' claims to water being unrecognised or unstable due to insecure tenure, discourses of (il)legality and the residents' failure to secure supply through negotiations in the political domain (Anand, 2012; Desai and Sanghvi, 2017; Graham et al., 2013; Roy, 2012). Arguably, if the poor lived in housing constructed through state-driven programmes, their claims to adequate water supply would be recognised, stable and more likely to be realised because of the formality/legality of this housing and because a public mode of housing delivery may bestow the residents with a specific set of recognised claims on the state, placing them apart from residents of both informal settlements and of private, middle-class and elite housing. However, the residents in the public housing discussed in this paper have been unable to realise adequate access to

water, underscoring the importance of looking at water dynamics in spaces other than informal neighbourhoods.

Another reason for looking beyond informal neighbourhoods to understand water, poverty and inequality in cities is the return to state-driven programmes of mass housing construction in a number of countries, such as India, South Africa, Namibia, Ethiopia and Colombia (Buckley et al., 2016; Croese et al., 2016; Patel, 2013). In India policies have increasingly emphasised moving 'slum dwellers' into formal housing through relocation or slum redevelopment. The last decade has, in fact, led to large numbers of evictions in informal localities in a bid to create world-class/global cities *coupled with* resettlement of the evicted in housing constructed through state-driven programmes. The official discourse often presents this resettlement housing as providing slum dwellers with secure shelter, a formal asset and access to better living conditions, which seems to legitimise eviction and world-class/global city-making processes. Given this policy context, and the often questionable conditions of basic services at such housing sites, it is crucial to examine the forms of water inadequacies faced by residents in these spaces and how urban planning, policies and governance produce such conditions, as well as residents' practices and experiences in this context. This paper interrogates these dynamics through research at three adjacent public housing resettlement sites in Ahmedabad, India's seventh largest city located in the state of Gujarat. Approximately 5000 families displaced for various urban development projects from central and intermediate areas of the city were resettled at these sites during 2010-12 across its 156 four-storey buildings.

The paper draws upon qualitative research carried out at the sites between January and November 2014, wherein the primary objective was to explore the linkages between exclusionary urban planning, policies and governance and the experiences and practices of the urban poor with a specific focus on violence and conflict. This focus was articulated to contribute to debates on the role of urban planning and governance in producing and alleviating urban violence. Methods of research included: community mapping to understand where the residents had been displaced from and the rough distribution of different displaced communities across the 156 buildings; ten focus-group discussions (FGDs), seven unstructured group discussions and 35 semi-structured interviews with a total of 51 men and 53 women; informal conversations with other residents; participant observation and discussions with municipal officials.[1] A substantial part of the research revolved around water since it emerged as a major concern amongst residents. As a result the main water infrastructure was mapped out. Follow-ups were done in 2015 through conversations with local leaders and water operators, and further follow-ups were undertaken in 2017 through discussions with water operators and municipal officials and a mapping of the water conditions across the 156 buildings through conversations with residents.[2]

The paper is organised as follows. The first section outlines the analytical framework and key arguments of the paper, situating this in relation to the water and cities literature and urban violence literature. The subsequent section describes the three public housing sites, contextualises them in city-wide processes of development, displacement and resettlement and outlines the economic and social impacts on the resettled families which contribute to water dynamics at the sites. The third section closely examines the water infrastructure at the sites and their everyday workings in order to trace the socio-material configurations which constitute inadequate water flows. This reveals the ways in which urban planning, policies and governance contribute to creating water inadequacies at the sites. The penultimate section discusses residents' practices and the water-related deprivations, burdens, inequities, tensions and conflicts emerging in this context. Taken together the third and fourth sections

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[1] Names of residents have been changed to maintain their anonymity.

[2] The author acknowledges the assistance of Abhilaasha Nagarajan, Shaurya Patel, Suhani Gupta and Zinkal Mistry in the mapping of water conditions at the sites.

show how urban planning and the politics of water provisioning at the public housing resettlement sites
(re)produce infrastructural violence (Rodgers and O'Neill, 2012) in the city.

INTERROGATING URBAN PLANNING, WATER POLITICS AND EVERYDAY EXPERIENCES IN POOR LOCALITIES

There is rich scholarship on cities of the global south that has examined water provisioning through
public or private utilities and the political-economic processes that have shaped them. These analyses
show that inadequate water supply to the urban poor is not only due to low institutional and financial
capacity of utilities to augment and maintain water supply sources and networks but also the politics of
governance that creates an unequal distribution of water to different spaces and users in the city
(Bakker, 2010; Graham et al., 2013; Kooy and Bakker, 2008; Swyngedouw, 2004). Research in the
context of poor and low-income informal neighbourhoods elucidates the state's discourses and
practices that shape water provisioning and access, with discourses of (il)legality, political patronage
and neoliberal policies and governmentalities emerging as some of the key dynamics at play (see, for
e.g. Anand, 2011, 2012; Castro, 2007; Mudege and Zulu, 2011; Ranganathan, 2014). Through a focus on
public housing resettlement sites, this paper contributes to an understanding of the relations between
the state, poor localities and communities, and water; of the state's discourses and practices in this
context and the forms of water-related inequalities they create.

Of course, the state is not the sole actor shaping water provision and access. There is significant
literature examining water-related practices and experiences amongst poor and low-income
communities that illuminates the impact of inadequate water on their lives and their coping practices,
as well as, increasingly, their agency and contested practices and claims-making around water (see, for
e.g. Anand, 2011, 2012; Bjorkman, 2015; Peloso and Morinville, 2014; Ranganathan, 2014; Roy, 2012).
As Ahlers et al. (2014: 6) point out, a focus on the practices of the marginalised shows that "the state is
not monolithic or necessarily coherent in determining or producing water services"; users also shape
the urban waterscape in significant ways through their diverse practices of accessing and creating
service configurations. However, as they also point out, the room for manoeuvre is not limitless; it is
circumscribed by factors such as social relations and geophysical context. A critical reading of the
literature also suggests that different acts of the marginalised may have different effects – producing,
consolidating or unsettling broader social-structural relationships. This paper builds upon these insights
and contributes to an understanding of water-related practices amongst the marginalised and their
diverse effects.

The three public housing resettlement sites that are the focus of this paper were constructed with a
physical infrastructure of bore-wells, underground water tanks, overhead water tanks, motors, pipes
and valves to provide 24-hour running water. However, not only do the houses not receive 24-hour
water but many do not even get adequate water, while the majority of residents are unable to access
potable water within their homes or even within the site. This paper examines the water infrastructure
and its everyday workings to analyse the dynamics producing these conditions and their effects on
residents' lives. The analysis is informed by the concept of co-production proposed by Ahlers et al.
(2014) to understand how water provision and access works in practice. It looks at how diverse actors
interact through a dynamic set of social and material relations to provide, control and access water
supply, and how this configuration is an articulation of socio-political, economic, biophysical and
infrastructural drivers. Thus, the paper reveals how the everyday workings of the sites' water
infrastructure and its capacity to produce adequate water flows are shaped by the interplay between
the fluidity of water, the nature of water supplied by the municipal government, the type of physical
infrastructure installed and the policies, discourses and practices of the government, as well as the
practices of informal water operators who emerged from the municipal government's practices and the
water-related expectations and practices of residents. Furthermore, as Ahlers et al. (2014) point out,
socio-material configurations of water infrastructures and flows are always riddled with power

asymmetries (also see Anand, 2011; Bjorkman, 2015). The paper therefore pays particular attention to the power relations undergirding, shaping and being reproduced through the socio-material configurations that make up the water infrastructure and flows at the public housing sites.

The paper's analysis of the violence and conflict around water builds upon conceptualisations of structural and infrastructural violence. The concept of structural violence was first proposed by Galtung (1969) as a form of violence "wherein some social structure or social institution may harm people by preventing them from meeting their basic needs". Rylko-Bauer and Farmer (2016: 1) refer to it as "the violence of injustice and inequity" which is "embedded in ubiquitous social structures [and] normalised by stable institutions and regular experience". These and other scholars emphasise the ways in which structural violence leads to unequal power, negatively impacts the well-being, agency and capabilities of certain individuals and groups and leads to unequal life chances. This paper looks at the dominant urban planning and governance institutions, their approaches and processes and their impact on the lives and well-being of certain groups through the lens of structural violence. This resonates with the concept of infrastructural violence, which Rodgers and O'Neill (2012: 402) define as "violence on poor and marginalised groups by urban infrastructures", by "articulations of infrastructure that are designed to be violent" as well as "denial of infrastructure causing suffering". Although at first sight the water infrastructure at the public housing resettlement sites does not seem to be designed *to be* violent, through a close investigation of its workings the paper unravels the ways in which urban planning, policies and governance forge infrastructure that produces water inadequacies and everyday deprivations, burdens, inequities, tensions and conflicts in residents' lives.

The paper develops three interrelated arguments about the ways in which urban planning, policies and governance produce infrastructural violence around water at the public housing resettlement sites. First, infrastructural violence is produced by the municipal government's design of the sites as comprising of an overall physical water infrastructure which parallels that provided by developers in private, middle-class apartment developments, along with its stated policy which frames the relations between the state, residents and basic services at the sites as similar to those in private housing developments. While the design and policy appears to treat residents of public housing more or less equally to those of private housing, these conceptions of water provision have an in-built bias in terms of the assumptions they make about residents' specific capacities to co-produce infrastructure that would deliver adequate and potable running water. Second, the nature of infrastructural violence at the sites is shaped by multiple, partly contradictory and shifting logics at play within the state apparatus. These have resulted in the state's uneven and changing responses to residents' appeals and protests around water inadequacies at the sites. This has produced unstable claims, shifting loci of conflicts and varying effects on different groups of residents and spaces at the sites. Third, infrastructural violence at the sites around water is linked to world-class/global city-making processes which have displaced urban poor and low-income groups to the distant periphery through socially disruptive resettlement processes. Specifically, this has made poor and low-income residents of the city even more economically vulnerable and has caused significant social disruption, both of which challenges their ability to co-produce infrastructures that would deliver adequate and potable running water at the sites.

THE VATWA PUBLIC HOUSING RESETTLEMENT SITES

More than 20,000 households have been displaced in Ahmedabad since 2005. They have been moved from central and intermediate areas of the city to make way for the Sabarmati Riverfront and Kankaria Lakefront developments, as well as road widening – all projects born out of the desires of the Ahmedabad Municipal Corporation (AMC) and the Gujarat State Government to put the city on the national and global map (Desai et al., 2018). Many of the households have been resettled across the 32 public-housing sites constructed by the AMC during 2009-15 under the Central Government's Basic

Services to the Urban Poor (BSUP) programme. Seven sites, comprising about half of the 20,112 BSUP houses, are located in Vatwa on the city's south-eastern periphery, with several other sites located in other peripheral areas, such as Odhav and Naroda (see Figure 1). The BSUP programme has thus been used to move the urban poor to the periphery and clear lands for global city making and speculative urbanism. Recent urban transformations in other Indian cities have involved similar displacements of the urban poor from central areas, where they inhabited land through informal tenures, to housing constructed by public authorities or public-private partnerships on the under-developed periphery (e.g. Coelho et al., 2012; Manecksha, 2011). This paper focuses on three of the Vatwa sites: Kusha Bhau Thakre Nagar (KBT Nagar), Sadbhavna Nagar and Vasant Gajendra Gadkar Nagar (VGG Nagar). Most residents were resettled here during 2010-12.

Many of the resettled families have experienced constrained mobility and increased stress on their livelihoods due to their displacement and the nature of resettlement (Mahadevia et al., 2015). One reason is that they have been relocated 7-15 km from their previous places of residence and nearby workplaces, resulting in high transport costs to get to work (see Figure 1). Those who work as casual, daily-wage labour, for whom there is no guarantee of getting work on a particular day, are now required to pay for transport simply to go in search of work. Many women have stopped working because the increased distance between the home and workplace does not give them the flexibility to manage both. They are also reluctant to leave their children due to safety concerns at the sites (Desai et al., 2017). Distant resettlement has also meant higher transport costs when accessing public healthcare and good schools, which has further contributed to the strain on people's livelihoods and created difficult choices around what to prioritise in terms of household spending.

Figure 1. Location of the Vatwa BSUP sites and evicted localities resettled at the sites in 2010-12 (Map by Vishal Darji).
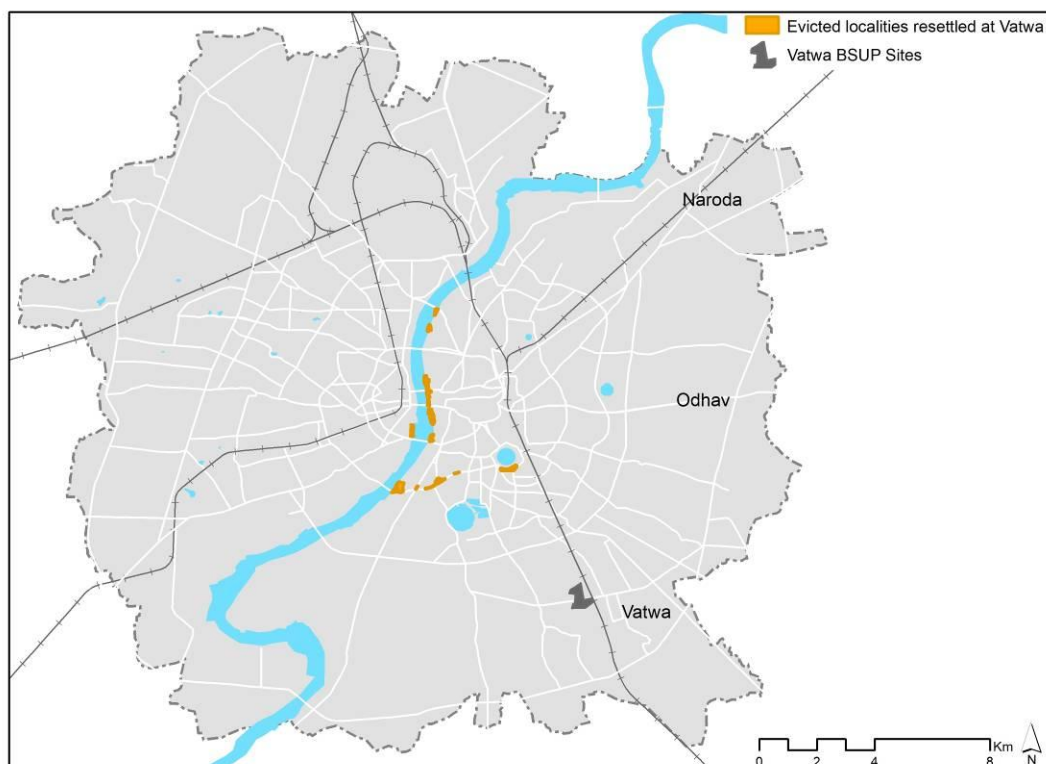
The resettlement has engendered significant social disruption due to the allocation process. Take the resettlement under the Sabarmati Riverfront project.[3] Between 2009 and 2012 around 11,000 households from 20 informal riverfront localities were allotted houses across 18 BSUP sites through nine lotteries over five phases. Almost all the lotteries involved households from three or more localities and distributed them across two to six different sites. For instance, the 5 February 2010 lottery was for 1147 households from three localities who were resettled across four sites, including Sadbhavna Nagar and VGG Nagar. The lottery on 15 February 2010 was similar, involving 1043 households from three other localities who were resettled across six sites, including Sadbhavna Nagar and VGG Nagar. In August 2011 4319 households from across almost all the 20 localities – who were earlier excluded due to a 2002 cut-off date that determined household eligibility for resettlement – were allotted houses through a massive lottery that resettled them across ten sites, including Sadbhavna Nagar and VGG Nagar. Allocation under other projects was carried out through similar lotteries.

The community mapping carried out at the three Vatwa sites thus reveals that Sadbhavna Nagar has households from at least seven riverfront localities, all three localities demolished for the Kankaria Lakefront project and two localities demolished for road widening. VGG Nagar has households from at least ten riverfront localities. KBT Nagar has households from the three localities demolished for the Kankaria Lakefront project and five localities demolished for road widening. Households from 3-4 different localities are often found in the same building, especially at Sadbhavna Nagar and VGG Nagar.

Figure 2. Buildings around an underground water tank at VGG Nagar (photo by author, April 2014).

The process of allocation separated people from their extended family, neighbours and others they had developed relations with in their previous locality. It also mixed households from different localities at the same site and even in the same building. This caused significant social disruption. People who did not know or trust each other – sometimes from different income and caste backgrounds – ended up living in close proximity and sharing common spaces and infrastructure. At the Vatwa sites many who had been recognised as community leaders in their previous localities found that they had no legitimacy at their new place of residence. Some were able to develop legitimacy as leaders over time while many others were not. 'Strongmen' from different localities sometimes ended up at the same site, while aspiring strongmen emerged, and, given the instability of power and authority at the sites, this has

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[3] This paragraph is based on earlier research by the author (Desai, 2014).

resulted in struggles for dominance that have often led to physical violence. It has also made other residents, including many leaders from previous localities, reluctant to take on active leadership roles for fear of being caught up in power struggles and violence.

Many of the original localities were comprised of caste-based clusters. For instance, the riverfront locality known as the 'settlement behind Lal Darwaja' consisted of numerous small clusters. These included Shantaben ni Chali, inhabited by 'upper' caste Brahmins and some 'middle' castes such as Thakores, as well as a nameless cluster of the Devipujak community, a Dalit sub-caste. Residents from 'upper' and 'middle' castes who had previously lived in caste-based clusters often expressed resentment in group discussions and informal conversations at being resettled with 'lower' castes. Some even openly blamed certain 'lower' castes for the poor sanitation, reprehensible moral behaviour (cursing and fighting) and the lack of safety at the sites. The stressed livelihoods and social disruption caused by resettlement have had significant implications in the shaping of water infrastructure and flows at the sites.

EVERYDAY WORKINGS OF WATER INFRASTRUCTURE AT THE PUBLIC HOUSING RESETTLEMENT SITES

Almost all the BSUP sites constructed in Ahmedabad are designed to have a bore-well that supplies water to underground water tanks (UGWT), each of which supplies water to the overhead water tanks (OWT) of a particular group of buildings (ranging from six to eighteen buildings) (see Figure 2 and Figure 3). Water is to flow from the bore-wells via the tanks to each house through pipes (underground pipes from the bore-well to the UGWTs, underground pipes from each UGWT to the buildings in its provision area, and building-level pipes) with the help of motors (located in the bore-wells and UGWTs) and valves (which regulate water flow through the pipes). This design of the overall physical infrastructure for water is more or less similar to what developers generally provide in private, middle-class apartment developments.[4] According to AMC's former Additional City Engineer-Housing who oversaw the BSUP programme's implementation until mid-2015, the policy for the sites envisaged the governance of this infrastructure in the following manner: AMC would maintain the bore-wells and their motors and pay the motors' electricity bills while residents would be responsible for everything else. This involved operating the bore-well motors (except at Sadbhavna Nagar where the bore-well is located outside the site at a small municipal water distribution station), operating and maintaining the UGWT motors, paying the electricity bills for the UGWT motors, maintaining the UGWTs and OWTs, and maintaining all underground and building-level pipes and valves. The residents were expected to undertake these responsibilities by forming a residents association and contributing monthly maintenance fees to it.[5] In his words, this is similar to the residents' responsibilities in "normal [housing] societies", by which he meant private, middle-class apartment developments. The current

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[4] This does not mean that the physical infrastructure is the same. A cursory observation of the infrastructure in a few middle-class apartment developments by the author suggests differences in scale (number of buildings linked to a UGWT), capacity (of UGWTs and OWTs) and technology (the power of the motor, use of automatic switches to operate it) although some of the differences are from additions by residents to the infrastructure provided by the developer.

[5] Discussion with Anand Patel, former Additional City Engineer-Housing, AMC, 8/8/2017 and 19/12/2017. The governance around basic services at the public housing sites is reportedly outlined in the BSUP proposals – known as Detailed Project Reports (DPRs) – submitted by the AMC to the Central Government's Ministry of Housing and Urban Poverty Alleviation (MHUPA). However, the AMC did not share these documents with the author and it is therefore not possible to determine whether the governance was conceived in this detail at the DPR stage or whether the details of the policy have developed over time. The 'allotment letter' given to residents states that the allottee would have to follow all the conditions in the 'agreement letter'. The 'agreement letter' places 28 conditions on the allottee, which include becoming a member of the residents association, accepting responsibility for paying maintenance fees to it and accepting responsibility for the maintenance and repair of service lines (water, drainage, electricity, gas) entering their house, building and site.

Additional City Engineer-Housing, in explaining these responsibilities, also drew a parallel between the public housing sites and private, middle-class housing societies.[6]

The design of the sites' physical water infrastructure and the stated policy with respect to its governance was envisaged to produce 24-hour running water at the public housing sites as it does in private apartment societies. However, unlike most of these societies, the majority of houses at these sites do not get adequate running water, let alone 24-hour water. Also unlike these societies, the majority of residents at the sites are unable to access potable water in their houses. The discussions below trace the everyday workings of the water infrastructure and the socio-material configurations that constitute inadequate water flows. These configurations include the fluidity of water, the nature of water supplied, the type of physical infrastructure installed, the AMC's policies, discourses and practices, informal water operators' practices and the residents' water-related expectations and practices, which are shaped by their experiences in their previous neighbourhoods, their economic circumstances and social relations at the sites. The discussions reveal the ways in which the AMC's design of the sites' physical water infrastructure as similar to that of private apartment societies, along with its stated policy that frames the relations between the state, residents and basic services at the sites as similar to those in private societies, pose challenges to residents in realising safe drinking water and adequate water flows in their homes. The discussions also reveal how the water infrastructure at the sites has been shaped over the years by the AMC's multiple and shifting logics, leading to its uneven and changing responses to residents' concerns and protests around water inadequacies.

Emergence and persistence of informal water operators and absence of residents associations

The AMC had no clear notion of how the water supply infrastructure would be operated and maintained until residents associations were formed. As displaced families began to move to the sites in 2010 the AMC-appointed contractors who had constructed the sites started to operate the bore-well and UGWT motors to supply them with water. Soon after, out of expediency, the contractors and municipal officials informally handed over the operation of the bore-wells and 14 UGWTs across the three sites to residents willing to take on the task, verbally informing them that they should collect a small monthly fee from each household in return for their efforts. These 'operators' included local leaders from the evicted localities, a small-time plumbing sub-contractor, a resident who had set up a small shop at the site and a resident who had worked at a beauty parlour. Over the years the role of the operators persisted and even expanded to organising some maintenance and repair works and calling municipal water tankers when required. This stemmed from the failure to create functioning residents associations to undertake these responsibilities. There are multiple reasons for this failure.

Resettlement began at Sadbhavna Nagar and VGG Nagar in February 2010. However, the attempt to create residents associations did not begin until mid-2011 and mid-2012, respectively, when two reputed NGOs were contracted for a period of two years. This was despite the fact that each household had paid Rs.960 as an 'NGO fee', along with an upfront payment towards its beneficiary share.[7] The NGOs were tasked with creating registered associations, facilitating collection of association fees and maintenance charges and facilitating the maintenance of common services through the associations, as well as carrying out "other social and community development activities".[8] The delay seems to have been caused by the allocation of houses at the sites over a period of some years. Procedurally, the association's core committee was to be formed and a bank account opened in its name; each household was to contribute Rs.255 as a one-off fee, following which the association was to receive a

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[6] Discussion with Harpalsinh Zala, Additional City Engineer-Housing, AMC, 12/12/2017.

[7] The beneficiary share is 12 percent of the total cost of constructing the house.

[8] Letter dated 8/5/2012 from SRFDCL, AMC, asking one of the NGOs to undertake this work at six sites, including Sadbhavna Nagar.

registration number from the Ahmedabad District Cooperative Union, a public authority (Mahadevia et al., 2016). However, these procedures have remained incomplete for most of the 11 associations across the two sites (one association per UGWT). Despite not having managed to collect the one-off fees from all the residents a few of the associations have somehow been registered. While they exist on paper, they remain non-functional.

The social disruption caused by resettlement is one reason for the incompletely formed and non-functioning associations. Many residents do not trust other residents, including the association's core members, many of whom they do not know well. In fact, many residents do not even know who the core members are for the association that includes their building. Furthermore, the concept of organising as an association to undertake full responsibility for maintenance works is new for residents. Indeed, the mixing of communities from different locations at the sites and the newness of the concept were the very reasons that the AMC involved the NGOs in the first place. Thus, a letter from the AMC's Housing Department to its Municipal Commissioner states that each site has residents from various locations and therefore the NGOs' work would involve "cultivating a spirit of collective organisation" and "creating understanding between residents for the maintenance of services".[9] The letter proposes activities for the NGOs, which include 'capacity-building' of the association's core committee members so that they can run the association and undertake the maintenance tasks.

However, the NGOs were unable to surmount the social disruption to form functioning associations. Moreover, whether or not the members of the core committee understand and accept the concept, some residents do not due to their experience of the AMC's role in maintenance in their previous neighbourhoods. Other residents understand the concept but reject it. In a group discussion at KBT Nagar a resident and local leader named Lalitbhai, who had a clear understanding of what was expected of the residents associations, pointed out that the associations "cannot be formed" because "residents do not have the ability to spend money on maintenance; they cannot bear [the expense]; they are not capable".[10] In a follow-up conversation about forming associations, he explained that "from poor [many residents] have become very poor. There is peace of mind about having a house but what to do with that?".[11] He explained that residents have varying incomes; not everyone's economic circumstances are the same, and so not all can contribute the required amount towards maintenance. Whereas the internal letter mentioned above reveals the AMC's recognition, albeit superficial, of the need to address community relations at the sites in order to create associations, the AMC seems to have entirely neglected the link between residents' livelihoods and creating functioning associations.

In this context, the informal water operators continue to run the water supply system to the best of each one's ability. This is not easy work, especially where the UGWT provides water to a large number of buildings and in the context of widespread pipe leakages and blockages, as well as the frequent breakdown of motors. It is also a largely thankless job as many residents blame and resent them for the water inadequacies they face and even refuse to pay them the monthly fee, leading some operators to pass on the operation to another resident.

Blockage, leakage, breakdown and practices of maintenance and repair

The physical infrastructure, consisting of bore-wells, underground and overhead tanks, motors, pipes and valves, has not ensured the smooth flow of water to the houses. The main reasons for this are widespread pipe blockages, damage and leaks. Where there are leaks in the building pipes between the OWT and the houses the OWT never remains full for long as the water leaks away, whereas blockages

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[9] Letter perused by the author at the Housing Department on 12/12/2017.

[10] Group discussion, KBT Nagar, 3/2/2014.

[11] Conversation with Lalitbhai, KBT Nagar, 25/4/2014.

in these pipes result in inadequate pressure. Blockages or leaks in the underground and/or vertical pipe from the UGWT to the OWT result in inadequate filling of the OWT. Depending on the exact location and extent of the pipe blockage/leak a house may get 24-hour water, 'adequate water' (given the normalisation of the lack of 24-hour water in their lives, residents generally define this as running water at reasonable pressure twice a day, morning and evening, for a few hours), inadequate water or no water. In many buildings one sees a mix of these conditions as they vary from house to house. In November 2017, of the 156 buildings across the three sites, two buildings had 24-hour supply, 33 buildings had adequate water or a mix of adequate and 24-hour water, three buildings got no water at all, 74 had inadequate water or a mix of inadequate and no water, while the remaining 44 buildings had a mix of conditions (see Figure 3). In total, 41 out of 156 buildings had some houses with no water at all.

Figure 3. Water infrastructure and water conditions at the sites in November 2017 (Map by Vishal Darji).

Residents, including the water operators, point out that the mineral deposits from the bore-wells' hard water create blockages in the pipes, and eat through them, causing leaks. Where widespread leaks are seen in the water pipes laid along the building's terrace it has resulted in water collecting on the terrace (and even grass growing in it). Residents say this further damages the pipes, as they remain constantly immersed in water. Some water operators point to the poor quality of pipe used by the contractor, easily leading to damage and leaks. Municipal officials vehemently or half-heartedly disagree that the hard water causes the pipe blockages, damage and leaks, with one pointing out that UPVC pipes, which are supposed to be easier to maintain, have been used in the buildings.[12] At the same time officials give no alternative explanation for the pipe blockages, damage or leaks, and express disinterest in discovering the cause. They simply state that the residents must undertake the maintenance and repairs of the water pipes themselves.

In the early years of resettlement, groups of residents repeatedly approached the AMC's ward and zonal offices, and their elected representatives, regarding the repair of the water pipes.[13] Officials and elected representatives persistently refused to carry out the necessary repairs, generally citing the AMC's policy on governance at the sites under which residents were to form associations to undertake this work and/or pointing out that there was no municipal budget for such repairs. In mid-2013 a ward official's response to a group of women who had repeatedly approached the ward office regarding leaking pipes in their building revealed another logic at play. One of the women, Shabana Bano, recalled the official telling them, "you were given houses here; you were beneath this; so stay in your houses. You used to get water from the river before, so here you can do the same".[14] She explained that some women were enraged at such a response and turned violent. In the face of the AMC's persistent refusal to repair the building pipes, residents began to undertake some of the work.

In contrast to their attitude regarding the building pipes, and contrary to the AMC's policy on governance at the sites, in the early years of resettlement, ward and zonal officials often arranged for the repair of the underground water pipes. Over time, however, they became more reluctant to do so, referring to the AMC's policy. The Additional City Engineer-Housing stated that if the AMC was to accept any further responsibility for the maintenance and repair of the water (and drainage) infrastructure inside the city's public housing sites, it would require greater resources and even a separate maintenance department. He further argued that the BSUP programme funded only the construction of the housing and allied infrastructure and had no budget provision for the maintenance for which residents associations were proposed.[15] Nonetheless, residents have continued to complain to municipal officials and elected representatives when they feel the problem lies with the underground pipes. This is because such repairs are likely to be expensive and also because residents continue to attribute this responsibility to the AMC. Some residents point out that the houses will be transferred into their names ten years after allocation and the AMC should undertake these repairs until that time. But increasingly their complaints have fallen on deaf ears, although exceptions are made, especially when elected representatives are willing to use their annual development fund to finance a particular repair.[16] This points to the role that political patronage plays alongside the AMC's policy on governance at the sites. Exceptions are also sometimes made by senior municipal officials at their discretion. The Additional City Engineer-Housing explained that, "while this is done out of humanity, and because leaking water and drainage pipes can create a public health issue, [residents] begin to think that this is

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[12] Discussion with Harpalsinh Zala, Additional City Engineer-Housing, AMC, 12/12/2017.

[13] AMC's jurisdiction is divided into six zones, comprising 64 wards, for administration purposes.

[14] FGD, VGG Nagar, 4/6/2014.

[15] Discussion with Harpalsinh Zala, Additional City Engineer-Housing, AMC, 12/12/2017.

[16] Discussion with Anand Patel, former Additional City Engineer-Housing, AMC, 19/12/2017.

their right".[17] When the author asked him whether he thought that residents knew what was expected of them when the houses were allocated he nodded in the affirmative, pointing out that "[the residents] are shrewd and so they feign ignorance".

Due to the fluidity of water and the technical complexity of the physical water infrastructure and water flows, speculation abounds amongst residents over the reason for a certain building or house (or set of houses) receiving inadequate or no water. Repairs are often based on such speculation, which explains why they only sometimes result in improved water flow. For example, in one VGG Nagar building that was not getting more than 30 minutes of water twice a day, when the AMC failed to respond to their complaints each household contributed around Rs.600 to raise Rs.18,000 and put in a new section of pipeline underground and leading up their building to the OWT. Yet the flow did not improve, leading residents to conclude that there must be a blockage further down the stretch of the underground pipeline coming to their building from the UGWT. This investigation and repair, they felt, was beyond their financial capacity. Sometimes water flows improve but decrease again after a while. Overall, addressing pipe repairs has been challenging for residents. Firstly, meeting the cost of such repairs is difficult for poorer residents and those whose livelihoods have been negatively impacted by distant resettlement. Since the repairs require cooperation between the residents of a building there are additional challenges due to the social disruption caused by the allocation process. Many houses are also rented out, as the allottees did not find it economically or socially desirable to live at the resettlement sites. In such cases raising funds for repairs is difficult because neither the allottee nor the tenant is willing to contribute. The attempts to undertake pipe repairs have therefore involved tension and conflict amongst residents (discussed later). It should be noted that the residents associations, which are meant to have been organised for each UGWT, would not have been effective in undertaking building-level repairs as the cost of these repairs can vary widely between buildings.

Besides pipe blockages and leaks the breakdown of the UGWT motors also affects everyday life. Motor breakdowns happen in middle-class housing societies as well, but since they have back-up motors residents are not left without running water. There is no such back-up in place at these sites, and running water can be disrupted for three to ten days at a time. Some UGWT motors break down frequently, the reasons being a matter for debate and speculation. While one municipal engineer blamed the operators' carelessness,[18] the operators pointed to reasons such as the mineral deposits affecting the motor and the motor burning out because it is run for longer hours since the OWTs do not fill quickly due to pipe blockages and leaks. Although the AMC policy for the sites envisaged that residents would meet the cost of such repairs, faced with protests over breakdowns soon after people began to move to the sites, the AMC decided to undertake motor repairs. The former Additional City Engineer-Housing explained that at first this decision "was made for the poor" and because the residents associations were not yet formed and people were still settling into the sites. Later, in 2013, a 'political decision' was made by the Bharatiya Janata Party (BJP), which was in power in the AMC and Gujarat State Government, to continue to undertake motor repairs. This was in the context of the BJP vying to come to power in the national elections in April 2014.[19] Thus, whenever the motor got damaged the water operator was to contact the AMC for repairs and if repairs were delayed this generally led to residents protesting at the ward office.

However, when one of the motors broke down in KBT Nagar in May 2014 the AMC told the water operator that it would no longer undertake these repairs and that residents should contribute money to get the repairs done themselves. What had seemed to residents and water operators as an established claim on the AMC was suddenly disrupted. After unsuccessful protests at the ward office and appeals to

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[17] Discussion with Harpalsinh Zala, Additional City Engineer-Housing, AMC, 12/12/2017.

[18] Discussion with Mukesh Dodiya, Assistant Engineer-Water, Vatwa ward, AMC, 4/6/2014.

[19] Discussion with Anand Patel, former Additional City Engineer-Housing, AMC, 11/8/2017.

elected representatives, residents were left with no option but to start financing the motor repairs themselves or give up whatever running water they had in the buildings. They opted for the former. In the absence of residents associations, the responsibility for collecting money from households to fund motor repairs – or in some cases to buy a new motor – fell on the water operator. This has created conditions of conflict between residents and the operator, and sometimes amongst residents (discussed later).

Non-potable water and the provision of municipal standposts

In response to residents' concerns about the poor quality of water from the bore-wells, the AMC arranged for the manual and later automatic addition of chlorine to the UGWTs. This did not, however, address concerns about the hardness of the water. Municipal officials explain that municipal water was to be supplied to the UGWTs after the required infrastructure was built in the area. It was thus five years after the first families moved to the Vatwa sites that a large water distribution station was constructed in 2015 to bring in municipal water from one of the city's water treatment plants. This municipal water began to be supplied to the UGWTs at VGG Nagar and KBT Nagar in 2015-16. Yet the quantity of water supplied is hugely inadequate and the bore-wells continue to be used to fill the UGWTs. Bore-wells are widely used even in middle-class and upper-class housing societies, since the municipal supply does not meet the needs. But residents in these societies install domestic filtration systems in the individual home or buy 20-litre drinking-water cans. Few households at these sites could afford to do that. This reveals that the design of the physical water infrastructure at the sites as more or less similar to what is provided in private apartment societies by developers is based on an assumption that residents have the capacity to add on to the system or resort to practices that can address its shortfalls and ensure potable water in the home.

Further, the UGWTs and OWTs in many buildings are rarely cleaned in the absence of residents associations or informal structures to take this up, and residents complained that the water becomes contaminated in this storage infrastructure. They point out that this is compounded when buckets are lowered by rope into the UGWT to get water when the motors break down and by the theft of OWT lids in many buildings, which exposes the stored water to the elements and vandalism. Municipal standposts were installed at certain locations to address the non-potability of the water and provide residents with safe drinking water (see Figure 3). There are no written rules or procedures governing the provision of such standposts and ward-level engineers make decisions about standposts based on their knowledge and understanding of the water supply system and pressure on them from elected representatives to whom residents have made appeals.[20] As funding for standposts is usually allocated from an elected representative's annual development budget, their locations are largely decided through the logic of political patronage. This is based not only on a sheer calculation of the number of voters who would benefit from a political favour but of which groups are most likely to vote for them if the favour is bestowed. This has resulted in four standposts in Sadbhavna Nagar (two installed in 2013 and two in 2015-16) which has a mixed Hindu and Muslim population and none in VGG Nagar which has a Muslim population. Three standposts materialised in 2016 in KBT Nagar which has a Hindu population, not from political patronage but thanks to residents having cultivated relations with the ward-level engineer and to their own willingness/ability to pay. The standposts provide water in the morning for two hours and in the evening for 30 minutes to two hours. Since the water is inadequate for the population, they are controlled and used by residents from nearby buildings, while other residents either drink the bore-well water or fetch drinking water from sources outside the site.

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[20] Discussion with Jiten Sadat, Assistant Engineer-Water, Vatwa ward, AMC, 18/8/2017.

INFRASTRUCTURAL VIOLENCE AND RESIDENTS' PRACTICES AT THE PUBLIC HOUSING RESETTLEMENT SITES

The workings of the water infrastructure, as discussed above, has resulted in a lack of potable water in the home, inadequate water in the home on a daily basis for large numbers of residents due to pipe blockages and leaks and complete disruption of water for days at a time when motors break down. This section examines residents' practices – which include household-level coping practices, social mobilisation and collective self-help – in relation to these conditions to trace the everyday forms of violence and conflict in their lives.

The violence of consuming and coping with non-potable water

Residents felt that the hardness of the bore-well water was causing health issues, such as kidney stones. They pointed out that they had not faced this in their previous localities.[21] One water operator explained that she had developed an 11 mm kidney stone and had had to undergo surgery for its removal. Two FGD participants had a family member undergoing treatment for kidney stones, with one of the participants having spent Rs.4000 so far.[22] In two other FGDs participants knew a resident who had spent Rs.40,000-50,000 on surgery to remove kidney stones.[23] Many residents also pointed to the unclean water tanks. With domestic filtration systems and bottled water being too expensive, many nonetheless directly consume the water from their taps. Those who do not want to consume this water fetch water from municipal standposts inside the site, where they are provided and accessible, or from various sources outside the site (see Figure 3). These coping practices require investments of time and labour, and more so for those living on the upper floors of the buildings. Fetching water often results in fights at collection points. Residents referred to fights at the municipal standposts in Sadbhavna Nagar and in nearby informal settlements since water was available there for only two hours. Fighting is rarer at sources where water is available 24 hours, such as the Vatwa railway station and an illegal standpost behind a nearby shop where the shopkeeper sometimes charges for water.

The deprivation of potable water in the home has therefore resulted in either (the likelihood of) violence on people's bodies if they consume the water and its associated medical cost or routine coping practices such as fetching water, which, given the time and labour burdens entailed, reproduce inequities (see Crow and McPike, 2009 on such inequities in cities of the global south). The daily coping practices can also expose residents to conflict over scarce resources. There are many households at the three sites who had municipal taps inside their homes in their previous neighbourhoods or within easy walking distance in their lane. They explained that these taps had generally given them clean and adequate water for a few hours every day. The resettlement had therefore worsened their water access. For many other households, practices around accessing drinking water remained roughly the same before and after resettlement despite a promise that access would improve.

The violence of inadequate water and conflict over pipe repairs

24-hour running water has failed to materialise in most buildings due to pipe blockages, damage and leaks. Residents of houses with two to four hours of water at reasonable pressure twice a day, morning and evening, described the challenges they faced keeping toilets clean without enough space to store the extra water required for the purpose. Some pointed to petty conflicts within the household over who should use the running water for what in the few hours that it is available. Residents in houses

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[21] Medical studies note the weak correlation between drinking hard water and kidney stones, and cite dehydration as a risk factor. A focused study would be required to identify the factors contributing to this post-resettlement upsurge in kidney stone cases.

[22] FGDs at Sadbhavna Nagar, 29/10/2014 and 3/11/2014.

[23] FGDs at VGG Nagar, 28/5/2014 and KBT Nagar, 13/6/2014.

with water for less than an hour twice a day and at low pressure, or who have no water at all, are forced to collect it from other houses or from outside the site. Some residents stretch rubber pipes across houses or even buildings to transfer water, but many have to fetch it themselves, which requires an investment of time and labour. Those living on the upper floors suffer the most, as they have to climb with heavy cans of water. Residents expressed frustration, and sometimes anger, at this situation in the FGDs and interviews.

Residents initially mobilised to address the situation, missing work and spending money on transport to visit municipal offices, which added to the stress of resettlement. In at least one case the mobilisation turned violent (as described above in Shabana Bano's narrative). When the AMC refused to undertake building pipe repairs, residents turned to collective self-help to repair pipes, but this has only been successful in some cases. Block 46 in VGG Nagar was an example of success in 2014. Here, residents had agreed to raise almost Rs.40,000 to replace all the pipes in the building, with each of the 32 households contributing Rs.1200 in affordable monthly instalments of Rs.200. Shabana Bano, who collected these contributions, explained that not everyone was able to give even Rs.200 each month, so it took more time, but once all the contributions had been collected the entire building's pipes were replaced.[24] As a result the building began receiving 24-hour running water for the first time in two years. However, by 2017 this was no longer the case although they still had 'adequate' water for a few hours twice a day. By mid-2017, each household had already contributed another Rs.500 for further pipe repairs.

Such examples of collective self-help were found only in some buildings. In others residents explained that it was not possible to achieve the level of cooperation required, since many households could not afford the contribution, and organising the carrying out of such extensive repairs would inevitably lead to conflict. In cases where all households have contributed to repairs, the works are generally confined to replacing the pipe that brings water to the OWT (as in the case discussed earlier where the households in a building in VGG Nagar raised Rs.18,000), having the pipes cleaned to rid them of mineral deposits (in one building in Sadbhavna Nagar all the households had collectively spent Rs.1500 on this) or replacing a leaking valve. While the first would ensure that the OWT is filled, if indeed the main problem lay in this particular pipe, it does not address the blockages and leaks in the pipes running from the OWT to the houses, which may also lead to inadequate water supply. The cleaning of pipes may address blockages but not leaks. Many repairs are simply confined to smaller sections of the pipe network. For example, in some buildings four to eight households sharing a pipe from the OWT to their houses have come together to have it repaired, spending Rs.200-400 each. This can help matters to a greater or lesser extent depending on the condition of the remaining pipes. But, again, in many buildings such organisation has not been possible. Haseena Bano, who takes charge of the maintenance work for her building, explained:

> Whenever some work needs to be done, first there are fights and then the work gets done. Those on the upper floors say that they are not concerned about the garbage on the ground (…) Water pipes? If four families have to contribute money to repair a pipe, then the family who is getting some water will say "we will not give [money]". Some pipes are shared by eight families, but if you approach them for money, they will tell you to collect money from 32 families (i.e. all the families in the building). So sometimes one person will just get the repairs done and then go to collect money – sometimes there is a fight and some will give and some will still not give and people have to let it go. (Interview, VGG Nagar, 3 June 2014)

There are cases where the household that is willing to pay for repairs has disconnected their house from the damaged pipe that they share with the other households that are unwilling to spend the money and has laid an exclusive pipe to their own house from the main pipe coming out of the OWT. This modifies the supply network in the building, the repercussions of which in terms of water flow to

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[24] FGD, VGG Nagar, 4/6/2014.

the other houses is anybody's guess. It also creates conflict between residents where objections are raised to the modifications.

In summary, the AMC's policy requiring residents to undertake maintenance and repairs of water pipes has led to a situation of inadequate water supply in many houses. This in turn has led to routine coping practices, such as fetching water, which, given the time and labour entailed, reproduce inequities. Addressing this inadequacy by repairing pipes through collective self-help increases the economic burden and also entails a risk of conflict erupting between residents. In a few buildings residents have managed to collectively undertake extensive repairs, resulting in 24-hour water or at least adequate water. But it has not been possible in most cases where less extensive repairs have been repeatedly undertaken over the years by some or all of the households, often without seeing much improvement in supply. This does not mean that residents are unwilling per se to contribute to water infrastructure maintenance costs. Some pointed out that they could pay for the cleaning of pipes or for valves or small sections of pipe to be repaired, but that extensive pipe repairs were simply beyond their means.

Speculation over the reason for the inadequate water supply to their house/building leads some residents to blame the water operator for failing to release sufficient water from the UGWT. All the operators face difficulties in collecting their monthly fee from households. One resident grudgingly stated that one had to pay the operator whether or not water is received. Some residents believe the AMC pays a salary to the operator and that the latter is therefore taking money from them unfairly – and still not doing the job properly. Baldevbhai, a water operator, said that residents regularly insult and fight with him over the fact that they do not have adequate running water when this is in fact due to pipe blockages resulting in poor water pressure. He pointed out that his job is confined to operating the UGWT motor and that he has no other control over the water flow. Ibrahimbhai, a resident and shopkeeper at Sadbhavna Nagar, quit after a year working as the water operator because residents constantly came to his shop to complain about inadequate water, and put pressure on him to run the UGWT motor for longer. He explained that this would only have caused the motor to break down, leading to further fury over the complete disruption of water.

The violence of disruption and conflict over motor repairs

When the UGWT motor breaks down, which can be every few months, some residents collect water from municipal water tanks called in by the water operator, but these are insufficient to meet everyone's needs. Others take water from buildings supplied by other UGWTs or various sources outside the site. Some water operators allow residents to take water from the UGWT manually, using a bucket tied to a rope, although some residents refer to the '*maara-maari*' (physical fighting) that occurs while collecting water this way. One water operator even lets his UGWT overflow when the motor breaks down. At such times some residents from the upper floors, rather than carrying water to their houses from the UGWT, carry their utensils and clothes down to wash them around the tank. These coping practices entail greater or lesser degrees of time and labour, reproducing inequities and sometimes exposing residents to conflict. But they have prevented extreme water deprivation and even greater conflict while the motor is being repaired. When repairs take more than a couple of days tension and conflict intensify.

Prior to mid-2014, when the AMC undertook both bore-well and UGWT motor repairs, residents often came into conflict first with the water operator, who was seen as not acting quickly enough to effect the motor repair. In one case, when Sadbhavna Nagar's bore-well motor got damaged, a water operator was injured when a group of discontented residents pushed him over. On realising that the operator had limited powers to get the motor repaired quickly, residents staged a large protest at the ward office. Sometimes such occasions turned violent. In one instance, after visiting both the ward and zonal offices and getting no response regarding how long the motor repair would take, residents

returned to the ward office and threatened violence. In another, residents broke furniture and computers at the ward office in response to a delayed bore-well motor repair. The police were called in to crack down on the protestors. According to residents' narratives, the AMC hastened the repairs in the face of such violence. One resident claimed that the AMC responds only when there is violence:

> It is necessary to make a commotion. It is necessary to fight with the government. The government is not so good that it will look into the provision [of what is required]. (Interview, VGG Nagar, 3 June 2014)

When the AMC stopped repairing the UGWT motors in mid-2014 it was left to the water operator to collect money from residents for maintenance. The point of conflict therefore shifted from the AMC towards the households and operator. Instances of such conflict were seen in KBT Nagar over the next several months. Since economically vulnerable households find it difficult to pay their contribution promptly, conflict would sometimes arise when those who had already paid their contributions quarreled with the operator about the delayed repairs while the operator put pressure on residents who had not. Moreover, operators are not always transparent about the money collected or the expense incurred for repairs. One operator in particular was openly scorned by residents for having taken more money than required. Having been unable to collect all the money required for a motor repair, another operator put in his own money in order to get the work done but refused to start the motor until all households had paid. Residents who had paid remained silent because the operator was from their caste, but they expressed resentment in the FGD, perceiving that he had unnecessarily denied them water for many days even though the motor was already repaired.[25] Three years on, in 2017, residents mentioned contributing Rs.200-300 every few months for motor repairs. In KBT Nagar a motor repair in the summer of 2017 had taken 15 days, during which time there was no running water.

CONCLUSION

This paper has closely examined the everyday workings of the water infrastructure at three public housing resettlement sites in order to unravel the socio-material configurations which constitute inadequate water flows, and the ways in which urban planning, policies and governance produce infrastructural violence at the sites. Infrastructural violence in this case is not the denial of water infrastructure. If anything, there has been substantial financial investment into constructing the sites, including the physical water infrastructure. It is not even the denial of water, since a substantial amount of water is, in fact, released into the underground water tanks of the three sites from bore-wells (and at two sites from a municipal water distribution station since 2015-16). Rather, as the paper shows, the AMC's design of the sites involves an overall physical infrastructure for water that is similar to what developers generally provide in private, middle-class apartment societies. The AMC's policy for the sites requires the formation of residents associations to take responsibility for basic services, including operating and maintaining the water infrastructure. This frames the relations between the state, residents and basic services at the sites as similar to those in private housing societies. But this design and policy assumes that residents at the sites have the same capacities as those of private housing societies to co-produce potable and adequate running water in the home by adding on to the system (with domestic filtration systems, back-up motors) and undertaking costly maintenance and repairs. However, the capacities of these residents are constrained by their economic circumstances and social relations at the sites, which are partly shaped by their resettlement on the city periphery through a socially disruptive allocation process.

In other words, while the AMC's design of the water supply system at the sites and its conception of the governance of this system appear to be non-discriminatory by being similar to private housing

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[25] FGD, KBT Nagar, 15/6/2014

societies, this ignores questions of equity and the resource allocations required in order to actually make potable and adequate running water available to poor and low-income residents. It also disregards the AMC's complicity in undermining residents' capacities through the nature of resettlement. Infrastructural violence is thus produced at the sites through the assumptions made about residents' capacities and a disregard for processes that limit, challenge and undermine their capacities, which play out in the everyday workings of the water infrastructure at the sites. In this context, the paper also argues that the infrastructural violence at the sites is linked to global city-making processes characterised by massive displacements and economically and socially disruptive relocation.

Another facet of this infrastructural violence is the discourse amongst municipal officials, which places the blame for inadequate water conditions at the sites on residents' unwillingness to take on their responsibilities. Public housing in Indian cities has generally been poorly maintained, but earlier discourses held the state fully or partially responsible for this failure (for justified or unjustified reasons: poor institutional capacity, inadequate finances, lack of political or administrative will). Today, discourses have shifted, with the state laying the blame for this failure squarely on residents. Central to this shift is a policy that emphasises the formation of residents associations in these new housing developments for the poor – a discourse situated in broader neoliberal shifts in governance towards reducing the state's role in public welfare and stressing citizen responsibility. Significantly, in this case, the state has taken on what could be considered a welfarist role by providing public housing. However, the use of this housing to resettle those evicted for global city making, as well as the conception of governance at the housing sites as being similar to private middle-class housing societies, reveals how this public housing is actually central to its current neoliberal approach.

However, as the paper also shows, the AMC's policy requiring the formation of residents associations to take up responsibilities for ensuring basic services is not the only logic at play at the resettlement sites. Logics of expediency, benevolence or humanitarianism, delegitimisation of the poor and political patronage also run through the ways in which the AMC has addressed the water infrastructure at the sites. While the AMC's refusal to take responsibility for water supply at the sites once houses have been allocated emerges from its policy for public housing sites, another logic at play views the residents of the sites from a political perspective, resulting in interventions around water that are shaped by political patronage and its associated calculations. A humanitarian logic is found in varying degrees amongst the local bureaucracy, which leads to particular kinds of intervention at certain moments. Actors in the local bureaucracy also delegitimise residents' concerns to varying degrees. Some view the residents through a lens of illegality, since they consider them to be undeserving of having been moved from 'illegal' settlements to formal housing. Others cast residents as taking advantage of the AMC's humanitarian interventions, and so on. The multiple, sometimes contradictory, logics contribute to the infrastructural violence around water at the sites. While benevolence and political patronage reduce certain deprivations – for example, by providing municipal standposts – these are unevenly and inadequately provided, benefitting only some, and at times also leading to conflict amongst residents. Even for those who benefit it entrenches other burdens in their lives, such as the time and labour required to fetch water from standposts. Expediency, benevolence and political patronage also resulted in the AMC taking on certain responsibilities against its policy, such as repairing UGWT motors and occasionally underground water pipes. Yet while the former was suddenly revoked, destabilising what had seemed to be an established claim, pipe repairs have been uneven and also increasingly rare, as the AMC's policy becomes the dominant logic. The AMC's withdrawal from motor repairs shifted a conflict between residents and the AMC to one between residents and the water operator or conflicts amongst residents. The public housing sites thus reveal both continuity and a shift in water inadequacies faced by the urban poor and in relations between the state and the urban poor regarding water. More broadly, the paper has underscored the importance of investigating water inequality in the city by paying close attention to the everyday workings of water

infrastructure and excavating the diverse logics shaping the state's practices regarding water supply to various localities and groups.

ACKNOWLEDGEMENTS

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