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Persistence of Water Access Conflicts in Mumbai: Narratives and Politics

DISSERTATION

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in Urban and Environmental Planning and Policy

by

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Professor Richard Matthew, Chair
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DEDICATION

To

My parents.

And the oddity that is water.

Water is far from a simple commodity,
Water's a sociological oddity,
Water's a pasture for science to forage in,
Water's a mark of our dubious origin,
Water's a link with a distant futurity,
Water's a symbol of ritual purity,
Water is politics, water's religion,
Water is just anyone's pigeon,
Water is frightening, water's endearing,
Water's a lot more than mere engineering,
Water is tragical, water is comical,
Water is far from the pure economical,
So studies of water, though free from aridity,
Are apt to produce a good deal of turbidity.

- Kenneth Boulding (1966)

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FIELD OF STUDY

Water Conflicts

ABSTRACT OF THE DISSERTATION

Persistence of Water Access Conflicts in Mumbai: Narratives and Politics

by

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Associate Dean Richard Mathew, Chair

Access to adequate, timely, and reliable supply of good quality water is fundamental to survival and well-being of human beings. However, a large part of the global population, including population of megacities of the world, is denied access to water. Conflict over water-access has been a historical phenomenon in Mumbai, one of the global megacities in India. Such conflict still persists in the city especially over denial of access to the formal water supply network to residents of slum colonies, even though the city has abundant water supply and adequate financial resources.

This doctoral dissertation investigates persistence of this water-access conflict in the city of Mumbai. While accepting the theoretical lens of political ecology, the dissertation adopts the methodological approach that involves eliciting, re-articulating, and analysing narratives around the issue of water-access of key actors who influence water-access policies. Narratives, here, are normative accounts deployed by actors around a contested issue. Such narratives comprise articulation of positions of these actors on the issue and justification of these positions. Often, these also include criticisms of positions of other actors.

The field work for this research involved multi-round and extended semi-structured interviews—conducted over a period of ten months—of sixty-four respondents representing different key actor-groups. The data collected was analysed parallelly using the thematic analysis technique and NVivo, the qualitative data analysis software.

Twelve narratives emerging from data have the following central themes: (i) Human Rights, (ii) Right to City, (iii) Legality of Tenements, (iv) Structure and Spatiality of Tenements, (v) Planning Lacunas, (vi) Technical Barriers (vii) Techno-Fixes, (viii) Economic and Financial Barriers, (ix)

Commodification and Privatization, (x) Slum-Dwellers as Free-Riders, (xi) Slum-Dwellers as Thieves, (xii) Mafia, Profiteers, and Nexus. These narratives are divided in four substantive groupings, titled: Rights, Tenements, Technology, and Economics.

Different actor-groups involved in this conflict strategically deploy these narratives in order to protect and promote their respective interests and values. Based on such strategies, these narratives are divided in four strategic groups called Narratives of Claim, of Denial, of Evasion, and of Excuse.

Starting with inequality and the conflict around water-access and using the theoretical lens of political ecology, this dissertation then presents politics, on the plane of narratives, around the water-access conflict. This politics manifests in terms of contestation among values and interests underlying these narratives as well as among strategic positions of different actors. The overall picture that emerges from this politics leads to the finding that the conflict around water-access on the plane of narratives is in the state of gridlock. The lens of political ecology is also used to bring out politics on the ground or on the plane of practice, operating in three different spheres—namely, politics of policy, politics of class, and politics of othering.

Further analysis of politics on both these planes leads to the main finding of the dissertation that persistence of the water-access conflict in Mumbai is rooted in the dynamic gridlock in politics around the conflict on both the planes. This dynamic gridlock is outcome, on the narrative plane, of the persisting clash among contending narratives that continuously learn and evolve, and, on the practice plane, of the enduring tussle among actor-groups deploying diverse strategies such as seeking endorsements from powerful institutions and actors as well as building coalitions and social movements.

Chapter 1: Introduction

Background

Water Access in Megacities

Today, around one in eight people in the world live in 31 megacities, or urban agglomerations with 10 million inhabitants or more. Since the 1990s, the number of megacities has nearly tripled, and, by 2030, more than 40 of such massive urban agglomerations are projected to house a significant proportion of the global population (UNESCO 2014, UN 2016). Megacities are important economic, social, and political drivers of development of countries. But, at the same time, rapid, unplanned, and unmanageable growth of megacities can pose serious challenges to sustainable development, especially when policies are not capable of ensuring equitable distribution of the costs and benefits of the city (UNESCO 2014).

Access to adequate, timely, and good quality water is fundamental to the well-being of the human population. Many megacities are expected to face significant water scarcity in coming decades, resulting from the increasing demand due to burgeoning population and faster economic growth (Li et al. 2017), and, by 2050, this water demand is expected to rise further by 55% (Araos et al 2016). Such high levels of water demand in future will be impossible to manage unless megacities are able to effectively address current challenges to urban water security: demand management, equitable distribution, conservation, water efficiency, and sustainable consumption (Araos et al 2016, Arfanuzzaman and Rahman 2017). Even though, on the surface, the infrastructure for capturing, storing, transferring, and regulating water seems to be adequate to address the concerns of water insecurity in megacities, research suggests that the reality is quite the opposite (Padowski et al., 2016).

In many of the world's megacities, aging water infrastructure, ineffective governance systems as well as prior social arrangements and traditional water regimes in hinterlands are pre-existing conditions that any future urban water policy will need to grapple with (Tortajada, 2008). These are some of the historical constraints on water management systems, with technical, institutional, economic, as well as socio-political dimensions. Such historical constraints make water issues more complicated to handle, as conflicts associated with these constraints are an inherent part of the communal psyche and socio-political narratives. The buy-in of stakeholders to policies will depend on how these constraints are addressed, and, hence, efficiency of policy implementation will depend on how policy designs will address these constraints.

Mumbai and Water

On 22nd March 2018, on the occasion of World Water Day, a leading local newspaper in Mumbai featured an opinion piece by a local water expert and activist, Mr. Sitaram Shelar titled "*Paanivatpaat bhedbhaav kashasathi*?" ("Why discrimination in water distribution?") (Shelar 2018). Shelar (2018) questions why inequalities in water access exist when the city gets more than twice the needed quantum of water supply. He points to how the state has made a distinction between '*adhikrut Mumbaikars*' (legal Mumbai residents) and '*anadhikrut Mumbaikars*' (illegal Mumbai residents) and how Mumbai, thus, does not provide water to 20-30% of its population. Shelar also alludes to the 'local water mafia' that controls, captures, and sells water–by stealing it from the formal network–to the urban poor for a higher price. The 2014 verdict by the Mumbai High Court decided that providing basic water to everyone in the city is the legal responsibility of the Municipal Corporation of Greater Mumbai (MCGM). Shelar claims that both, the MCGM and the 'legal' middle class in Mumbai have managed to ignore thirsty urban poor of the city. He

ends his succinct and impactful piece by stating that this is one more example of how water is used as a weapon of power to continue discrimination in the development of the city based on class, caste, and, now, extending it to legal rights to the city (Shelar, 2018).

This piece captures what has been the story of water access in Mumbai since the 1800s, when the first municipal water supply scheme in British India, the Vihar dam, was constructed to supply water to the city (Dossal 1988). Since then people and communities in Mumbai have been in conflict with each other over access to water. Over the last few decades, in the urban poor areas, there has been growing proliferation of informal markets and makeshift structures to secure and bring water to the local poor. The middle classes–the principal beneficiaries of municipal water supply–have displayed growing hostility towards these practices of the urban poor (Kaviraj 1997, Gandy 2008). Mumbai's polarized socio-political landscape has led to a 'labyrinthine politics of water provision' (Graham et al 2013). In March 1999, thousands of people rioted for three days in the area of Bhayandar (an extended suburb of the city) due to inadequate municipal water supply. This was alleged to be the result of obstructive tactics of local politicians to delay construction of new water infrastructure. These local politicians–called as the 'water-mafia' or the 'tanker-lobby'–were involved in informal water supply, charging very high prices to citizens (Sovani and Lokhandwala, 1999; Lokhandwala and Namboodiri, 1999a; Shrivastava, 1998). In the years 2009 and 2010, legal and police intervention were used to criminalize and punish certain ways of accessing water by the urban poor (Sathe, 2010; Graham et al, 2013). The Municipal Corporation launched raids by using the police force for the first time to systematically destroy "illegal" makeshift structures and pipes constructed by the slum dwellers (Graham et al. , 2013). The new discourses of "water theft" and "water emergency" that took root in these years allowed the government to invoke the draconian criminal law called Maharashtra Control of Organised Crime Act (MCOCA) against the urban poor (Suryawanshi 2010). The court case mentioned by Shelar (2018) in his piece alludes to a public-interest petition filed by a

coalition of civil society organizations in Mumbai under the banner of *Pani Haq Samiti* (PHS) [or Water Rights Committee] in the Mumbai High Court in October 2012, demanding protection of the right to water of residents of slum colonies set up after the year 2000. As a response to this court case, the municipal corporation came up with a policy in 2017 that puts the onus of securing water access on urban poor; however, the policy also creates a series of insurmountable barriers for these politically marginalized urban poor.

The area under the jurisdiction of the formal municipal-level governing body called Municipal Corporation of Greater Mumbai (MCGM) is considered here as the city of Mumbai. It is divided into two revenue districts, Mumbai City District and Mumbai Suburban District (Safe Water Network 2016). While the Mumbai City District has a population of 12 million, the combined urban agglomeration of Mumbai (spilling outside the jurisdiction of MCGM) ranks among the ten most populous cities of the world, with a population of over 20 million according to the 2011 National Census (Government of India, 2011). It has reached an estimated population of 22 million in 2018. For a city of this magnitude to survive and thrive, adequate and timely supply of water on the day-to-day basis to its residents is absolutely essential. The National Census (2011) estimates that 41.3% percent of Mumbai's population lives in dense informal settlements--or 'slums' or 'zopadpatti' as they are called in Mumbai--which occupy only 5% of the land of the city.

The Hydraulic Engineering Department of MCGM is responsible for providing water to this population, for managing and operating the water networks, as well as for billing and collecting revenue. The department is headed by one Hydraulic Engineer (H.E.) who works from its central office. He is assisted by twelve Deputy Hydraulic Engineers. At the ward level (the smallest administrative subdivision), there are small,

sectional offices of the Hydraulic Department where scores of and Senior Engineers and Junior Engineers work. All there officers are jointly responsible for the around 300,000 water connections in Mumbai (Safe Water Network 2016). Considered India's richest civic body, the MCGM has the annual budget of 334.41 billion rupees for 2020-21, out of which 17.29 billion rupees is allocated for water supply projects, a trend which has continued for years (Economic Times, 2020). So, there is no dearth of financial resources to expand and improve the water supply system of Mumbai.

Additionally, Mumbai claims and obtains massive quantities of water from surrounding districts. All of Mumbai's major surface water comes from major river basins of Vaitarna, Ulhas, Patalganga and Amba river from the surrounding districts. There are 6 dams and reservoirs that impound and supply water to the city: Vihar Scheme, Tulsi Scheme, Tansa Scheme, Upper Vaitarna Scheme, Lower Vaitarna Scheme, and Bhatsa Scheme (Safe Water Network 2016). These six dam projects collect water for the city from a total catchment area of 5756 sq. km. with an estimated water potential of 10439 million cubic meter (at 75% dependability). So, one can say that, similar to financial resources, there is no dearth of water resources to the city either. Anand (2020) infers from states his study of government documents and interviews with BMC engineers that there is an agreement even among engineers that the quantum of water that is currently brought into Mumbai is adequate to satisfy water demands of all the residents of the city.

Research Interest

Thus, the city of Mumbai is facing a peculiar situation. While adequate water and financial resources are available to the city, it is witnessing conflict over water access that has a long history since its inception. This history of conflicts over water-access has sparked interest in many academics. One of the most

recent and influential works on Mumbai's problems with water access is by Nikhil Anand. In his book, 'Hydraulic City: Water and the Infrastructures of Citizenship in Mumbai' (2017), he details why it is important to see infrastructure as a socio-material phenomenon that influences governance of water significantly. Through extensive ethnographic fieldwork in Mumbai, Anand highlights the politics behind management of water infrastructure. Another academic that has recently made a major contribution to understanding Mumbai's water issues is Lisa Bjorkmann. In her book 'Pipe Politics, Contested Waters: Embedded Infrastructures of Millennial Mumbai' (2014), she demonstrates how the everyday work of getting water to people of Mumbai leads to a plethora of infrastructural activity— formal and informal — that, in turn, keeps reconfiguring the political climate of the city.

Most of the hitherto academic work on water access issues in Mumbai is focused on this connection between infrastructure and access. In these research projects, the politics of water infrastructure has been the centrepiece. While this is indeed a significant and important component and determinant of water access, in this dissertation, I would like to change the focus of my inquiry and make water access as the centrepiece. This is because, as discussed above and as will be discussed in the next chapter, conflicts around water access have been persisting in the city since its inception. In this context, it will be interesting to gain a deeper understanding of the roots, nature and particularly the mechanisms of persistence of these water-access conflicts in Mumbai.

Thus, the main research question for the proposed research is as follows: *How do conflicts over water-access emerge and persist in Mumbai?*

Before the dissertation embarks on efforts to answer this research question, a brief discussion, aimed at gaining some understanding of water-access conflicts in general, is presented in the next section.

Water-Access Conflicts

Understanding Conflicts

Conflicts are an inevitable, integral, and almost normal part of human interactions. They are essentially rooted either in disagreements over substantive issues or differences in preferences, perspectives, or values. Conflicts arise when these differences or disagreements lead to real or perceived threats to the needs, interests, or values of individuals or groups of individuals (Vaidyanathan, 2008). In response to these threats, individuals or groups react and interact with each other. Hence, one very effective way to understand a conflict is to view it in terms of patterns of interactions among the contending parties (Jeong, 2010).

Conflicts are shaped by the actors involved and the characteristics of relationships they share, for example, power asymmetries, varying social relationships, or differences in identity perceptions of actors. Conflicts are also influenced by contextual factors and conditions like the economic situation, political system, social structures, legal regimes, or access to resources. Further, conflicts manifest in diverse forms, and with varying intensities. Conflicts could erupt in a violent form, as in the case of armed struggles or wars. Alternatively, they could manifest in a variety of non-violent forms, such as media debates, mass action, petitions to government, legislative advocacy, or court cases. The intensity of the conflict would depend on factors like depth of disagreement, severity of the perceived threat, or intensity of bitterness

or suspicion among parties, often rooted in historical or other causes. Conflicts need not be always problematic, disruptive, or destructive; conflicts may prove to be drivers of legal, institutional, political, or even social change (Jeong, 2010; Menkel-Meadow, 2004; United States Institute of Peace, 2011a; University of Wisconsin Madison, n.d.).

Defining Water-Access Conflicts

Access to adequate, clean, and affordable water is essential for human wellbeing and prosperity, and is a basic human need. Not only that, given the health related, economic, and social implications of deprivation from water, access to water is an issue of human rights. Sustainable access to water has been a developmental target for decades. Under the seventh Millennium Development Goal (MDG 7), the indicator of sustainable access to water was measured by percentage of population using improved drinking water sources. However, it did not take into account the location, availability, or quality of the water (WHO, 2018). Target 6.1 in the Sustainable Development Goal 6 focuses on safe and affordable drinking water. The target is tracked with the indicator "safely managed water services" –[access to] water from a water source that is located on premises, available when needed, and free from contamination (United Nations, 2018a). Thus, for the purpose of this research, access to water is defined as availability of adequate, timely, and good quality water to satisfy basic human needs.

Achieving this goal is a tall task. By 2025, around half of the population of the world will be living in water-stressed areas (WHO, 2018). There are competing demands on water resources while a large number of communities across the world are unable to get enough water to satisfy their needs. Additionally, there are sociocultural and economic inequalities in water supply, which leads to some populations being deprived of water. Drying of water sources, population growth, demographic changes, climate change,

and rapid urbanization are expected to pose tall challenges for water supply systems (United Nations, 2018b; Water.org, 2018; WHO, 2018).

Water related stresses and consequent contestations or disputes emerge from threats to different types of securities connected to critical water resources (Zeitoun 2011). Whether these contestations would lead to conflict or cooperation depends on a variety of causal factors embedded in the particular social, political, military, economic, and historical contexts of the region, states, or actors involved. Water-related stresses are seen as results of threats either to water security (interpreted as erosion in the availability, quality, and access to water) or threats to other forms of security connected to water resources. Both academic literature and the empirical evidence suggest that water related issues lead more often to cooperation than to conflicts. But the move toward a conflict or cooperation would depend on the dynamics between different actors involved as well as on their willingness and capabilities to cooperate (Dinar & Dinar, 2000; Elhance, 1999). These and many other attempts to categorize and characterize water conflicts and cooperation revolve around concepts like water stress and security.

UN-Water (2013) proposes the following definition of water security:

> "The capacity of a population to safeguard sustainable access to adequate quantities and acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability."

The actual or perceived threats to the water security of individuals, regions, or countries, or the experience of loss on the account of any aspect or elements of water security, leads to water conflicts (Leahy, 2013; Zeitoun, 2011). Summarizing the above literature, conflicts over water access or 'water-access conflicts' could broadly be defined as: *Contestations and disagreements over real and/or perceived threats to access to water among different actors, where access to water means availability of adequate, timely, and good quality water to satisfy basic human needs.*

This understanding of water access conflicts is broad and can encompass conflicts of all scales, types, and durations. This definition might need further refinement to serve the specific purpose of this thesis with the given focus on Mumbai, but the key point here is that a water access conflict has three facets: (1) contestation or disagreement over water access (2) real or perceived threat to water access, and (3) access defined in terms of when, how, how much and what quality of water is available to different actors.

Water-Access Conflicts and their Complexity

The critical dependence of human-beings on water makes water-access conflicts complex, multidimensional, multi-party, high-stake, highly politicized, nearly intractable, and essentially social affairs (Maiese, 2003). To begin with, water has many peculiar physical properties. As a physical entity, water is very local. Water also is permeable; i.e., it easily and smoothly moves at the local level through surface and subsurface water bodies, but, at the same time, it is difficult and costly to move in high volumes, especially over long distances. Conversely, through the hydrological cycle and other atmospheric phenomena, water moves at regional or global levels (Bogardi et al., 2012). These critical physical properties of water have diverse and immensely important implications for water-access conflicts. The presence of water at different levels and its ability to move and permeate through different levels—local,

national, regional, and even global—result in emergence of water-access conflicts at multiple scales of governance (Bogardi et al., 2012).

In the process of working with physical uncertainties around water, over the ages, human beings created social roles, cultural norms, and legal regimes to deal with water and its vagaries. As a result, different social groups, and, especially, the parties involved in water-access conflicts possess diverging sets of historical, religious, legal, and cultural perspectives towards water, which make water conflicts nearly intractable (Maiese, 2003). Water and irrigation are said to be the driving forces behind building of complex social structure, empires, and states (Wittfogel, 1955). The human constructs—social roles, cultural norms, and legal regimes—surrounding water are so dynamically intertwined with physical properties of water and so integrated in affairs of human communities that water, a physical entity, has been transformed into a socio-cultural and legal entity. Additionally, the norms defining legitimate and fair governance of water provisioning are also shaped by deeply held values rooted in tradition, culture, and even religion (Feldman, 2017). As a result, water-access conflicts are said to be dynamically linked to other spheres and aspects of human life, making the conflicts immensely complex (Arthington and Balcombe, 2012; Biggs et al., 2013).

Additionally, as Gujja (2008) points out, the old water regimes, like common property regimes, are built around water bodies and streams, and, often come into the way of modern-day developers of big water projects, giving rise to umpteen number of diverse types of water-access conflicts all across the world. In modern societies, in order to gain access to water, public as well as private actors have to try to secure control over existing water bodies that are used and controlled by local communities (USAID, 2014). This gives rise to water-access conflicts when water is ‘enclosed’ and communities using water for centuries

are ‘dispossessed’ (Perrault, 2013). The insatiable thirst of the private actors also results in water-access conflicts when existing water sources in the public sphere are privatized and commoditized (Swyngedouw, 2005). Water becomes a tool for power-play among actors, making water-access conflicts highly politicized (EWP, 2012; Mauelshagen, n.d.; Pacific Institute, 2009; Feldman, 2017). The key point to consider is that water access conflicts are peculiar as water is not only a basic need for survival, but also is very closely tied to political, social, cultural and historical identities of various actors.

These human-induced characteristics of water have lent some additional special features to water-access conflicts. Because water is a physical, biological, social, and cultural entity simultaneously, water-access conflicts are said to be socio-ecological in nature and highly complex in their structure and dynamics (Bogardi et al., 2012; Gujja, 2008). Further, the immense complexity in water technologies and socioeconomic environments on one hand, and very ‘delicate ecological dynamics’ on the other hand, make water-access conflicts immensely complex (Arthington and Balcombe, 2012; Biggs et al., 2013). These will get further complicated due to future changes and challenges resulting from climatic variability, adaptation, and sustainability (Biggs et al., 2013). In other words, because water is a physical, social, legal, and economic entity simultaneously, water-access conflicts involve complex and multi-layered linkages from the fields of engineering, hydrology, legal and institutional aspects, requiring interdisciplinary knowledge and expertise for their resolution (Vaidyanathan, 2008).

Though it is really difficult to sum up such a rich discussion in the literature on water-access conflicts in particular, and water conflicts in general, the main take-away from this discussion on conflicts and water conflicts for this dissertation is the need to acknowledge the extraordinary level of complexity--on physical/ ecological, socio-cultural, political, individual-identity planes--around water-access conflicts.

This complexity also leads to the possibility that there would be multiple perspectives on water-access conflicts in Mumbai with variations on all these planes. In order to address the above-mentioned research question effectively, both these factors need to be captured well in the research, namely, the multi-dimensional complexity and multiplicity of perspectives. This is going to be a significant methodological challenge. In this background, it can be envisaged that resolving water-access conflicts is not an easy task. A large number of water-access conflicts are festering for long periods and going through cycles and episodes, without any end in sight (Biggs et al., 2013; Gujja, 2008; Joy et al., 2008).

The next section presents a detailed historical account of conflicts over water-access in the city of Mumbai since its inception. This will set the historical context to the investigation into the central concern of this dissertation--water-access conflicts in the city and their persistence.

Persistence of Water Access Conflicts in Mumbai: A Historical View

Water Supply in the Pre-Modern Mumbai

Mumbai, previously known as Bombay, has been growing for the last five hundred years. Starting from just seven islands separated by swamps and creeks to being a thriving, sprawling cosmopolitan megacity it is today, Mumbai has managed to catch the attention and fancy of many rulers and common people alike. By the end of 1700s, 'Bombay' (as the city was known until 1995) had become the 'The Gateway to India,' after the England-based East India Company developed the city by making best use of its natural deep water ports (British Library n.d.). To capitalize on the gains that their hold on such a strategic port offered to them, particularly through the opium trade with China, the British carried out big projects of

engineering work in the early 1800s – fusing the seven islands into one big port city by 1845 (Gandy 2008). In 1820, with a population of 300,000, Mumbai was already the sixth largest city in the world and by 1864 there were over 816,000 people living in Bombay (Gandy 2008).

In pre-colonial times, water was a precious source as it was a basic necessity for survival and satisfying this need was a moral obligation (Cullet & Gupta, 2009; Faruqui, 2001; Habib, 1969; Naff & Dellapenna, 2002). As rains were seasonal, the Indian population mainly relied on varied types of water harvesting systems. Instead of big dams, tanks and wells were the main water harvesting structures in both urban and rural areas. Most water harvesting and management technologies were locally developed and were supported by an elaborate and complicated system of religious practices, social practices, and customary rights (Aggarwal & Narain, 2005).

Mumbai had a similar system that heavily relied on wells, tanks, and lakes, often built as charitable endeavours by the rich Parsi and Gujarati merchant communities. One of the oldest of such endeavours is Cowasji Patel Tank built in 1780 (Kelkar, 2014). According to Kelkar (2014), some important tanks that supplied water to the city were: the Byculla tank (168000 square feet); the Baboolanath tank (234,000 square feet): the Mumba Devi tank (77,000 feet), Cowasji Patel tank (15,000 square feet) and the Dhobi tank (48,000 square feet). A typical response to water scarcity, thus, was adding to the existing tanks and wells, and by 1824, there were around 4000 public and private tanks in Mumbai (Kelkar, 2014).

Fuelled by the opium trade with China, the city continued with its growth, but the living conditions in the city steadily deteriorated (Gandy 2008). As with many 19th century cities, the particular concern due to

rapid urbanization in Mumbai was uncertainty over water availability, which prompted Bombay Municipality to appoint city's first water commission in June 1845 to search for alternative sources of water (Gandy 2008; Dossal 1988). The commission recommended the building of the Vihar dam, but this wasn't taken up by the government.

According to (Kelkar, 2014), the growth of the city and the ensuing scarcity of water gave the colonial government an opportunity to control and hold local inhabitants responsible for the problem, citing misuse and negligence by them, even to an extent of having 'Water police' to prevent wasting of water. In instances of extreme scarcity, the water police was in charge of ensuring that the water in the public tanks was not used for bathing or washing clothes. The Governor in Council then put the wells and tanks under the authority of Superintendent of Repairs. Peons were placed at the wells and tanks to keep tabs on water use.

The trigger to build the Vihar dam was severe droughts of years 1854 and 1855, during which water had to be brought in as emergency supplies via boats to the port city (Dossal, 1988). The Bombay Spinning and Weaving Company, the first textile mill to be established in the city in 1854, started transformation of the city into a promising industrial and manufacturing centre, making the colonial government realise that increasing the water supply might be the way ahead (Kelkar, 2014). Additionally, the events leading to and after Indian War for Independence in 1857 led to a turbulent political climate in the 1850s. As a result, these events also increased the need for building loyalty among the Indian population towards the colonial state and for establishing functional legal systems and public services (Prashad, 2001; Hansen, 2005).

In 1857, the country came under the direct rule of the British Crown. This, as per historians, led to rapid deterioration of major traditional social and economic institutions as science and technology were used as a 'civilizing mission' to 'improve' and 'modernize' India (Arnold, 2000 page 16-17). Water management in Bombay was also heavily influenced by this switch, and there was a sudden move towards adopting new water technologies, building hydraulic and gravitational water supply schemes, damming of rivers, and creation of artificial reservoirs and lakes (Kelkar, 2014). The modernization discourse, as Hazareesingh (2007) observes, served to only increase the state's control over the land and created more opportunities for revenue collection.

Growth of the Modern Water Supply System

In this political climate, the Vihar dam was finally built in 1860 to supply water to the city of Mumbai. But any development in the form of infrastructure building in colonial India had two underlying political connotations. The first was: the reluctance of the British government to justify investment in these improvements in its overseas colonies, which led to efforts to make these developments profitable (Prashad, 2001). The second connotation was tensions due to the consequent increases in taxes levied on the Indian population, which felt that the improvements were only for colonial enclaves (Dossal, 1988;1991). As Kelkar (2014) points out, people who had the least say in these development and decision-making and who could least afford it, paid heavily for these improvements. Increased prices of commodities and increased taxes led to strikes in Bombay for wage hikes. Yet, the government claimed that the Vihar water works was a 'material boon' provided by the western civilization and that Vihar dam helped the city embark on the modern times (Muir, 1917). The city experienced a drastic change in the water supply management with completion of the Vihar water works, which was based on two main

assumptions, first, that the city could not satisfy the needs of the population, hence, and was water scarce, and, second, that water concerns of the city could only be addressed by engineers (Kelkar 2014).

Vihar Water Works was the first municipal water supply scheme in British India, providing 32 million litres of water a day. Ever since this first scheme, water supply was linked with house tax, and was turned into a major source of revenue for the municipality, though the access to the piped water system remained available only to better-off households (Dossal, 1988; Gandy, 2008). It was observed that, even in this early period, the question of water access in 'Bombay' was dealt with by taking a 'technically oriented approach to handling the interrelated challenges of social and economic development' (Gandy 2008, page 113). Despite these drawbacks, the individual house connections in the city went from 200 in 1860 to over 6000 in 1865 (Gandy 2008). The water supply from the Vihar project could not fulfil the increasing needs of the growing population and urbanization, and, by 1872, the Vihar system had to be doubled in its capacity (Tulloch, 1872). . Further, the drought of 1879 led to the need to build a second dam called the Tulsi dam , and, by 1885, the far more ambitious Tansa scheme had been undertaken by the government (Kelkar 2014)

By 1892, the city was getting 77 million litres of water a day, yet, that was not considered adequate. The colonial government could not keep up with the technical modernization promises and ideals they had started with, and, by the 1880s, the government's response was to ascribe the blame of these failures on to the cultural and racial differences and practices of its subjects (Prashad, 2001). The globally deteriorating environmental conditions and the onset of bubonic plague also affected the ways in which the governing agencies started shaping the city (Klein, 1986; Ramanna, 2002). It led to the establishment of the Bombay Improvement Trust which went on to buying large lands in the city and demolishing slums

to keep urban degradation and disease at bay, but, as Krishnan (2005, page 2) suggests, this was due to "the paranoid fear of the city's elites of pestilence and disease spreading to their bungalows from poorly ventilated and overcrowded slums''.

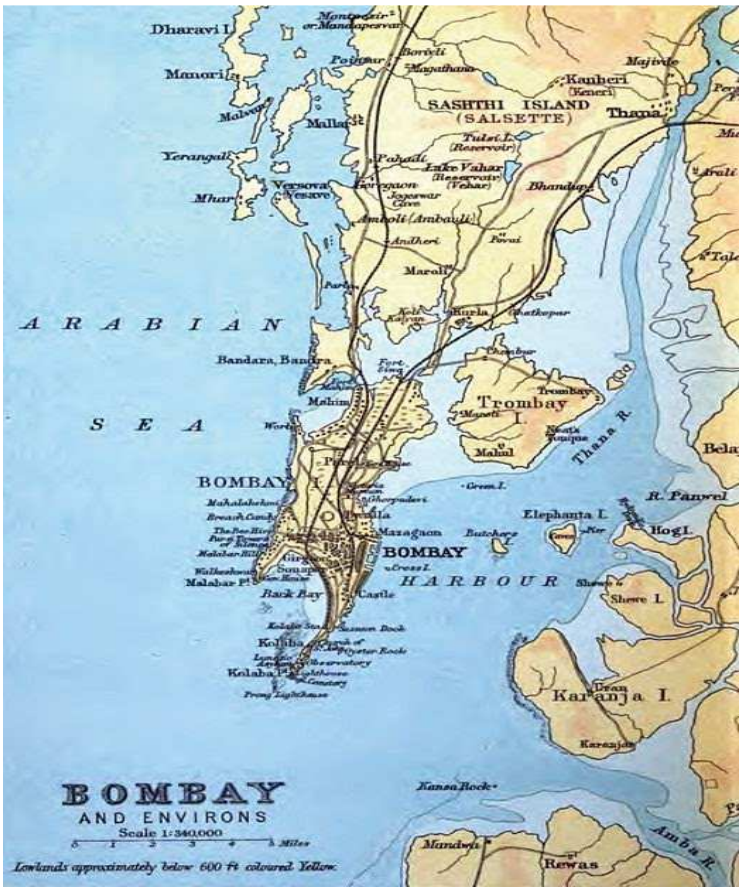

Figure 1.1. Bombay in 1893 (Bartholomew, 1893)

In the early 1900s, the haphazard development of railways to fuel the industrial growth of the city led to increased pressure on land, blocking of major roads, congestion, and increased rents. The government looked at two possible solutions. The first was compartmentalization of population so as to prevent the intrusion of one class into areas suitable for others. The second was looking at the island of Salsette for expansion of the island city to accommodate migrant worker populations and keeping the expensive parts

of the city from being 'overcrowded and unsanitary' (Kelkar, 2014). In 1909, an expert surveyor was called from London to look into the possibility of developing Salcette as a residential area (Mead 1909) [PW5] . Till that point, the city area, mainly located in the conglomeration of the seven areas was divided broadly into the southern "fort",i.e., the European town and the congested northern areas named the native town (Parpiani, 2012). The first All India Sanitary Conference held in 1911 supported the idea of expansion of the city on grounds of better sanitation and health consequences. The Government of India then passed the Town Planning Act in 1915 to start the development of Salsette island (Miriams 1916). But, the onus of actually carrying out development and planning was pushed onto the still young local self-governing bodies of Salsette, as "the solution is to help people help themselves" (Miriams, 1916, page 7). This was an especially difficult task for these bodies, given the population growth in Salsette with more people moving towards Bombay after the end of second world war and onset of the depression era (Kelkar, 2014; Parpiani 2012). Providing water to the burgeoning suburbs was proving to be a difficult task for these local bodies.

While the idea of a Greater Bombay originated in 1918 and was taken up again in 1924, the idea to create two municipalities proposed in 1925 was rejected by the local governing bodies in Salsette over differences with the British government. Yet the main concern that connected these multiple local bodies was the overwhelming problem of water shortage and surface drainage, which was difficult to resolve across artificial administrative municipal boundaries (Kelkar 2014). Despite attempts of unification in 1937 and 1938, Greater Bombay did not come into being until the Bombay High Court Act of 1945 (ibid).

Post-Independence: The Turbulent Times

By 1948, the population of the city had grown to around 2 million people and was provided with 494 million litres of water a day, yet, such large-scale supply left significant shortages and inequalities in water access in the city (Gandy, 2008). Post-Independence, the earlier technocratic, colonial vision of the city was replaced by a new vision of a modern city, grounded in civil engineering and urban planning (Kaviraj, 2003; Prakash, 1999). Surveys conducted in the 1950s in the city showed immense overcrowding in the city that had happened during the previous three decades, and concluded that around 15% of the population lived in slums, with dreadful conditions of water access (Lakdawala et al, 1959, page 1131).

By mid 1960s, as Gandy (2008) describes, "Bombay's short-lived post-independence technocratic honeymoon had come to an end". The paucity of rains in the monsoon of 1966 led to acute water shortages and compelled the state to complete building the Ulhas River Scheme in 1967 in order to bring in more water into the Tansa Distribution network (ibid). By mid-1980s, a large water infrastructure had been created through construction of the Tulsi, Tansa, Ulhas, Upper Vaitarna, and Bhatsai dams to bring water from the surrounding region in order to keep the giant city running. Despite huge quantities of water being brought in, the internal water infrastructure of the city remained fragmented and inadequate, with only better-off communities and neighbourhoods getting adequate access to water. On the other hand, the urban poor communities kept growing in Mumbai, and, by 1991, they comprised 51% of the population of the city (Harada, Shikura, and Kumar Karn 2003: 3576). By the late-1990s, the situation was particularly acute in the fringe areas of the city, which kept growing rapidly but without being complemented by commensurate improvements in city's water infrastructure (Rathod, 2002; Zerah, 2005).

In March 1999, thousands of people rioted for three days in the area of Bhayandar protesting against inadequate municipal water supply (Sovani and Lokhandwala, 1999). According to Lokhandwala and Namboodiri (1999a; 1999b) and Shrivastava (1998), this problem was caused by the delay and obstruction to the construction of new water infrastructure by local politicians who were involved in private provisioning of water through motorized tankers. This group, called the 'water mafia' or the 'tanker lobby,' took advantage of the situation by hiking up prices for water supplies through tankers by ten-fold (Gandy 2008). The 1990s also saw manipulation and control of water within slum communities by local politicians since "anyone [could] take charge of water and collect money'' (Bapat and Agarwal, 2003, page 74). As a result, in the urban poor areas, there has been a growing proliferation of informal markets and makeshift structures to secure and bring water to these sections. The middle classes – the principal beneficiaries of municipal water supply – displayed growing hostility towards these practices in the areas inhabited by the urban poor (Kaviraj, 1997), instead of pressurizing the state to extend municipal water access or services to the poor (Chaplin,1999; D'Souza, 1999). In October 2000, the acute water shortages also led to 'rasta roko' (street blockades) protests in the suburbs of Borivali, Andheri, and Chembur and parts of downtown Mumbai (Krishnakumar, 2004).

In 2003, the management consultant firm of McKinsey and Company was commissioned by an elite citizens' group, Bombay First, to prepare a report titled 'Vision Mumbai: Transforming Mumbai into a World-Class City' (Bombay First 2003). The recommendations of the report were adopted by the Maharashtra State Government as a strategy for the future growth of Mumbai. The report suggested that Mumbai needed to transform to become a 'world-class city' like Shanghai, Singapore, New York, or London. The report emphasized on high-impact projects through the public-private-partnership arrangement, and barely touched the issue of informal settlements and urban poor. Graham et al (2013) opine that,

> "A powerful revanchist logic is at play here: if only "we" — that is, middle- class and elite consumers and corporate investors — could reclaim the city's hydrological and urban commons from the mass of illegitimate slum dwellers, then Mumbai might attain civil order, a high quality of life for elites and the middle classes, and its aspiration, as solidified in 2003 with Bombay First's commissioning of the Vision Mumbai strategies for the city, to emerge as a truly "world-class" or "global" city to compete with the likes of Singapore and Shanghai." (page 125)

The years 2009 and 2010 saw this logic to its peak where legal and police intervention was used to criminalize and punish certain uses of water by the urban poor (Sathe, 2010; Graham et al, 2013). The Bombay Municipal Corporation, responding to the allegations of ineffectiveness and corruption launched raids – involving the police for the first time – to systematically destruct the "illegal'' makeshift structures and pipes constructed by the slum dwellers (Graham et al, 2013). The new discourses of "water theft" and "water emergency" that took root in these years allowed the government to invoke a draconian law, called Maharashtra Control of Organised Crime Act (MCOCA), against the urban poor (Suryawanshi 2010). Media articles detailing and championing the raids vouch for the climate of hostility towards people who were not considered 'of the city' (Sathe, 2010; Singh, 2010; Graham et al, 2013).

In their struggle for ensuring water access for the poor, one of the strategies adopted by civil society actors is resorting to judicial relief from the state-level High Court. A coalition of civil society organizations in Mumbai under the banner of *Pani Haq Samiti* (PHS) [or Water Rights Committee] filed a public-interest petition in Mumbai High Court in October 2012, demanding protection of the right to water of residents of slum colonies that were set up after the year 2000. The Mumbai municipal corporation had refused to

supply water to these residents. PHS was joined by some other organizations and individuals, including a very popular and highly respected civil servant who had been the Municipal Commissioner of Mumbai city. The court gave verdict in December 2014 upholding the right to water of citizens residing in unauthorized slum colonies in Mumbai. The municipal corporation, after a delay of two years, finally decided not to appeal against this verdict and came out with a policy and a circular for implementation of the policy in January 2017. However, the policy was designed in such a manner that, in practice, the onus of securing water access is laid on these slum residents, as the policy required them to overcome a series of barriers that are insurmountable for these economically and politically marginalized residents (Mumbai High Court 2014).

In summary, this first chapter sets the substantive and historical backgrounds for the dissertation that is aimed at investigating the research question: *How do conflicts over water-access emerge and persist in Mumbai?* With these backgrounds set, the next chapter describes the entire process of designing this dissertation research, explaining the theoretical and methodological approaches as well as the research design adopted for the research.

Chapter 2: Theoretical Grounding, Methodological Approaches, and Research Design

This second chapter is entirely devoted to a detailed account of the process of designing the research, starting with the broad research question: *How do conflicts over water-access persist in Mumbai?* The chapter explains and discusses contents of the theoretical and methodological approaches accepted for the research as well as reasons for these choices. Starting with the research question, the chapter, first, evolves one operationalised research question, and, then, evolves three research objectives, which guide the entire process of the dissertation research. It discusses various key elements of the design of this dissertation research. It, then, describes the steps adopted for conducting the research. The chapter ends with the description and explanation of the structure of this dissertation.

Theoretical Approach: Political Ecology

Introducing Political Ecology

Many of the phenomena related to water supply and access that are observed in Mumbai are discussed in the literature on the theme of 'political ecology of urban water'. Additionally, my prior training and future research and career interests align with this theoretical lens. Hence, I have decided to primarily ground the theoretical moorings of this dissertation in the discourse of political ecology of urban water.

Political Ecology is the field of study focusing on the relationships between the political, economic, and social sources of power that govern or shape environmental issues. In other words, the field of political ecology investigates the power dynamics and the politics related to environmental issues. It is instrumental in making policymakers aware of the complexities of development and environment, in contributing to environmental governance, in understanding the socio-political-economic context of decisions regarding the environment. It also helpful in understanding how social inequality affects not only the natural environment, but also different actors' relationship with the natural environment (Bryant, 1998; Bryant & Bailey, 1997; Foran et al., 2014; Robbins, 2012).

Following Erik Swyngedeouw's lead, a vast majority of researchers working in the field of urban water and conflicts use the approach of 'political ecology of urban water', bringing in the discussion of the key elements and aspects of the urban settings such as complexity, socio-economic-political contextual conditions, and relationships of actors created in the peculiar context of water.

Power in the Hydro-social Cycle

Water is an especially interesting natural resource. Water is local and global at the same time. It is a purely environmental resource at times, and, at times, is a component of political, spiritual, and social identity. The processes of capturing, moving, transporting, treating, distributing, and allocating water give it almost non-natural characteristics, and yet it is not possible to make water a completely artificial commodity. The very act of building the infrastructure to capture and govern water, gives it human or 'social' context, making it an integral part of the society. Who gets access to water depends on the power dynamics among different actors, the social structures in which they are located, and the economic strata to which they

belong. These power-influenced, socio-environmental interactions around water are called “hydro-social cycle” by Erik Swyngedouw (2009).

Taking the political ecology perspective on water means that the researcher will have to look closely at the linkages between the hydrological cycle and the social cycle. The complexity of these linkages is increased by spread of hydrological cycles on local, regional, and global levels, as well as the social, political, economic, and cultural power dynamics embedded in the social cycle (Swyngedouw, 2009). Nature and society get fused together in physical and social processes, and the binding factor is water (Swyngedouw, 2006, 2009b). Water is indispensable for powerful actors as well as for less powerful actors, and the struggle for access to water has been observed to be a crucial factor in political equilibria or political tensions at various points in history (Giglioli & Swyngedouw, 2008; Swyngedouw, 1999, 2005). In essence, water becomes a ‘protagonist of political history’ (Rattu & Veron, 2015).

Water Infrastructure: Elites and Urban Fragmentation

The discourse of Political Ecology of Urban Water also discusses the physical aspects of water supply and access. Kaika and Swyngedouw, (2000, p. 120) call water infrastructures, such as dams and distribution networks, as ‘material mediators’ between water as a bio-physical matter and the water that is provided to cities. This material mediator converts water from its natural free flowing form to the urbanized form to be controlled, governed, and distributed. Connecting the residents of the city to this urbanized form of water needs distribution networks that are created through complex socio-political processes (Gandy, 2004). In this approach, decisions around direction of water distribution network such as who is connected to the water supplying pipes, the size of the pipe, the capacity of the pump pushing water through the pipes, how long the pipes are kept open to let water flow, the size of the service reservoir, and similar

other decisions are essentially political decisions. The direction, dimension, and working of the water distribution network for a certain part of the city depends on the socio-economic status, political patronage, and historical positioning of the citizens in that area (Anand, 2011; Contractor, 2012; Murthy, 2012). In essence, socio-political elites of the city are given the first preference, because such communities are able to influence the local political leaders to receive guaranteed and timely supply of water from the distribution network (Bawa, 2011). Water distribution networks and their maintenance are also often used as tools by the elite to exercise power (Anand 2012). Control over such networks not only means the power to decide who gets access to water, but also the right to the city (Murthy, 2012; Nilsson and Nyanchaga, 2008).

As a result, only certain pockets of the city get formal connection to the distribution network. But, a significant portion of the urban population remains unconnected to the distribution network (Smiley 2013), and has to rely on alternative or informal sources of water supply including wells, bore wells, water tankers from outside the city, unauthorized water vendors, and water hydrants (Karen Bakker, 2003; Basu & Main, 2001). This fragments the city on the basis of the access to water and the unequal and unfair spread of the distribution network. Graham and Marvin (2001) term it as 'splintering urbanism', in which the distribution network connects the socio-politically elite pockets of the city through a 'premium network space' and bypasses the less valued areas. According to them, this splintering of the city is a result of the collapse of the 'modern infrastructure ideal', the idea that all aspects of the urban setting would be inherently connected and work together. But many researchers contend that, in the case of the global south, the 'modern infrastructure ideal' has never been realized, while this splintering is deep rooted, is evolving over a period of time and in a particular historical context, and could often be traced to the colonial rule (Coutard, 2008; Kooy & Bakker, 2008a;2008b; Gandy, 2008; Zérah, 2008).

Capitalism and Economics of Water-Access

Following the lead of Erik Swyngedouw, a majority of studies in the area of 'Political Ecology of Water', in particular, has adopted the critical Marxist perspective (Rattu & Veron, 2015). Marxist Political Ecology of Water takes a thorough, critical, and engaged position in striving for equality, democracy, and fairness in access to water (Swyngedouw, 2009). Water issues in the understanding of the Marxist tradition of political ecology are centered around capitalism, and are increasingly being characterized by themes such as commodification of water, privatization, marketization, roll-back of the state or deregulation, dispossession tactics, private appropriation, market-friendly regulation, use of market proxies in the residual governmental sector, the strong encouragement of 'flanking mechanisms' in civil society, and the creation of 'self-sufficient' individuals and communities' (Bakker, 2003, 2010; Castree, 2002; Rattu & Veron, 2015; Swyngedouw, 2009). Swyngedow (2009) especially talks about water as being organized and distributed through the market mechanism that is driven by the capitalist orientation of society. He contends that water allocation is based on the power of money, and not on the ecological, social, human, or sectoral needs. The all-encompassing logic underlying interactions between various actors and between actors and nature, according to Marxist scholars, is capitalism. Castree (2002) suggests "[I]n the green Marxist logic, to scrutinize society-nature relations in abstraction from processes of capital accumulation is to miss a vital aspect of their logic and consequences". Castree (2002) gives us an important starting point to understand the Marxist traditions of political ecology. Capitalism, according to Castree is "highly dynamic and unstable, involving class exploitation, social domination, technological innovation, and intercapitalist competition predicated on the principle of 'accumulation for accumulation's sake'" (Castree, 2002). Viewing capitalism as the vital underlying logic of society-environment linkages leads to the 'capital-centric' view and standpoint of researchers in the Marxist tradition of Political Ecology (Keil, 2003; Rattu & Veron, 2015).

Inequality

The key concept in the discussion of water-access conflicts and political ecology of urban water is inequality. In the Marxist tradition, it is closely connected with the concept of 'capitalism'. Bakker (2010) indicates that capitalism played a role in creating "a very real set of deteriorating environmental, social, and economic conditions" (Bakker, 2010). Capitalist forms of social organization lead to social domination and class exploitation, creating unequal, uneven, and unfair socio-ecological conditions (Bakker, 2005, 2010; Castree, 2002; Heynen, 2014). Such socio-ecological conditions result in deep cleavages and inequalities in access to water. Swyngedouw, (2006) adds that neoliberal forms of capitalist development lead to environmental transformations that reinforce the socio-environmental processes that create, enable, and empower powerful groups and actors, while, at the same time, further marginalize and disable the weaker actors. The aim of a researcher is then to expose these uneven and unfair processes to resist capitalism and its hold on the water sector (Swyngedouw & Heynen, 2003). Swyngedouw (2009) stresses the urgent need "to theorize and empirically substantiate the processes through which particular socio-hydrological configurations become produced that generate inequitable socio-hydrological conditions" (Swyngedouw, 2009). In essence, Marxist Political Ecology of Urban Water rests on the premise that capitalism leads to inequalities in water distribution and access, where water is treated as a commodity in the market (Bakker, 2005, 2010; Castree, 2002; Heynen, 2014; Swyngedouw, 2006, 2009b; Swyngedouw & Heynen, 2003).

The presence of unfairness, unevenness, inequality, domination, and of exploitation are the axioms of the Political Ecology of Urban Water. The existence of social conflict stemming from these inequalities is taken as a given. Swyngedouw (2009) states: "put simply, interventions in the organization of the hydrological cycle are always political in character and therefore contested and contestable" (page 345). As Rattu &

Veron (2015) point out, the postulated presence of exploitation by capitalism as the cause for creation of inequalities, has oriented the field towards studying how injustice is produced. By bringing forward issues of fairness and democracy, the field highlights the need and potential for political action. There are two risks involved in taking this standpoint. First, there can be a predilection to depict certain actors as powerful and others as powerless, and their conditions as the powerful versus the powerless (Rattu & Veron, 2015). In reality, conflicts are more nuanced in nature, especially in the case of water issues. That does not mean, however, that inequality is not a factor in those situations, but there is a need to credit some agency to the actors deemed as 'powerless'. The second risk is that, by focusing on exploitation and subsequent uneven socio-ecological processes, there is a chance that we would fail to note the complexity of these processes.

Accepting the political ecology as the theoretical lens for the dissertation requires that politics and power-dynamics around water-access leading to conflicts are to be made the centrepieces of the enquiry around the starting research question mentioned in the first chapter, i.e., *How do conflicts over water-access persist in Mumbai?* In other words, this research question could be refined as: *How does politics around water-access shape persistence of conflicts around water-access in Mumbai?* Thus, capturing this politics and power-dynamics around water-access conflicts is the second major challenge before the methodological approach to be adopted for the dissertation.

Supplementary Approach: Path Dependency, Institutions, and Policies

The literature on the topic of path dependency traces its location specifically in the ambit of historical institutionalism in political science (Anderson et al. 2018; Grube 2016; Schmidt, 2008). While accepting that behaviour of individual actors are constrained by institutions, historical institutionalism emphasizes that present institutional structures have to be understood in their historical context (Kay 2005, Mahoney 2000). Here, institutions are seen as frames and mechanisms that are socially-constructed and include "formal or informal procedures, routines, norms, and conventions embedded in the organizational structure of the polity or political economy" (Hall and Taylor 1996, p. 938).

To begin with, the idea of path dependency is linked with the commonsensical observation: "the legacy of the past conditions our future, at the policy level and at the level of institutions"(Gains et al. 2005: 27). In its simplest form, the path dependency framework could be summarised in terms of the following sequence of propositions (Howlett & Reiner 2006; Kay 2005; McFaul 1999; Peters et al. 2005; Pierson 2000). In the first step of sequence, at a 'critical juncture' (Mahoney 2000) and sometimes due to an exogenous shock, a policy is accepted by stakeholders involved, by selecting it from different available options. For the later steps, Pierson (2000) makes distinction between the broader and narrower definitions or interpretations of path dependency. As per its simpler or broader definition, path dependency "refers to the causal relevance of preceding stages in a temporal sequence . . . (or) the assertion that 'history matters' . . . . and which does not categorically imply that a particular path (once taken) is difficult to exit" (Pierson 2000, 252). As against this, the broader definition of path dependency proposes that, once accepted, the policy builds its own inertia as time passes and exiting from that policy path becomes increasingly difficult with passage of time because of the 'increasing returns' (or benefits) accrued to key stakeholders with continuation of policy or increasing costs to be borne by these

stakeholders due to change in policies (Pierson 2000). McFaul (1999) succinctly summarizes, “institutions are sticky”(32).

The idea of path dependency is said to be relevant at three levels of polity: “the macro or constitutional level; the collective choice or policy decision level; and the operational level of individual decisions (Kay 2005, 555). Morgan and Kubo (2005) suggest that path dependency could be applied to public as well as private organizations.

Coming to criticisms of path dependency, Kay says, “the concept of path dependency is neither a framework nor a theory or model . . . . Instead, path dependency is an empirical category, an organizing concept which can be used to label a certain type of temporal process” (Kay 2005, 554). Researchers have also indicated the limitations of explanatory capabilities of path dependency. Kay (2005) suggests that explanations based on path dependency often are accompanied by or compete with alternative explanations, drawing from other theories. In the same vein, McFaul (1999) warns that “[e]ven when institutions are sticky . . . they rarely are the singular cause of outcomes. . . . On the contrary, it is the interaction between institutions and individual actors that produces outcomes” (32). Path dependency is also seen as engaging in “retrospective rationality”; and failing to properly account for mechanisms underlying a political conflict or adequately explain political or policy changes (Peters et al. 2005).

Methodological Approach: Eliciting Narratives

Understanding Narratives

"*One way to understand cycles of violence and protracted conflict is to visualize them as a broken narrative. A people's story is marginalized or, worse, destroyed by the dominant culture, and by this act, meaning, identity, and a place in history are lost. This is the deeper challenge of peacebuilding: How to reconstitute, or re-story, the narrative and thereby restore people's place in history."*

–John Paul Lederach (2005: 146)

Molle (2008) describes narratives as a type of 'ideological objects' that shape policy and decision making in the contemporary water sector'(page 131). Further, narratives are 'simple, causal, and explanatory beliefs;' and they are normative, having certain value-premises. There possibly are many narratives around a theme or issue, representing a host of normative orientations towards the theme or issue.

In simple terms, a narrative is a set of stories—pertaining to an abstract theme or an issue of concern—that actors build, believe, tell, and live by and that gives an interpretation of some physical or social phenomena. These stories coherently connect together actors, their beliefs and actions, events, and elements of physical and social context (Czarniawska, 1997; Elliott, 2005; Kim, 2015; Meisch, 2019; Roe, 1994). Molle (2008) calls narratives "ideational and ideological objects which . . . typify a certain view, approach, or a 'solution'" (131). Thus, a narrative is built around a specific but abstract theme or around a practical issue of concern and could be seen as representing the vision of the believer in the narrative about the issue or theme.

Further, narratives are seen as patently political (Cronon 1992) as they reflect “the worldviews and interests of those who have the power” (Molle 2008, 131). Ideological objects like narratives reflect a particular socio-political-economic-cultural setting and are never neutral. Thus narratives and power are inextricably linked (Austin 2010). Austin (2010) adds that narratives are essentially contrived to maintain power, order, and authority.

Narratives are powerful social forces that help us construct our understanding of ourselves, and our identities and even build the physical world to fit our worldview (Law, 2000; Federman 2016). Roe (1991) suggests that the 'naturalness' of narratives, seemingly anchored in common sense, makes them very resilient (Roe, 1991). Thus, narratives tend to push actors to produce evidence in support of their narratives and consequently are self-validating (Mosse, 2004). While narratives may emerge as an answer, solution, or approach to tackle an issue, but, over time, they get reified, re-appropriated, reworked, repackaged and integrated into arguments, positions, debates, and strategies. They are strengthened by complex interconnected webs of worldviews, interests, values, power, and ideologies. On the other hand, they shape the context and are hugely influential in deciding which option, policies, and even social groups get favoured or disregarded (Molle, 2008; Shore and Wright, 1997; Keeley and Scoones, 1999).

If large numbers of people not only support and promote a set of storylines that make a narrative, but also practice what these narratives highlight in their socio-political lives, the combined actions of these people tend to come together into what Hajer (1995) defines as ‘discourse coalitions’. Molle (2008) adds that when a set of such actors try to establish hegemony in a debate, several coalitions of actors might emerge to support or contest these narratives. As Alexander (1988) describes it, narratives are also then storylines about power relationships between actors.

In playing their political role, narratives not only influence but also rationalize and legitimize decisions and actions of these actors as well as manifestation of these actions (Molle 2008). Thus, narratives are very

closely connected to policy, as they can give legitimacy and acceptance to policies by helping rationalize the decisions, by appealing to the ideological dimensions of policy making (Apthorpe, 1986; Roe, 1994; Shore and Wright, 1997) and giving them "almost unimpeachable moral authority" (Cornwall and Brock, 2005). Roe (1991) states that narratives can, thus, rarely be debunked or changed by providing contrary evidence. He suggests that failed narratives can therefore only be replaced by 'better narratives'.

Federman (2016) adds that particularly the narratives that highlight what classify things as right or wrong, acceptable or unacceptable, and significant or insignificant control not only how some actors express themselves, but also how they allow others to express, or how they react to others. Latent or overt conflict happens when certain narratives dominate, contradict, marginalize, suppress, or oppress other narratives and people. Leaving such problematic narratives intact will capsize any advances made in negotiation or community dialogues in conflict resolution (Federman 2016).

There are three broad approaches to narrative analysis – structural, functional, and post-structural – that are drawn from diverging fields of linguistics, philosophy, sociology, and literary theory (Federman 2016). The structural approach examines components of narratives in terms of plots, characters, actions, and roles in an attempt to deconstruct narratives and classify them into genres, storylines, and other typologies (Labov and Waletzky, 1997; Bruner, 1991; Greimas, 1971; Blum, 2005; Brenneis, 1988 ; Hardy, 2008) . Louis Hébert (2006), in his work titled “Tools for Text and Image Analysis: An Introduction to Applied Semiotics,” breaks structural analysis into following six questions focusing on six elements of narratives (Federman 2016, page 158): (i) Subject: Who/what are the narratives discussing? (ii) Objective/ goal: What is the goal of this narrative? (iii) Adjuvants/helper: Who helps voice the narrative? (iv) Receiver: Who is meant to receive the narrative? (v) Sender: Who is sending out the narrative? (vi) Opponents/Traitors: Who challenges the narrative?

While structural analysis helps identify different components of the narrative and the storylines through which narratives circulate, it cannot help us understand *how* such narratives come into being, the social dynamics between actors, or how meanings are attached to subjects and objects. The *functional* approach explores how narratives get formed in socio-political contexts. It looks at where meaning is being constructed by focusing on the dynamics between actors and the positioning of actors through the storylines. To capture this dynamics, functional analysis includes identification of : (i) the different storylines emerging, (ii) the positions of the actors relative to the storylines, (iii) how the actors describe (linguistically) the storyline (Federman, 2016).

In a post-structural approach, the conflict is not a representation of narratives, but narratives are both the locus and the battleground of conflicts. In this approach, the focus is on how narratives create identity, going beyond the "means of recounting social reality or even giving it meaning" (Federman 2016, page 161) and consider "personal narrative as central to the development of a sense of one's self, of an identity" (Mishler, 1995, page 108).

To conclude, this discussion suggests that a narrative-centered enquiry will help effectively capture complexity, multiplicity of perspectives, politics, power dynamics, contestations, and resulting marginalization that often are intertwined elements of a complex, multidimensional social phenomenon like water-access conflicts. Thus, taking a narratives approach—which involves eliciting, articulating, and analyzing narratives—for this dissertation will help effectively tackle methodological challenges mentioned before, namely capturing multi-dimensional complexity, multiplicity of perspectives, and politics and power-dynamics around water-access conflicts. It is relevant for this dissertation to note that one of the research themes that has seen significant contributions from the use of narratives approach is conflict analysis and resolution (Bar-Tal and Salomon, 2006; Cobb, 2013; Grigorian and Kaufman, 2007;

Kellett, 2001; Lara, 2007; Nelson, 2001; Rotberg, 2006; Winslade and Monk, 2000), wherein narrative is seen as an 'optic for understanding and engaging with conflict' (Federman 2016, page 157).

Conceptual Schema

Different aspects of the concept of narratives and ideas related to it, which are discussed in the previous section, are brought together in this section to develop, for this dissertation, a conceptual schema around the concept of narrative.

Any controversial or contested concrete issue (e.g., Water Access to Migrant Poor in Mumbai) has certain issue-specific characteristics or features which could be grouped in the following categories: technical, economic, financial, institutional, policy, and legal. In any controversial or contested issue there are certain actively-involved actor-groups (e.g., activists, politicians, municipal engineers). Each of these actor-groups have certain core features of their own, such as values and interests as well as social location, cultural identity, and political identity. All of these characteristics are interconnected with each other.

In this dissertation, the term values means preferences about what is right and appropriate (in thinking/decisions or in behaviour/actions) as against what is wrong and inappropriate (in thinking/decisions or in behaviour/actions). Further, these values are operative values wherein operative means 'in the operationalized or applied form, applied to the context, and as used at the moment (of its use)'. In other words, these are authentic expressions of 'values' articulated—often in less abstract forms—by real-life actors when they are expressed and used in their everyday lives and, importantly, in

the context of a concrete, controversial issue. On the other hand, interests of actors are benefits of different kinds (such as economic, financial, political) that are actually accrued to or expected by actors.

A contestation or controversy emerges when each of the actively-involved actor-groups takes certain positions—in terms of certain expectations or demands—pertaining to one or more issue-specific characteristics or features of the controversial issues. These positions (i.e., expectations or demands) are rooted in the specific value-set and/or interests of the respective actor-groups, and, hence, positions reflect these values and/or interests. In order to protect and/or promote these positions, and also the values and interests reflected by these positions, actor-groups indulge in politics—i.e., use their power—by making (or not making) certain decisions and/or taking (or not taking) certain actions pertaining to the concrete contested issue. Thus, like positions, the actions and decisions of the actor-groups reflect the values and/or interests, which these actions and decisions try to protect and promote.

While engaging in this politics for protecting and promoting its positions (and also the underlying values and/or interests) pertaining to the issue, each actor-group may make use of one or more narratives. A narrative is an account or exposition—that describes and discusses positions (i.e., expectations and demands), decisions, and actions—pertaining to a controversial issue of the actor-group propagating or using it (i.e., the narrative). A narrative also describes and discusses arguments and explanations for these positions, decisions, or actions. It may also describe and discuss arguments and explanations against other narratives or against the positions, decisions, and actions of actors presenting or using other narratives. Though often a narrative does not directly and explicitly refers to them, a narrative reflects values and/or interests underlying the positions, decisions, and actions taken to protect or promote these values and interests.

Because narratives are closely linked with values and interests, and because values and interests transcend the particular concrete issues, narratives also transcend the issues. As a result, for a new controversial issue, narratives are not necessarily structured anew, but are often adopted or adapted from narratives about old or other current contested issues, if the underlying values and interests remain similar or same. Consequently, most narratives have a historical trajectory and ideological roots in narratives over the same or other contested issues in the past.

A narrative is used by an actor (as an instrument) in a debate or discourse over the contested issue for communicating, explaining, rationalizing, justifying her (i.e., the actor's) own positions (i.e., demands and expectations), decisions, and/or actions. To the same end, an actor may use a narrative to criticise positions (i.e., demands and expectations), decisions, and/or actions of other actors. Further, because there are possibly multiple combinations of values and interests held by different actors involved in an issue, there would be multiple narratives around any concrete contested issue. An actor-group may use more than one narrative, as per the need, in order to justify its positions, decisions, and actions or to criticize and counter the justifications for positions, decisions, and actions of other actors.

Operationalizing Research Questions

This conceptual schema around the concept of narratives would help us operationalize the two starting research questions articulated before and make them more amenable to the narrative approach accepted for this dissertation. The schema suggests that the contestation over a concrete issue is played out and shaped through deployment of different narratives coming from different actors involved. This proposition will help operationalize the initial starting research question: *How do conflicts over water-access persist in Mumbai?*.

After adopting the political ecology framework the research question then became: *How does politics around water-access shape persistence of conflicts around water-access in Mumbai?* In this regard, the above schema suggests that narratives are instruments of politics or rather proxies in politics around the issue. Thus, with acceptance of this conceptual schema, the operationalized question for this dissertation would be: *How does politics of narratives around water-access shape persistence of conflicts around water-access in Mumbai?*

Using the Conceptual Schema: Framework for Articulation of Narratives

The conceptual schema outlined in the previous section is used here to develop a broad framework that will be used, first, to analyse collected data with the objective to bring out and articulate narratives embedded in the data in terms of its key elements. The framework envisions the narrative in terms of its following six key elements: (i) Title, (ii) Historical Trajectory of the Narrative, (iii) Ideological Roots of the Narrative, (iv) Core Rhetoric of the Narrative, (v) Actors Using the Narrative, (vi) Positions, Decisions, and Actions of the Actors Using the Narrative, (vii) Arguments and Explanations contained in the Narrative, and (viii) Values and Interests underlying the Narrative. In the subsequent chapters, the same framework is used to describe and discuss different narratives. As can be seen, this is in line with the structural approach to analysis of narratives, as discussed by Federman (2016), that breaks the narrative in different elements. However, the elements that are used for analysis of narrative in this dissertation are different from those suggested by Federman but pertinent to the research questions this dissertation is attempting to address.

1. ***Title*****:** A summative title, succinctly conveying the core position of the narrative, and explaining the purpose of the narrative.

2. ***Historical Trajectory of the Narrative:*** This is the discussion on historical trajectories—at different levels such as global, national, or city levels—of this narrative in terms of substantive similarities with narratives used in the history of controversies over similar issues.

3. ***Ideological Roots of the Narrative:*** This is an effort to trace and discuss similarities of ideas and ideals reflecting, on one hand, in the positions, decisions, and actions supported or criticised as well as in arguments and explanations provided in this narrative and, on the other hand, all of such ideas and ideals reflected in positions, decisions, actions, arguments, and explanation contained in the narratives used in conflicts over similar issues.

4. ***Core Rhetoric*****:** This core rhetoric of the narrative encapsulates the core content of the narrative around the controversial issue. This is expressed in a few short sentences.

5. ***Actors:*** This is the list of actors who deploy or use this actor in order to protect their values or interest or justify their actions and decisions

6. **Positions, Decisions, and Actions of Actors:** As per the conceptual scheme, the purpose of the actors behind using the narrative is to justify their own positions, decisions, and/or actions. Another purpose could be to criticize the positions, decisions, and actions of other actors.

7. ***Arguments and/or Explanations:*** These are arguments and explanations provided by each of these actors using the narrative to support or argue for their main positions (or demands or expectations), decisions, and actions. These will also include arguments and explanations provided by each of these actors using the narrative to criticize or argue against the positions (or demands or expectations), decisions, and actions of all other actors.

8. ***Values and Interests Underlying the Narrative:*** This is an articulation of values and interests—underlying the narrative—which the actors try to protect or promote using the narrative.

Research Objectives and Steps

This conceptual framework helps us further elaborate on the operationalised research question mentioned before: *How does politics of narratives around water-access shape persistence of conflicts around water-access in Mumbai?* This research question is elaborated here in the form of the following three research objectives for this dissertation:

1. To articulate each of the narratives around water access in Mumbai in terms of its core rhetoric, its positions (demands and expectations), arguments, and explanations, as well as its critiques and criticisms by actors supporting other narratives
2. To articulate and analyse historical trajectories and ideological roots of narratives around water-access in Mumbai
3. To elaborate and discuss politics around the water access in Mumbai in terms of the ways in which these different narratives are structured and used by different actors to justify their own positions, decisions, and actions as well as to criticize positions, decisions, and actions of other actors involved in the conflict

To achieve these three research objectives, the research will proceed in the following steps. First, the data collected from interviews of respondents will be analyzed in order to bring out and articulate all the

narratives around water-access in Mumbai that are embedded in the data. Each narrative will be presented in terms of the eight elements spelled out in the conceptual framework presented before. This will help achieve the first research objective. In the second step, data collected from the literature will be analysed to articulate both the historical trajectory and ideological roots of each of the narratives emerging from the data. In the third step, in order to achieve the third objective, an effort will be made to juxtapose together various actors, the narratives they use, the core rhetoric of the narrative, values and interest underlying these narratives, and different actions and decisions of these actors. This multi-dimensional juxtaposition will help view, articulate, analyse, and understand politics around the issue from different angles. In doing this, it needs to be noted, this dissertation makes use of the post-structural approach to narrative analysis as it narratives as a theatre of politics around the issue of water access (Federman 2016).

Research Design and Methodology

Research Objectives

This dissertation is focused on the following three research objectives:

1. To articulate each of the narratives around water access in Mumbai in terms of its core rhetoric, its positions (demands and expectations), arguments, and explanations, as well as its critiques and criticisms by actors supporting other narratives
2. To articulate and analyse historical trajectories and ideological roots of narratives around water-access in Mumbai

3. To elaborate and discuss politics around the water access in Mumbai in terms of the ways in which these different narratives are structured and used by different actors to justify their own positions, decisions, and actions as well as to criticize positions, decisions, and actions of other actors involved in the conflict

Choice of Mumbai

As can be seen from these research objectives this dissertation is focused on the city of Mumbai. Hence, the dissertation research engages in an in-depth, interpretive research focused on the city of Mumbai. As discussed before, Mumbai presents a complex picture of water-access conflicts persisting over decades. Moreover, the choice of Mumbai is based on my interest in the city's water problems and my past experience of research in the region. I am fluent in Marathi, the local language as well as the official language of the state, and Hindi, the second language used by most of Mumbai's residents. Through my prior research, I also had established links, contacts, and connections with various individuals, organizations, local political parties, regulatory bodies, and water engineers in the city.

Data Collection and Participants

The main method used for data collection was semi-structured interviews. I conducted multi-round, in-depth interviews of 64 participants. As this dissertation simultaneously considers the actors, their narratives, and their activities at the levels of city, state, and local community, I have included different types of participants operating at all these three levels. Coming to the other typology of participants, I have included all the four major types or categories of participants that are involved in, working on, or studying the issues pertaining to the water-access in the city of Mumbai. The first of these four broad types of participants is Experts and Observers who numbered 23 in my list of participants. These mainly

include academicians and independent researchers studying issues pertaining to water-access in Mumbai (19 participants). The disciplinary backgrounds of these experts included, engineering, social sciences, social work, architecture and planning, and policy studies. There was a satisfactory level of gender balance within this category. However, there was only minimal variation in class and socio-cultural backgrounds. The academics came from different academic institutions in the city. The category also includes media people (4 participants) who have been observing, studying, and reporting on these issues.

The second category of 16 participants were activists who are either working in focused manner on water-sector issues in the city or working on other urban issues, such as housing issues or issues pertaining to the land rights of tribal people who are original residents of the city. This category also included trade union activists. These activists were active either at the city level or at the level of local communities or both. There were differences in their ideological predilections and political affiliations as well as in their narratives and choices of issues of focus of their work. The gender balance was satisfactory in this category. Similarly, there was a significant level of variation in class and socio-cultural backgrounds. In fact, in this category, there was good representation of people from disadvantaged economic and social backgrounds. Additionally, these activists are not involved directly in the electoral politics of the city.

The third category of 14 participants included city politicians, again operating at both the city and local levels. They had affiliations to different political parties, which included both the state-level and national-level political parties. These political parties had significantly different ideological moorings and their electoral planks for the city-level electoral politics also differed significantly. Some of these politicians were affiliated with the political party which has been in power in the city municipal corporation for the last fifteen years. The politicians from the other party were not in power directly but, at the time of the

field work, the party was in power at the state level and was a coalition partner of the party in power in the city. The remaining politicians represented the parties which were in opposition at the city as well as the state level. While selecting participants in this category, I purposely tried to ensure the gender balance, which was possible because of the mandatory participation of women in the city level political representation. Coming to the class and socio-cultural backgrounds, there was some variation among participants of this category.

The fourth broad category of 12 participants included officials, planners, and engineers. These included current or former (retired) employees of Municipal Corporation of Greater Mumbai (MCGM) which carries the sole responsibility of sourcing water as well as transporting it to the city, and then distributing it to all residents of the city. Most of these participants working with MCGM came from the Hydraulic Department of MCGM which handles the above mentioned responsibilities on behalf of MCGM. Some participants from this category came from other departments and offices of MCGM. The participants from this category included the top-most official of the Hydraulic Department as well as senior and local-level junior engineers of MCGM. Apart from MGGM officials, the participants in this category were current or former employees, mainly planners by profession, of Maharashtra Housing and Area Development authority (MHADA). In this category, however, the gender balance was extremely disappointing, especially among engineers working with MCGM. I could find only one female planner in my list of participants.

In order to maintain confidentiality of participants, the interviews are kept anonymous and the data is not attributed to any individual participant. I sought permission from the interviewees to record the interviews, or, at least for taking detailed notes during the interviews. I am supplementing this interview data with a thorough review of grey and academic literature regarding water access in Mumbai. I have

referred to literature from three languages: English, Hindi, and Marathi. I also referred to media articles of prominent newspapers in the city and the state in these three languages. Additionally, I supplement this review with required analysis of policy documents, government reports, and legal documents available on the water sector of the city of Mumbai.

Data Analysis

I simultaneously conducted data analysis while conducting interviews in Mumbai. Interviews were transcribed, first, and, then, the interviews in local languages were translated into English. I then conducted an open coding exercise to code the transcripts and notes from documents. Simultaneously, the exercise of categorization was undertaken to put codes into broader categories. Sub-categories were used to break down particularly complex categories of codes. Memoing was used extensively to record my thoughts, to elaborate on categories, and to establish connections among different codes and categories. For codes and categories, the main themes discussed in the literature were considered. I also made use of codes and categories that emerge from the detailed conceptual framework developed for the research. In addition, I also actively looked for patterns emerging from the data. For coding and analysis of data, I made use of the NVivo software which is meant for analysis of qualitative data.

Quality Assessment of the Research

To ensure credibility, I triangulated the data emerging from interviews of participants by cross-checking it with other participants who would be knowledgeable about the points made and facts shared by the participants, while maintaining confidentiality and anonymity of participants. This cross-checking was

done with participants from the same category, and, whenever possible, with participants from a different category.

In the later phase of the research, for the purpose of member validation, I shared that data especially with participants from the activists and expert categories (while maintaining confidentiality and anonymity of participants). It was difficult to carry out member validation exercises with participants from categories of politicians and officials (especially working employees) for the want of available time. Coming to sharing the initial findings, I again focused on academics, especially social scientists, and activists, especially those involved directly in water sector issues in the city.

The criterion of dependability is concerned with the reliability of methods and the logic used for arriving at the results. In other words, the concern is whether the results are consistent over time, and whether they are found to be trustworthy by other researchers. Hence, in order to ensure that other researchers can audit the finding of the study, I have been working to develop thick descriptions (Geertz, 1983). To this end, in addition to writing extensive field notes on data, I prepared a detailed account of all actions and observations made in the field, of all instruments used in data collection and analysis, of the procedures followed during data collection and analysis, and of the setting and the context of the case (Miles & Huberman, 1994; Shenton, 2004). Memos recorded especially during the data analysis phase are helpful in fulfilling this criterion as they have kept track of the steps in coding and created an audit trail for the future peer-auditors.

The transferability criterion asks if the results are comparable, and whether other researchers can make use of the results for other settings or contexts. To address this criterion, the thick description (Geertz 1983) I developed during the research includes detailed notes on intricacies and nuances of the context in which the research was conducted.

Dissertation Roadmap

After the analysis, twelve narratives and four substantive themes emerge from my data. Chapter three, four, five and six—structured around the four substantive themes of Rights, Tenement, Technology and Economics—present detailed description and discussion of twelve different narratives around water-access in Mumbai that emerged from data collected for this research. The same framework of eight elements described before will be used for this description and discussion of different narratives. The core rhetoric of each of these twelve narratives are detailed in Table 2.1.

Table 2.1: Substantive Themes and Core Rhetoric of Narratives

Sr. No.	Substantive Theme	Name of Narrative	Essence of Core Position or Rhetoric
1	Rights	Human Rights	Water is a human right, so slum-dwellers should not be denied access to water.
2		Right to City	Slum-dwellers are also citizens of this city and they should have access to water. By claiming access to water, we are claiming our right to the city.

3	Tenement	Legality of Tenement	Water will not be supplied to the tenement if the occupant of the tenement does not have approval from the land-owner.
4		Structure & Spatiality of Tenement	Water will not be supplied to the tenement if its structural and spatial characteristics are not technically suitable.
5		Planning Lacunas	Water access cannot be provided to slum-dwellers due to lacunas in planning and urban development policies
6	Technology	Technical Barriers	Because of various technical difficulties, MCGM is not in position to provide water to slum-dwellers.
7		Techno-Fixes	Technical solutions are available to ease present problems in water supply faced by the city.
8		Economic & Financial Barriers	Because of various economic and financial difficulties, MCGM is not in position to provide water to slum-dwellers.
9		Commodification & Privatization	If water is priced properly and if supply is privatized, all water-related problems faced by the city will be solved.
10		Slum-Dwellers as Free-Riders	Slum-dwellers tend to be free-riders (phukate), when it comes to paying for water.

11	Economics	Slum-Dwellers as Thieves	Slum-dwellers tend to steal water from the MCGM water supply network through illegal connections.
12		Mafia, Profiteers, & Nexus	Water cannot be supplied to slum-dwellers because slums are controlled by water mafia, profiteers, or a nexus of dominant actors who steal water.

It is critical to know not only how narratives are articulated, but also how they are used. After detailed articulation of narratives in these four chapters, I propose a strategic typology of narratives in terms of claim, denial, excuse, and evasion. Narratives of Claim put up or support claims of slum-dwellers on access to water from the formal supply network. Narratives of Denial deny these claims for water access to slum-dwellers, by providing different grounds for denial. Supporting Narratives of Denial, Narratives of Excuse propose various excuses that seemingly make it difficult, if not impossible, to provide water access to slum-dwellers. And lastly, Narratives of Evasion evade the issue of access, by promising some solutions that do not directly address the issue of access. The narratives classified according to this strategic typology are listed Table 2.2 below.

Table 2.2: Strategic Typology and Corresponding Narratives

Strategic Typology	**Narratives**
Narratives of Claim	● Human Rights ● Right to City

Narratives of Denial	● Legality of Tenement ● Structure and Spatiality of Tenement ● Slum-dwellers as Free-riders ● Slum-dwellers as Thieves
Narratives of Excuse	● Planning Lacunas ● Technical Barriers ● Economic and Financial Barriers ● Mafia, Profiteers, and Nexus
Narratives of Evasion	● Commodification and Privatization ● Techno-fixes

The dissertation is, thus, structured in the following way. The next four chapters—following the four substantive themes of rights, tenement, technology, and economics—will articulate these twelve narratives. In chapter 7, using the political ecology lens, there will be a discussion on Politics of Narratives—i.e., politics as reflected in the twelve narratives. This politics is brought out by classifying twelve narratives in four groups as per their strategic typology, by juxtaposing operative values and interests of key actors emerging from the narratives, and by juxta-positioning and analyzing the positions taken by five categories of key actors towards different narratives.

Chapter 8 uses the political ecology lens again to look at three different Politics of Practice—politics that operate on the plane of practice—that emerge from my data namely, politics of policy, politics of class, and politics of othering. Chapter 9 then attempts to answer the question around reasons for persistence of water access contestation in Mumbai by introducing two concepts, first, the concept of two

interconnected planes (the Plane of Narratives and the Plane of Practice) and, second, the concept of Dynamic Gridlock. Chapter 10 discusses lessons from this Mumbai case and future scope of research.

Chapter 3: Rights

Water as the Human Right: Historical Trajectory and Ideological Roots

Global Level

Ideas about the human right to water have been in existence throughout human history in different legal and cultural traditions and laws. Some of the oldest examples of the human right to water are in the Sharia law (Salzman 2006), in Ottoman Water Code (Ahmad 2000), and in the Roman Law (as riparian water rights) (Dellapenna 2011). In recent times, there have been legal innovations that are grounded more in the rhetoric around human rights (McCaffrey 1992). Clark (2017) suggests that the central reason prompting these legal innovations lie in the emergence of the global movement for water-justice, which was a response to 'systematic exclusion of the poor from affordable water services'. The current global water-justice movement, said to have started with water wars in Cochabamba, Bolivia, are centred around demands for accessible, affordable, and community-controlled water services (Terhhost, Olivera and Dwinell, 2013).

The discourse of the right to water can be traced back to the UN Water Conference in 1977 at Mar del Plata that proclaimed, "all people have the right to have access to drinking water in quantities and of a quality equal to their basic needs" (Khosla 2010, Larson 2020). Peter Gleick's seminal article in *Water Policy*, argues that access to safe and adequate amounts of water is a basic human right, enshrined in the UN Declaration on Human Rights (Gleick 1998). In recent times, the above-mentioned global water-justice

movement led to inclusion of the human right to water, for the first time, in General Comment 15 (Article 11 and 12 of the Covenant) adopted at the Twenty-ninth Session of Committee on Economic, Social, and Cultural Rights, on 20 January 2003. It states, 'the human right to water entitles everyone to sufficient, safe, acceptable, physically accessible, and affordable water for personal and domestic uses,' mandating the states to frame inclusive water policies (OHCHR 2002). The UN General Assembly adopted a resolution on the human right to water in 2010, declaring that the 'right to safe and clean drinking water . . . [is] a human right that is essential for full enjoyment of life and all human rights' (UN G.A. Res. 64/292: United Nations 2010). So far, more than forty countries have recognized the human right to water in their constitutions (Larson 2013).

According to Allen et al. (2006), water as a basic human right makes water a legal entitlement; thus, it is neither a commodity to be sold nor is it a service to be provided on a charitable basis. The direct implication of such a definition is that provisioning of safe drinking water is the responsibility of the state. But Allen et al. add that governments across the developing world have failed in discharging this responsibility especially towards urban poor. Scholars like Hale (2007) argue that the human rights framework does indeed work in favour of disenfranchised marginalized communities. On the other hand, Bakker (2007) suggests that confusing articulations of the human right to water can also be used as tools to deny water to marginalized populations such as the urban poor. Additionally, such articulations have also been said to work in favour of the global elites and furthering their neoliberal and privatization agendas (Bakker 2007; Perera 2015, p. 199). The idea of the human right to water is currently a floating signifier, i.e., a term that has no agreed upon meaning, according to Sultana and Loftus (2012), and they, thus, question the political feasibility of implementing the right.

The human right to water and water rights are different. Systems of water rights are—in a way, interpretations of property law, and provide for procedures for water allocation that' identif[y] the total

available resource and divide it, via the grant of water rights, amongst different users' (Speed 2009, p. 390). Such a system is dependent on tools for water management and policy like pricing mechanisms, trading markets, centralized control systems, and reallocation of water by the government (Speed 2009, pp. 390–391). In the discourse of the human right to water, the articulation of the right is presented in terms of individual's 'basic need' to sustain life and livelihood (Gleick 1996; Hall et al. 2014). As Schmidt and Mitchell (2014) specify, water governance gets complicated due to confusion between the human right to water, on one hand, and, on the other, water rights and property rights. They suggest that this is because the definition of the human right to water does not account for the 'collective or the ecological, cultural, socio- economic and political dependencies on water' (Schmidt and Mitchell 2014, p. 59).

The human right to water can thus be problematic to enforce, as law makers and judicial systems find it difficult to discern the scope of the right from the state's obligation of providing water access (Larson 2013). The justiciability of the 'human right to water'—as against that of the 'water right(s)'—can be significantly problematics unless the human right to water is looked at as an extension of state's water sovereignty (Marshall and Neuman 2011) and is codified in national and subnational codes and policies for water management (Larson 2020).

National Level

In 1979, India acceded to the UN's International Covenant on Economic, Social and Cultural Rights (ICESCR), that required the signatory states to follow the principle of non-discrimination and to ensure that all the recognized rights are realised using all available resources (OHCHR 1966). As mentioned above, due to additions in General comment 15, India is also expected to uphold the human right to water. Additionally, India is a signatory in other international and regional agreements that recognize the human right to water such as Convention on the Rights of the Child, Convention on the Elimination of all forms of

Discrimination against Women, and Delhi Declaration (Murthy 2012).

The national jurisprudence also recognizes, albeit vaguely, the human right to water. India's Supreme Court has broadly interpreted the right to life provided in Article 21 of its Constitution to include a right to water, sanitation, housing, and other socioeconomic rights (Murthy 2012). But when it comes to resolving cases, Khosla (2010) describes the approach of the Indian judicial system as that of the "conditional social rights model". It implies that the court "strives hard to emphasize the importance of socioeconomic guarantees" but does not "protect any systemic social right" (Khosla 2010 p. 749), and "does not inquire into the reasonableness of the policy" (Murthy 2012 p.68). While the judiciary has often upheld the human right to water, Koonan (2015) states that India's recognition of the right is partial as the Constitution has not been amended to include it explicitly, leaving ambiguous, and, hence, open to interpretation.

India's 2002 National Water Policy acknowledges that drinking water needs of human beings should be the first charge on any available water. However, a large section of urban poor in cities and towns across the country do not have access to formal water supply networks (Coelho et al., 2011). As a result, the problem of water scarcity has become an element in one of the definitions of slums (Subbaraman et al., 2012).

Right to City: Historical Trajectory and Ideological Roots

The rationale for the right to the city emerges from acute marginalization and exclusion of poor communities from access to basic services. Pugalis and Giddings (2011) describe these communities as the urban underclass and explain immediate causes underlying their exclusion and marginalization, "[the] urban underclass, often alienated as a form of residual community, out of sight of affluent enclaves or

displaced elsewhere to provide access for the capitalist's elite to accumulate by dispossession." These communities, in their fight for survival, as if to assert their right to be (Lefebvre, 2014), then occupy 'areas previously abandoned by the intended users and left neglected', (Maina 2017) and thus assert their right to the city. But, due to this very act, they are 'considered illegal by the government and the formal sector' (Amenya 2007). However, the right to city is not limited to access to basic services but also right to places in the city, and, thus, to the right to urban life in the city (Parr et al. 2015).

Further, this marginalization, in terms of denial of access to basic services or urban spaces, is seen as a symptom of a deeper process of disenfranchisement in terms of exclusion from participation in decision-making. The idea of the right to the city is seen by many as a response to this political process of disenfranchisement (Friedmann, 1995; Isin, 2000; Soja, 2000). In countries like India, this disenfranchisement is not so blatant. Though poor are allowed to participate in electoral procedures, they cannot effectively participate, due to costs of participation which are unaffordable for them, not just in formal processes of governance but also in activities of civil society or community organizations (Desai, 2010). This disenfranchisement is traced then to infatuation of cities with globalisation and a capitalist free-market economy (Purcell 2002). Thus, the right to city, in response to the need to restructure the power relations in the city, provides a rationale for the demand [to] reorient decision-making away from the state and the market (Purcell 2002).

The right to the city, as a political right, then demands democratic participation in making decisions over basic services and urban spaces. It, in a sense, demands that all urban resources be managed democratically (Maina 2017). The right to city also demands alternative mechanisms for democratic participation such as engagement between stakeholders' groups and official agencies (Jimenez 2014).

Lefebvre views the city as a process in which all citizens must be allowed to participate (Lefebvre, 2014). Thus, the right to the city gets converted into the right to collective power (Attoh 2011).

Right to city, as intended by Lefebvre and its other proponents, is essentially rooted in two critical ideas. First, it involves moving away from the capitalist idea of the city as a commodity, which is said to be at the root of inequalities. The second critical idea is that the right to a city is an expression of the norm that every single person has a voice in the decision-making of the city. Thus, in sum, the right to the city is the right to "be, dwell, and participate" (Pugalis and Giddings, 2011) and it demands for the end of control of the city by private capital and for democratic control of all residents of the city who earn their right to the city merely by virtue of their residence in the city (Iveson 2013).

Historical Trajectory of Water and Rights in Mumbai

Legality of Tenement and Its Connection with Water Access in Mumbai

Maharashtra Slum Areas (Improvement, Clearance, and Redevelopment) Act, 1971 (for short "the Slum Act") provides for notification of a slum under this law (Interim Order of the High Court at Bombay 2014, Paragraphs 3, 4, 5). Under this law, slums which were in existence before the cut-off date formally announced by the state government (first 1st January 1995 and then 1st January 2000) have been notified. A document, called photo-pass, is issued to the occupier of a tenement located in the slum notified under the law. This photo-pass is a protection for the occupier against eviction by the government without

relocation and rehabilitation. Thus, the law provides a semblance of frail legality to the tenement in a notified slum, which is occupied by the holder of the photo-pass for the tenement.

Further, a circular (dated 4th March 1996) of the state government of Maharashtra prohibits local authorities from releasing water supply to any unauthorized construction. The direction in this circular was operationalized by MCGM through its Rule 6.9 which allows water connection only to structures which are notified and, thus, authorized through the above mentioned sections of the Slum Act. This is the legal route for a tenement in a notified (hence legal) slum to get connection to the formal water network.

Intermittent and Gravitational Supply of Water

The water supply made available through the formal water supply network in the city of Mumbai is gravitational and intermittent (Urban Water Engineer-Academic, Retired Municipal Water Engineer, Retired Senior Municipal Engineer). The term gravitational supply implies that water is supplied to a tenement through the distribution network that is connected to an Elevated Surface Reservoir (ESR). Thus, water flows from the ESR into the distribution network under the gravitational force created by elevation of the ESR. It is not pumped into the network. This results in a limited pressure available at the water connection provided at the consumer's end. The term intermittent supply implies that for, any area in the city, water is not supplied in the round-the-clock manner but only during some hours of the day. The gravitational and intermittent supply do have technical as well as economic implications for both, MCGM as well as for consumers.

Right to City in the City of Mumbai

The city of Mumbai confronted with the issue of the right to the city in the year 2003 when a powerful platform, called Mumbai First, primarily supported by a very powerful corporate coalition came out with the document called Vision Mumbai (Graham, Desai, McFarlane 2013). The platform did not stop at preparing the vision document but started active and forceful advocacy with the state government for recognition and implementation of the vision which was tailored as per the model of a global and world-class city competing with Singapore and Shanghai. The vision primarily promoted reengineering of the city through slum clearance, if necessary in a coercive manner, which Gandy (2008: 125) termed as the "neo- Haussmannite" agenda. It also proposed complete privatization of the water supply system of the city.

This vision of a global or world class city has remained as a very powerful imagery and provided an argument for restructuring of the city in which the illegal slums and poor do not have any space. There have been similar documents and efforts in subsequent years. An example could be the joint project of Brookings Institute and JP Morgan Chase titled the Global Cities Initiative which published a report called Mumbai: India's Global City (Clarke and Moonen 2014).

The underlying argument has been reclamation of the city by its legal, tax-paying citizens from masses of tax-evading, free-riding, and illegitimate slum dwellers (Anand 2011, Harris 2012, Zerah 2006). It was based on a revanchist logic that placed "we", i.e., the middle-classes and elite consumers and corporate investors against "them," the illegal poor with criminal tendencies. The aspiration and promise was for high-quality civic life for legitimate residents in a modern, world-class, global, technologically savvy city. In this vision, the scope of the formal city was restricted to 'apartment blocks, malls, corporate towers,

technology centres, and leisure parks' fulfilling the needs of 'elites, middle classes, foreign investors, and tourists'. The majority of residents who are pushed out of this modern city and dwelling in illegal slums had no place in this visioning.

Another instance of this revanchist logic in action involved a middle-class community from the newly gentrifying north-western suburb in 2010 (Graham, Desai, Mcfarlane 2013, New Link Road Residents Forum 2010). The formal association of residents from this area, called New Link Road Residents Forum, waged legal and political campaigns against alleged water theft by an illegal slum and its residents who were called by the forum as slumlords and anti-social elements, an euphemism for criminal actors. The rationale for the campaign was serious disruption and difficulties in water supply suffered by honest tax-paying citizens.

Right to Water in City of Mumbai

The explicit demand for access to water and a movement around it emerged from attempts by urban activists in the city of Mumbai to stop privatization of the water supply system of the city. In 2006, through an interview given by a high-ranking official of MCGM in a national level newspaper, the activist-community in the city first came to know that MCGM, supported by the World Bank, was planning for major changes in the existing water supply system and that they wanted to hold public consultations. Activists jumped on the chance to get involved in the decision-making (City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist 1, Urban Water Policy Researcher 2). But, later, they came to know that it was only a façade to allot water management contracts to the private sector. In an effort to stop this move, activists tried to approach and appeal to elected representatives, but representatives, along with MCGM, denied that there was any attempt for privatization, and activists were told that it

was just a study. However, the format of procedures was quite different; it involved public consultation in Phase I, discussion on options in Phase II, and bidding and negotiations for contracts in Phase III. As City-Level Water Activist-Leader points out, the contradiction was very blatant: *"ata jar ha study aahe tar mag bid karane aani bid negotiation karane ha part kuthun ala?* [If this is a study, then where the bidding and negotiations come from?]"

In the second public consultation, the consulting firm Castalia monopolized time by giving a long presentation, much to the chagrin of activists and academicians, as this was going against the ideas and norms about public consultations (City-Level Water Activist-Leader, Urban Water Policy Academic, Urban Water Policy Researcher). In an effort to justify privatization, the presentation focussed on major lacunae of the water supply system of Mumbai, including, lack of 24 by 7 (continuous supply of) water, bad quality of customer service, low revenue generation, and high percentage of non-revenue water (or NRW), which includes leakages, water supplied to unauthorised as well as unmetered connections, and metering errors. Activists countered the argument by claiming that the presentation did not provide any evidence on how privatization would address these lacunae; neither the firm did elaborate technical changes needed for ensuring 24 by 7 supply (more details in latter chapters). Further, the proposal involved provisioning of 24 by 7 supply only to the level of ground-level storage tanks, and it was limited to bungalows and apartments. This was found to be a redundant improvement. This is because residents occupying these tenements did not suffer from intermittent water supply and were enjoying 24 by 7 water supply as they had economic resources necessary to provide overhead tanks on their buildings and even within their apartments. Most importantly, the proposal had no indication to how this scheme of 24 by 7 supply would be implemented in the slums (City-Level Water Activist-Leader, Urban Water Policy Researcher 2).

The activists claimed that low revenue generation was the result of arrears (unpaid bills) pending with individual customers falling in higher brackets, firms, and government establishments. They also argued that NRW was largely due to leakages and water theft by vested interests. Hence, it was argued that holding urban poor or their unauthorised connections responsible for these two lacunas was factually incorrect. In response to these false claims and unsubstantiated proposals, activists boycotted the consultations completely. These activists were supported by the engineers working with MCGM who were also opposed to, what City-Level Water Activist-Leader calls, the 'mad dog theory.' He explains:

"*If you want to kill a dog, all you have to do is to go there and scream that this dog is mad . . . you make a big deal of it and come back . . . you don't have to do anything else . . . people will come and kill that dog for you . . . this was the same . . . you keep yelling that MCGM doesn't do any work, then people will say we want privatization*"

Thus, due to the reluctance of engineers and resistance by activists, the privatization attempt fell through. But, it created further pressure on activists to suggest alternatives. Then, MCGM started a new project called 'Sujal Mumbai' to fix leakages and gave zone-wise contracts to six private contractors for the task, which the activist community was not happy with (City-Level Water Activist-Leader, Urban Water Policy Academic, Urban Water Anthropologist, Senior Urban Sociologist). They started their own study of 107 settlements to understand what needed to be done (City-Level Water Activist-Leader). At this point, activists realised that the issue of slum notification—which barred MCGM from providing water to unauthorised settlements (slums)—was the key barrier for poor in getting access to the formal water network. As people living in such settlements were considered illegal, non-citizens, or outsiders, it was possible for MCGM to deny them access to the formal water system.

To deal with this barrier, in the year 2010, urban activists working with diverse organizations in the city

came together and founded an organization called Pani Haq Samiti (PHS) (i.e., Water Rights Committee). The informal umbrella organization came into being with membership of not just activists, but also people living in affected settlements, members of academia, and non-governmental organizations. PHS has financially relied on voluntary donations, while collaborating with non-governmental organizations and academic institutions for research support, advocacy strategies, legal guidance, and technical expertise. The main strategy has been to mobilize people around the idea of water as a human right. The response received by the organization led to creation of Pani Haq Abhiyan (Right to Water Movement). Under the auspices of PHS, activists undertook different types of efforts to resolve this issue. They approached all the concerned government organizations in an effort to address the issue but did not get any positive response from these agencies. The other efforts included, protest activities all across the city, dialogues with politicians representing main political parties, lobbying with MCGM officials; but nothing of any substance came out of these efforts (City-Level Water Activist-Leader, Urban Water Policy Researcher 2, Urban Water Policy Researcher-Activist 1).

Mumbai and Water as a Human Right

The dire situation around water access in Mumbai 'stands in sharp contrast to the ideals of a human right to safe drinking water' (Murthy 2012). The idea of water as a human right seems to have first come into use by the activists from Mumbai in the debates around the above mentioned efforts for water privatization and water metering (discussed in latter chapters). Anand (2014) details the process that took place during that period, "amidst a general opposition to water reforms, activists quickly made a sophisticated critique of the technology drawing, on the traveling imaginaries of rights and commodities. Water, they insisted, was a right, and should not become a commodity contingent upon having the means to pay for it".

Taking it further, in 2012, Pani Haq Samiti (PHS) filed a Public Interest Litigation (PIL) against the MCGM

in Bombay High Court, requesting the court that water should be provided to all residents of Mumbai on the principle of the human right to water. The petition raised strong objection to the circular by the Urban Development Department of the state government (dated 4th of March 1996) preventing 'unauthorised slums,' instructing all municipal corporations not to provide water to unauthorised structures.

At first, the court said that it was a non-issue as the earlier cut-off date for determining legality of tenement (i.e., 1st January 1995) had been moved to 1st January 2000, and, as a result, most slums in the city had been notified and were eligible to get access to formal water network. The implicit assumption was that residents of recent (post 2000) slums were people involved in illegal activities in the city and hence not worthy of consideration by the court. At this juncture, an intervention by Mr. D.M. Sukhtankar in the case changed its track. Mr. Sukhatankar is a former Municipal Commissioner of Mumbai and a retired Chief Secretary of the state of Maharashtra (the top-most post in the state-level bureaucracy). He, after his retirement, was quite active and was advising government agencies and intervening independently in the urban and other issues in the city and the state. Intervening in the case, he submitted to the court information that he had obtained using the Right to Information Act. His submission, based on authenticated information, claimed that around 4500 employees of BEST (the electricity and transportation utility owned by MCGM) and 5500 employees of Mumbai Police (including Sub-Inspectors) were residents of slums settled after 1995 and even after 1st January 2000. This submission—coming from a person of his stature and based on information authenticated by government agencies—led to change in the opinion of judges. The result was the verdict (i.e., an interim order) that essentially separates water access to occupant of tenement from legality of the tenement, and, most importantly, gives the status of the human right to the right to water. The court saw the right to water as an integral part of the right to life which is assured to all citizens by Article 21 of the Constitution of India. This led to emergence of a distinct narrative, the narrative of water as a human right in the city, discussed in detail later in this chapter.

This was a major victory for the movement for water access. However, Koonan (2015) notes that while this judgement establishes the right to water and the MCGM's duty to ensure water for all, it is not necessarily in the form of formal piped water supply. Additionally, the judgement also notes that the unauthorised slum dwellers can get water but at a higher price, and, in doing so, it legitimizes the differential delivery of water (Koonan 2015). This circles back to the confusion and ambiguity around the human right to water and water rights, and raises doubts as to whether this victory is possibly only symbolic in nature.

Thus, the arguments made by activists around water access in Mumbai fall under two narratives of claims: 'Water as a Human Right' and 'Water Rights as Right to City'.

Human Rights: Narrative of Claims

The core rhetoric of the narrative could be articulated as: Water is a human right, so residents even of 'illegal' slums cannot be denied access to the formal water supply network created by the state. The narrative is used primarily by activists and academics while claiming the water access on behalf especially of poor citizens in 'illegal' slums.

Core Position

As discussed above, the history of the movement in Mumbai for water-access to poor indicates that this human rights narrative for water-access emerged in 2012 when PHS decided, after trying many other strategies, to attempt to seek court intervention through a Public Interest Litigation (PIL) (City-Level Water

Activist-Leader). The human rights narrative has been the mainstay and used frequently in India in some areas and for some issues of social action such as custodial deaths or illegal detention of political activists. However, it had not been deployed with emphasis in other social movements in India including urban social movements prior to the PHS intervention (Senior Water Policy Academic). Even in the famous case on the issue of eviction of pavement dwellers in Mumbai, the Supreme Court accepted the right to shelter in combination with the right to livelihoods. But both these were considered as part of Right to Life enshrined in Article 21 of Constitution of India (High Court at Bombay 2014, Point 5).

Similarly, in its verdict (or the interim order) on the petition of PHS, the High Court at Bombay clearly refers to the right to life, stating, "*[R]ight to get water is an integral part of the right to life under Article 21 of the Constitution of India*" (High Court at Bombay 2014, Point 19).

The reference to human rights comes in the discussion in a judgement of the Supreme Court quoted in the same interim order of the High Court at Bombay on the PHS petition,

"[*R]ight to live as a human being [conferred in Article 21] is not ensured by meeting only animal needs of a man. It is secured only when he is assured of all facilities to develop himself and is freed from restrictions which inhibit his growth. All human rights are designed to achieve this object. Right to live guaranteed in any civilized society implies the right to food, water, a decent environment, education, medical care, and shelter. These are basic human rights known to any civilized society*" (High Court at Bombay 2014, Point 8).

However, this nuance is often not reflected in the Human Right narrative used by activists, though they are clear on the tactical aspect of it, "water [provisioning] should not be linked to a structure and should be linked to human rights" (Urban Water Policy Researcher-Activist 1). City-Level Water Activist-Leader, however, connects human rights with the right to city by saying "*getting water as a human right is a contribution to get right to the city*".

As a result, the Core Position of this narrative used by activists, articulated here, refers directly to human rights: Because the right to water is a human right, every citizen in the city has the right to get water from the formal water supply network laid by MCGM. As residents of illegal slums are citizens, they have the right to get water. This right cannot be denied to them just because they are residing in illegal tenement.

Though they won the judicial battle, activists are very clear that the judiciary cannot be a reliable saviour to depend upon. As City-Level Water Activist-Leader explains, they do not rely on the wisdom of the judiciary as another judge of the same High Court had asked why water should be given to illegal settlers.

Post-Verdict Developments

In its order dated 15th December 2014, the court directed MCGM to formulate (and implement) a policy to supply water to residents of 'illegal' slums by the end of February 2015. However, MCGM finally came up with such a policy on 10th October 2017 (MCGM 2017).

The policy excluded non-notified (illegal) slums on private lands, on undeveloped lands on the seafront, and project affected slums from water-access even after the court order. Most importantly, the policy asked the slum dwellers to form groups and follow an elaborate procedure that involved many technical, financial, as well as procedural barriers. This is despite the fact that lawyers of PHS and the judges were clearly suggesting another solution of "providing water supply through public water booths on the basis of prepaid cards" (High Court at Bombay 2014, Point 9). It is interesting to note that—while adopting much convoluted procedure in its policy—MCGM did not include this, much simpler, solution in its policy, though the same measure was provided for in an earlier government resolution (High Court at Bombay 2014, Point 9).

In sum, the MCGM policy did subvert the spirit and letter of the verdict which clearly stated, "*As the right to life is guaranteed under Article 21 of the Constitution of India [that] includes right to food and water, the state cannot deny the water supply to a citizen on the ground that he is residing in a structure which has been illegally erected*" (High Court at Bombay 2014, Point 11).

As a result, in the final analysis, the MCGM policy did not bring any significant change on the ground pertaining to water-access for 'illegal' slums. As Urban Planner Academic 1 and 2 assert*, "PHS campaign was a success to get water as a fundamental right but on ground much hasn't happened yet".* Councillor of Party in Opposition complains that "*MCGM demands so many documentary proofs,*" but she is not aware that the policy itself does not apply to all illegal slums.

Relevance of the Narrative

Interestingly, it seems that the human rights narrative is not appreciated by residents of slums, possibly, they find it too abstract and abstruse as well as unrealistic especially in the context of their everyday experiences in the city (Senior Water Policy Academic). As Urban Water Policy Researcher-Activist 1 shares, "*but the communities are impatient, kya mera right vagaira? . . . mhantat . . . atta amhala nal miltoy na…60,000 ka asena (what is this my right etc?. . . . they say . . . we are okay if we are getting a tap now by paying 60,000 [Rupees]).*" City-Level Water Activist-Leader explains the reason*: "People give up their rights . . . because if they ask for formal water the water they get right now from local mafia will stop"*

City-Level Housing Rights Activist is somewhat sceptical about the utility of the Human Rights narrative for building organization and for political mobilization of slum dwellers when he says, "*is this claim making sense? not really, but it is used for approaching courts or talking to authorities, but, this vocabulary hasn't helped . . . strengthening the beliefs and mobilization of people*".

Urban Water Policy Researcher-Activist 1 responds to this criticisms when she shares that slum people, when witness disparity and injustice join protest activities, "*but it needs to be a long term solution, aani tyasathi water is a human right ha stand ghyava lagtoy ([for the long term solution] it is necessary to take this human rights stand)*". Urban Water Policy Researcher-Activist asserts that it was a big victory.

It seems that activists using the narrative were aware of these limitations *"[we] wanted to focus on the legal aspect of denial because the rest of the factors are structural, localized or technically oriented* (Urban

Water Policy Researcher-Activist 2). However, it is true that their hope that judicial intervention would help them circumvent these difficult factors were negated by the policy.

Whatever might be its utility and relevance, City-Level Water Activist-Leader defends the human rights narrative by saying that if, for whatever reasons, people "*give up rights that is where slavery starts.*"

Ironically, the narrative has also been used, occasionally by officials and engineers of MCGM and well as by a councillor of the party (Councillor of Party in Power) in power as a rhetoric used for avoiding further debate on the issue or even to deride the idea as if suggesting that now you have the water as a human right, enjoy the right, and forget water.

Interests and Operative Values

Though they know its limitations, activists believe in 'intrinsic as well as instrumental value of human rights for claiming water access. In other words, they believe that 'every human has a right to access water.' The judiciary, through the verdict of the Bombay High Court, asserted that 'every citizen has the right to access water, irrespective of the other legal hurdles.' Similarly, though they are aware of limitations of judiciary and judges, activists believe in the 'role of judicial intervention for securing water access' on both intrinsic and instrumental levels. In a sense, they look at judicial intervention also as serving their interest of creating political (in non-electoral sense) support in the community they want to fight for.

Water Rights as Right to the City: Narrative of Claims

The core rhetoric of this narrative could be articulated as: We are also citizens of this city and should have access to water. By claiming access to water, we are claiming our right to the city.

Right to Water is Right to City

"The *right to water and the right to city is not disconnected because these are requirements of existence. You are considered an outsider and you need a claim to the city*" (Urban Water Policy Researcher-Activist)

For many activists and academicians, the fight for access to water, or the urban poor's right to water is essentially a way to claim the right to the city. The core position of this narrative is that if some residents of the city, who are called 'legal', are accorded the right to this city and are entitled to access to basic services like water, then by claiming and getting access to water, the residents of the city who are called 'illegal' squatters would also establish their right to the city. The claim to water is in a way a claim to space in the city—not just in the physical and legal sense, but also in the political sense, specifically space in decision-making in the city.

Coming back to arguments for the right to city, as Urban Community-Development/Sanitation Activist explains it,

"*So when I want safe water, it is actually claimed right to the city. Right to city is claiming your citizenship which is possible through participating in all decision making processes. It is not required that only Tata* [a rich industrial family in India] *should tell and decide how my city should be, actually, I also have a say in that and . . . I also think that my city should be like this. So, it is about understanding our needs, listening to voices around our needs, helping us to strengthen those voices, helping us to bring those voices in planning, policy making, and execution, recognizing, respecting me, and also celebrating me as a citizen. This means I have not come to live on your mercy. We should get this right, so let us be together to claim that right. In this entire process, I see the right to city and that is how I see people claiming their right."*

Thus, as per these activists, the idea underlying this 'right to city' narrative is that when you can clearly see people not getting water, a basic necessity, but wealthier citizens—including occupants of 55,000 unauthorised buildings—and industries getting more than ample water, it is effectively a reflection on whose city it is. This idea that the urban poor are illegitimate squatters and do not belong in the city is what these activists are striving to change. They don't want water as charity or out of mercy or even on humanitarian grounds, but as recognition of legitimacy of their existence in the city and, hence, their right to participate in decision-making about the city. It goes beyond getting access to water as a human right or access to water through economic or technical fixes. For them access to water means the ability to change their present and shape their future in the city (Urban Community-Development/Sanitation Activist, City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist 1, Urban Water Policy Researcher-Activist, Urban Water Anthropologist).

"*Recognize me, celebrate me…tumchya dayevar nakoy [we don't want it out of your mercy/pity]*" (Urban Community-Development/Sanitation Activist)

The Three Movements: Operationalizing the Right to the City

The movement for right to water was not an isolated movement and has been carried out parallelly and in collaboration with other two movements in the city. The first was Ghar Bachao Ghar Banao Andolan (henceforth referred to as GBGB, which means 'Save [your] Houses, Build [Your] Houses' movement) which focuses on issues of housing of poor people in the city. The second is the 'Right to Pee' movement focusing on securing sanitation facilities for women in public spaces. Both these movements, similar to the movement for the right to water, are essentially about claiming spaces—both physical and legal—in the city for poor and disadvantaged (Senior Urban Community Activist, Urban Sanitation Activist, Urban Community-Development/Sanitation Activist, City-Level Housing Rights Activist).

The 'Ghar Bachao, Ghar Banao' Andolan, as City-Level Housing Rights Activist suggests, emerged as a direct reaction to the demolition of unauthorized housing in 2004.

"*So in squatter settlements, there is no legal acknowledgment of their rights . . . post 2004, there was a whole "Mumbaicha Shanghai"* [Turning Mumbai into Shanghai] *sentiment that led to demolition of houses [in slums] and use of police force . . . this movement came as a reaction and we started protecting and building houses*" (City-Level Housing Rights Activist)

The movement started claiming space, in the most physical sense of the term, by rebuilding houses for vulnerable populations. As housing started to emerge as a way to claim space in the city, other issues like access to formal water supply started to come up in discussions as well; mainly because water used by

slum dwellers from informal supply was inadequate, dirty, and expensive. But, unlike housing, securing access to formal water networks needed legal status, demonstrated by a documented proof of legality of the tenement. GBGB could rebuild houses of the poor without any legal entanglement or repercussions and claim spaces rapidly, but getting access to the formal water network was a difficult task (City-Level Housing Rights Activist).

The 'Right to Pee' movement also attempts to help women claim public spaces by empowering them, and, thus, make not only workplaces but also public places women-friendly. As Urban Community-Development/Sanitation Activist describes it,

"*Right to pee was about gendering public spaces, and claiming public places. The denial or non-cognizance of me (a woman) in the public spaces. Now, it is said women and girls are going out of the house in huge numbers to study and work, but that is not all; they also go out to watch movies. So it is my education, pleasure, leisure, work, entertainment, socialization or anything. Hence, this is my space and I want to claim it."*

Activists of the Right to Pee movement describe their efforts as a way to secure an entry point for women in governance of the city, by changing the mindsets of local authorities. As Senior Urban Community Activist describes it,

"Our issues are about rights . . . maybe they are about basic amenities . . . and caste, class, religion are used for exclusion . . . so we are claiming public spaces, toilets, railways . . . hoping it would lead to a

dialogue between duty holders and right holders"

Both these movements helped evolve, shape, and then supported the idea of getting 'access or right to water in order to get the right to the city; further, the movements also actively supported efforts of the movement of the right to water. Activists from three movements support each other and attend protest-marches and other activities of the other two campaigns in high numbers. They do have some disagreements, for example, some GBGB activists do not approve that the right to water campaign has separated the water issue from the housing issue (City-Level Water Activist-Leader). However, they still are together in fighting for the idea of claiming their right to be in the city through claiming access to basic urban services.

"We believe in right to the city . . . we have to separate the smaller rights but at the same time we do have to articulate it as right to the city . . . these will have to happen simultaneously, if these separate movements don't sync, then right to city will not emerge as an ideology . . . you cannot just say I have a right . . . what is that right? . . .you will have to connect it to water rights . . . connect it to housing rights . . . connect it to participation . . . if you connect all these things then only can you talk about inclusion and justice" (City-Level Water Activist-Leader)

Experts and academics understand the right to city more as an academic endeavor and view these movements as more about claims than rights, and, at times, counterproductive, because it is not a practical approach (Urban Planner Academic 1 and 2, Senior Urban Sociology Academic). The activists, however, acknowledge this shortcoming but view the narrative of the right to the city more as a narrative

of cohesion and mobilization (City-Level Water Activist-Leader, Urban Community-Development/Sanitation Activist, City-Level Housing Rights Activist). As City-Level Housing Rights Activist describes it,

"That's what right to city means, a holistic approach to bring all people on one platform to build solidarity, so that people could relate to each other, because [mutual] understanding is also a resource"

Interests and Operative Values

For activists working for the right to the city, which include activists of all the three afore-mentioned movements, it is a political right of being a participant in the process of making decisions over the functioning and future of the city. In other words, for them, irrespective of the legal status of her tenement, ' every resident of the city has right to seek access to water,' 'every resident, has a right to reside in the city', and 'every resident, has a right to participate in making decision about city's affairs'. Though they proclaim it with the same enthusiasm, activists from the movement for the right to water, look to the right to the city as a value but more as having an instrumental value.

Dissertation Roadmap

Both the narratives discussed in this chapter are Narratives of Claim—and these are the only two narratives in this strategic category of Narratives of Claim—used mainly by activists and politicians in the

minority or in opposition in MCGM who advocate for water access to slum-dwellers. These two narratives, together, help make the case for improvement in water access, the formal water supply systems as well as the relevant practices and policies. These narratives bring the discussion to a human level, and away from the technocratic and bureaucratic, rationales, language, and modus operandi.

Chapter 4: Tenements

Historical Trajectory

Background on Slums

Access to water depends heavily on where one lives or on one's tenement. Conversely, different dimensions and characteristics of tenement are intricately linked with factors determining water access. In urban areas, issues pertaining to access to water are faced primarily by the poor, who often live in informal housing in settlements called slums.

Literature suggests five indicators of deprivation related to housing, namely, lack of durable housing, sufficient living space, access to drinking water, access to sanitation, and secured tenure (Bardhan et al 2015). UN- Habitat (2016) defines slums, taking the quality of life perspective, in terms of dwellings without basic amenities, characterized by unsanitary and overcrowded conditions, and posing threats to the inhabitants' health and safety. Zhang (2018) identifies the legal dimension of the definition of slums, 'slums are unauthorized and illegal structures, where inhabitants do not have the legal title to the land that they occupy' (page 876). In the Indian context, the definition of slum varies; but most government agencies regard slums as residential areas with living conditions that are undesirable (Nakamura 2016, Banerjee-Guha, 2002; Risbud, 2009).

Under the broader global shift towards the 'planned city', this undesirability of living conditions for urban poor gets translated into undesirability of the urban poor itself (Bardhan et al 2015; Watson 2009). Efforts

to diminish vulnerability of urban spaces then gets translated into the need for removal, exclusion, displacement, and, at times, complete eradication of slums from major cities (Stecko & Barber, 2007).

UNHSP (2003) suggests that slums are the results of bad governance, failed policies, corruption, inappropriate regulations, lack of political will, and dysfunctional financial systems and land markets. Bardhan et. al (2015) add that "*slums can be regarded as the result of the policies and plans with failed motives*".

According to UNHSP 2003), in developing nations around the world, 43% of the urban population lives in slums, which is around 924 million people. Attaining universal and equitable access to safe and affordable drinking water for all (SDG 6) will, thus, be a major challenge, especially in these urban slum communities. The barriers to having access to basic urban services like water in slum communities are not only financial or technical but also legal, institutional, and political (Subbaraman and Murthy 2015).

Slums in Mumbai

A similar situation could be observed in Mumbai. In 1956, 8 percent of the total population of Mumbai lived in slums (Zhang 2018). Decades of urbanization and population growth combined with unplanned consequences of various housing and planning policies and initiatives have led to tremendous growth in the slum population of Mumbai (Zhang 2018, Bardhan et al 2015). As a result, according to the 2011 Census, nearly 42% of Mumbai's population, lived in slums.

Various policies were enacted in decades immediately after independence; these included: 'The Slum Area Improvement and Clearance Act of 1956', 'Slum Areas (Improvement, Clearance and Redevelopment) Act of 1971', and 'The Maharashtra Vacant Land (Prohibition of Unauthorized Structure and Summary Eviction) Act of 1975'. These early policies focussed on eviction and clearance of slum areas and on keeping vacant lands in the city from being encroached upon. There were no resettlement plans for these evicted people in these policies. In the 1980s, the approach towards slums became more of upgradation and redevelopment of existing slums. With the 'Slum Upgradation Programme (SUP)' of 1985 of the state government and 'The Prime Minister's Grant Project' of 1985 of the central government, Mumbai tried to provide bank loans to marginalized populations to build better shelters and got funding from the central government to support slum improvement initiatives. All of these policies established that the slums were undesirable in Mumbai and either had to be evicted and stopped from encroaching on legitimate private spaces, or upgraded and redeveloped for the city to move towards the global city that it aspired to be.

The most influential policies came in the 1990s with the neo-liberal turn in Indian governance and entry of large foreign investments in the housing sector in the country. 'Slum Redevelopment Scheme' of 1991 by the Government of Maharashtra had the objective of increasing private participation in efforts for slum redevelopment. The main idea of the scheme was that the private developers would carry out in-situ redevelopment of the slum area by rehousing slum dwellers into tenements, each measuring 180 sq. feet (16.72 sq. m), and then use rest of the area to build and sell in the open market. Not only did this scheme not attract private developers, but it was considered highly inefficient by experts (Risbud 2003). But, it did set in motion and legitimized the idea of evacuating slums from prime lands of the city in order to benefit large developers and builder lobbies (Banerjee-Guha 2002).

In 1995, the Slum Rehabilitation Scheme of Government of Maharashtra led to the formation of the body 'Slum Rehabilitation Authority' (SRA) which focuses solely on matters of slum resettlement. Under the scheme, in exchange of building and providing free housing in vertical tall buildings (either in situ or by rehabilitation of PAPs), private developers get transferable development rights. Using these rights, the developers can develop real estate of the same floor space at a different and more profitable location. The issue of notified versus non-notified slums, discussed in the previous chapter, is closely connected with this scheme, as only slums settled before (initially 1995 and then) 2000 were 'notified' and eligible for this scheme. The Slum Rehabilitation Scheme however strengthened the preference given to private actors and wealthy investors over the urban poor in the city. Additionally, it led to a new type of housing problem in the city that is created by buildings built under the SRA scheme and for housing Project Affected People (PAP). The concerns of water access of the SRA and PAP housing is discussed in detail further in this chapter.

As discussed in the previous chapter, the connection between access to water to the notification of the slum, led to a wide-spread movement over human rights and a court case. The 2014 Bombay High Court verdict states that water is a human right and all people should get access to water. But, due to other legal complications, this verdict is effectively applicable only to lands owned by the local authority, the Municipal Corporation of Greater Mumbai (MCGM). Apart from lands owned by MCGM, slum settlements in Mumbai are situated on lands owned by the central government, state government, Bombay Port Trust, Indian Railways and Airport Authority of India as well as private parties. Slums that are settled on these lands could not get benefit of the verdict as MCGM would require permissions from these owners to provide water connections to settlements on these lands. As most of these landowners are not willing to allow MCGM to give water connections, concerns over access to water still haunt a substantial urban poor population in the city (Bapat and Agarwal 2003, Murthy 2012).

This chapter presents three narratives over water-access to the poor, which are closely connected with tenements of the poor. It begins with the narrative that links water-access to poor with ownership of the piece of land on which tenements of poor are situated. The second narrative in the chapter is around linkage between water-access to poor and structural characteristics of housing or tenements occupied by poor. The third narrative is about failure of planning and policies, which led to shaping of the current status of tenements of poor and that of water-access situation of poor.

Legality of Tenement: Narrative of Denial

Introduction

Core Rhetoric of the narrative could be articulated as: It is not possible to provide water to settlements which do not have NOC (no-objection certificate) to provide water from owners of the land on which they are situated.

The narrative is used mainly by officials and engineers of MCGM (Municipal Corporation of Greater Mumbai) and elected councillors in response to arguments involving issues like human right to water, the 2014 court verdict, legal versus illegal or notified versus non-notified slums, or persisting water access concerns of most slum communities.

Core Position of the Narrative

As per the earlier 'cut-off date' policy, only people with the proof of existence of their tenement prior to the cut-off date were eligible for formal water access from the MCGM network. The court verdict that came as a response to the Public Interest Litigation (PIL) filed by *Pani Haq Samiti* (PHS) required MCGM to provide water to all citizens living in Mumbai. Engineers and officials of MCGM claimed that, as directed in the verdict, MCGM came out with a policy in this regard, which allowed provisioning of water to all, without restriction of any cut-off date (Head of Municipal Water Department, Retired Municipal Water Engineer, Municipal Water Engineer 1, Retired Senior Municipal Water Engineer). According to engineers, officials, and councillors, following this policy, huge efforts have been made to extend existing distribution networks and build new networks in order to provide water to as many people as possible (Municipal Water Engineer 1, Councillor of Party in Opposition).

> "*The High Court said that everybody should get water; it is the fundamental human right; but many slums are on private property, so, MCGM cannot provide water*" (Councillor of Party in Power).

But many settlements are located on lands owned by the central government and its agencies (such as Indian Railways, Airport Authority of India, and Bombay Port Trust), the state government and its departments such as the Forest Department, and private parties.

According to engineers and officials of MCGM, as well as councillors from the party in power, these settlements required a No-Objection Certificate (NOC) from owners of the lands on which they are

situated (Head of Municipal Water Department, Retired Municipal Water Engineer, Municipal Water Engineer 1, Retired Senior Municipal Water Engineer). The argument was that water connections had always been procedurally connected with the proof of payment of the property tax to MCGM by the landowner. This requirement, considering the High Court verdict, could be waived for settlements on lands owned by MCGM, but not for settlements located on lands owned by other parties (Retired Municipal Water Engineer, Retired Senior Municipal Water Engineer, Urban Water Policy Researcher, Urban Water Policy Researcher-Activist 1, Urban Water Policy Academic, Head of Municipal Water Department).

> "*After the new High Court order, everybody gets water and there is no cut-off date, but we still need landowner's permissions. Luckily, most of the land was municipal, so there were no issues about permission."* (Municipal Water Engineer 3).

Thus, core position of this narrative can be articulated as follows: Since the 2014 verdict, water is a human right and MCGM is providing it to as many settlements as we can. On lands owned by MCGM, MCGM has made great progress, but a lot of settlements are on lands not owned by MCGM and on those lands, MCGM needs NOCs from landowners (i.e., persons who pay the property tax for the land) to provide formal water connections.

Persistence of the Legal Barrier

However, the head of MCGM's Hydraulic Department claimed that a policy was being prepared which would allow connections, without NOCs from owners, to all except four categories of dwellers namely; settlers residing on central government lands, forest lands, coastal regulation zone (CRZ), and footpaths. He added that, though the policy is yet to be approved, his department had already started providing water connections following the policy (Head of Municipal Water Department).

But, according to many, this legal barrier of landowners' NOCs still persists. "*Corporation is only the service provider. So there is always this tension of corporation versus land owners*" (Urban Water Policy Researcher-Activist 1). The example often used to explain this conundrum is that of decades-old migrant settlements on lands owned by Bombay Port Trust (BPT). These settlements are located among docks and jetties that once were used as ship-building facilities or as port facilities for import and export into the city. Many migrants (mostly Tamilians from South India) were brought in as contractual labourers to work in these facilities and were settled on lands around these docs. However, with sky-rocketing land prices in the city, many industries were pushed out of Mumbai, adversely affecting ship building and import-export activities at these docs. This gave rise to dismantling and scrap market activities in the area. To serve these activities, a new wave of migrants (predominantly from North India) came, though not as official contractual labour, and settled in informal settlements in the same area. These settlements have been facing dire situations due to lack of formal access to water. As these settlements are on BPT lands, MCGM has been refusing to provide formal water connections, without the permission from BPT (Independent Urban Researcher, City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist 1, Activist and Urban Planner Academic 1, and Activist and Urban Planner Academic 2).

Independent Urban Researcher describes conditions of these settlements:

"They [people from the informal settlements] mostly use the old fire safety tanks near the ports for storing water brought in by tankers. These tanks were built in the past by the fire brigade of BPT [Bombay Port Trust] to bring in and store water. From there start long thin pipes snaking through the BPT area which take water to various households, sometimes 500 meters to 1 km long . . . pipes have many holes, they are old . . . water gets contaminated. Water is pumped and pushed through these thin pipes, that sometimes go over trees and electricity poles and over your heads . . . to bring water to these settlements. PHS and YUVA took a stand that these invisible people also have the right to basic services. BMC has no authority to sanction plans on BPT lands . . . but at least provide water and sanitation to them".

But, such procedural problems are not limited to MCGM, it is complained that, every agency involved had different procedures, making coordination among them very difficult (Retired Senior Municipal Water Engineer, Senior Community-Development/Sanitation Activist).

"Every authority has its own regulations, that's why building water supply network is problematic; because there is no common ground in either management or redevelopment…for everything they go to the slum authority" (Retired Senior Municipal Water Engineer)

To address this problem, activists and academics have demanded 'single-window' policy, but so far no such mechanism has emerged (Senior Community-Development/Sanitation Activist, Urban Water Policy Researcher-Activist 1).

To avoid this procedural and legal tangle, a way-out was suggested by the Hydraulic Department of MCGM that water could be made available to these people, at some-what higher charges and through a public or common tap located on borders of private lands. But, this was seen by many as an infringement on the rights of these settlers to get water at the standard tariff and through private connections inside their tenements (discussed in detail in a separate chapter) (Retired Municipal Water Engineer, Retired Senior Municipal Water Engineer, Urban Water Policy Researcher, Urban Water Policy Academic, Head of Municipal Water Department).

Water Access and Land: Through Political Ecology Lens

For many, the core of this issue lies in political ecology—with different strands and dimensions—of access to water and that of land use, which is complicated further by mega-urbanization witnessed in Mumbai (Senior Urban Sociology Academic, Activist and Urban Planner Academic 2, Activist and Urban Planner Academic 2, Urban Water Policy Researcher-Activist 1, Urban Water Policy Academic).

One strand of this political ecology pertains to politics around legality of water access and claim on the city.

"*Water has become an instrument for executing a political agenda. There has been denial of water access post-1995 using an legal excuse, and through illegality of tenement. If tenement is illegal they won't supply water. Thus, water access has become an instrument of politics*" (Urban Water Policy Researcher-Activist 2).

(Activist and Urban Planner Academic 1) explains this politics further, "*MCGM is very reluctant to provide water to informal settlements because that might provide entitlements and make them legal*".

Another strand pertains to the core issue of high economic value of private lands in this growing, crowded city. (Activist and Urban Planner Academic 1) clarifies, "*the land occupied by the urban working class is seen as land put to suboptimal use*". High land value also provides the ulterior motive behind refusal for NOCs by private landowners. (Retired Senior Municipal Water Engineer) explains, "*The owners give permissions only if they feel that they cannot develop the land, otherwise they do not give us the clearance [for giving water connection]."* Activists and academics also agree with this observation.

From the vantage point of on-ground water activists, their struggles to bring water to all residents of the city are being thwarted by this connection between land and water. Emphasis on this connection is perceived by them as a means to keep the informal, local, high-priced water markets alive and thriving, in order to benefit the nexus of land owners, slum lords, and politicians, until land owners get a better price for their land through some redevelopment scheme (Activist and Urban Planner Academic 1). As City-Level Water Activist adds,

"*If they are illegal, demolish them...rehabilitate them. Why keep them in such a state? The Central government doesn't give NOC so BMC [MCGM] says they cannot give water…we are saying, get rid of this NOC business*."

Interests and Operative Values

Coming to interests underlying the narrative, the globally competitive and extremely high land prices in the city create huge vested interests and stakes for private landowners, local councillors and politicians, and some MCGM officials in keeping these squatted lands available for redevelopment of real estate. This requires them to continue to deny poor settlers access to the formal water network. To this end, they make strategic use of the legality of the need for owners' NOC, as they can control provision of such NOCs.

At the same time, there is an interesting mix of operative values—beliefs about what is appropriate or not—underlying the narrative. MCGM officials seem to believe that 'squatters or settlers—who do not own the land—do not deserve even basic services'. A linked operative value is: 'urban land deserves better use than shabby squatting by poor'. Another operating value underlying the narrative of these officials relates to 'sanctity of legality and procedures.' The narrative also reflects the belief that 'poor are the problems' and 'poor are dispensable'. In a way, MCGM armed with such procedures is seen as a politics-neutral and effective machine that will be instrumental in ensuring development of not just a clean, prosperous, and modern, but also ethically superior city, devoid of poverty and shabbiness. In short, the narrative views MCGM as the 'anti-politics (and pro-modern) machine' (Ferguson and Lohmann 1994)[1].

[1] James Ferguson and Larry Lohmann (1994) The Anti-Politics Machine: "Development" and Bureaucratic Power in Lesotho. The Ecologist Vol. 25 (5) September-October 1994 pp. 176-181.

As against this, activists criticizing the stand of engineers believe that 'infringement of frivolous legality should not be an obstacle to water access'.

Structure and Spatiality of Tenement: Narrative of Denial

Introduction

The core rhetoric of the narrative says: It is not possible to provide water to some people because of certain structural and spatial characteristics of tenement in which they live.

This narrative is mainly used by officials and engineers of MCGM as well as by elected councillors mainly to justify the denial of access to water to 'legal' slums and chawls in the city. Here, the core of the argument is around different barriers—to provisioning of water from the formal network as per technical norms—created by certain structural characteristics of housing.

Main Position of the Narrative

These structural characteristics become critical from the perspective of water supply because water supply from the formal network of MCGM is gravitational (not pumped) and intermittent (not continuous). Further, the technical norm requires that water is supplied at certain pressure at the tap inside the house (Senior Water Policy Academic, Retired Senior Municipal Engineer). Intermittent supply implies that all areas in the city receive water from the formal network during a limited number of hours

during the day. This makes it necessary that an interim arrangement is made to collect and store water when it is supplied by MCGM, which then would be provisioned, whenever required during the day, inside the house at the minimum pressure prescribed by the norm. Further, as the water supply from MCGM is gravitational, in most areas, water is supplied at pressures that are often inadequate for water to reach directly to storage tanks located on the top of houses or buildings. As a result, in order to provide water to the household, whenever required and through taps inside the house at the prescribed minimum pressure, water has to be stored temporarily at the ground or sub-surface level and then pumped into overhead tanks. Thus, for water provisioning as per relevant technical norms, houses in the city will require the following three facilities: a ground-level (or underground) storage tank, pumping facilities, and an overhead tank for supplying water whenever required and at prescribed pressure inside the house.

The houses occupied by residents of the city of Mumbai are classified in the following four categories based on the structural characteristics of the housing: slums, chawls[2], apartment (multi-storied) buildings, and bungalows (separate single houses) (Retired Senior Municipal Water Engineer, Retired Senior Planner-Academic, Retired Municipal Water Engineer, Head of Municipal Water Department). Except houses in slums, houses from other three categories are constructed as per extant Development Control Rules (DCRs) of the Building Department of MCGM. It needs to be noted that,

[2] Chawls are old buildings—normally with ground plus 2 or 3 floors—with dense rows of small tenements with shared sanitation facilities and a common balcony providing a pathway between the tenement and the common staircase. Chawls were primarily built for housing bachelor migrants or single families. Chawls house about 20% population of the city, mostly low-income or lower middle-income families (Makhija 2006).

"*Building Department [of MCGM] is concerned about adherence to DCRs prescribing structural norms; but the Hydraulic Department looks at structural characteristics of a house in terms of feasibility of situating an under-ground storage tank, pumping facility, and an overhead tank*" (Senior Water Policy Academic).

Houses from the last two categories—apartment buildings and bungalows—do not generally face any problem in providing these three facilities for ensuring water supply round the day. This sets them distinctly apart from houses of other two categories, providing them significant advantage and privilege when it comes to access to water services (Retired Senior Municipal Water Engineer, Retired Senior Planner-Academic, Senior Interdisciplinary Academic).

However, houses from other two categories face problems in setting up these three facilities. Houses in slums, which are tightly packed and situated in haphazard manners, do not have adequate open space around houses. This makes it difficult to lay the pipelines of the distribution network. It also makes it difficult to find adequate and appropriate spaces for locating ground-level water storage tanks and pumping facilities. Further, houses in slums are built without following MCGM's DCRs pertaining to structural characteristics such as structural strength, type of foundation, type of materials used for walls and roofs. This makes it difficult, and often risky and unsafe to put up overhead tanks.

Though most chawls were built following extant development control rules, their construction plans did not provide for any of the three facilities mentioned before. Being extremely old structures, water facilities of most chawls are in dilapidated conditions. They also have no space for building a ground-level

storage tank, and are structurally not strong enough to bear the weight of overhead water tanks (Retired Municipal Water Engineer and Retired Senior Planner-Academic).

Thus, the Core Position of this narrative could be articulated as: It is not possible to provide household water connections to slums and chawls due to lack of storage capacities in the form of structurally sound ground-level and overhead tanks of adequate sizes. Providing household connection is difficult in the case of slums also because of the haphazard and closely-packed siting of houses in slums, which makes it impossible to lay a pipe network in a technically sound manner.

Thus, this narrative turns the issue of access to formal water networks into "*the issue of pumping and storing water . . . distinguishing those who can afford to pump and store water [from] . . . those who cannot . . . [who] have to resort to illegal measures."* (Retired Senior Planner-Academic)

Factors Compounding the Problem

For this narrative, the problem of water access to slums is further compounded by vertical growth of slums. Because of failure of authorities to respond to aggravating housing shortage in the burgeoning city, owners of houses in slums started building one or two floors above their small houses. This led to increase in the population of these settlements in multiples of their initial size. The pipes and network that provide water to these settlements were designed for the original population size. As a result, vertical growth of slums puts tremendous pressure on the supply network, and, at the times, it is very difficult to assess both population of the slums and demand for water (Retired Senior Planner-Academic, Retired Municipal Water Engineer, Retired Senior Municipal Water Engineer).

"*The biggest blunder in slum cities is vertical expansion. Everybody is getting water now…every two zhopdas there is a connection…only real problem is vertical growth"* (Retired Municipal Water Engineer)

This linking of water access with the structural condition of housing in this narrative also transforms the issue of water access into a politically-sanitized issue of housing development. Thus, as the concern of housing for poor gets translated into demand for redevelopment of slums by developers, the question of access to water becomes a question of upgrading housing (Urban Finance Expert, Urban Water Policy Researcher-Activist 2, Activist and Urban Planner Academic 1).

Linking of structural conditions of houses to water access has led to a vicious cycle, as houses in slums were denied water and other basic services because these houses didn't conform to basic building standards. But, then these houses were deemed unfit for human habitations due to absence of basic services (City-Level Housing Rights Activist).

As response to this problem, according to activists and academicians, since the 1964 Development Plan, the approach and focus of MCGM and GoM have been on 'upgrading slums' (Urban Planner-Academic). Though many settlements looked like slums visually, people living in these settlements need not be from the poorest category. However, perception of these settlements as slum type of housing led to denial of access to the formal water network (Activist and Urban Planner Academic 1 and Activist and Urban Planner Academic 2). As a result, though people living in these settlements could well afford the formal

water connection, this denial, based on the structural conditions of their houses, turned them into slum dwellers deprived of adequate water services.

> "*On the other hand you say slum housings will not be given basic services and that leads to in a way the government itself paving a way for creating slums, slums that are manufactured by the state….slum is not a noun it is a verb as it is being produced.*" (City-Level Housing Rights Activist).

In view of the activists and academicians, the problem essentially is rooted in the view of these governing bodies about slums and informal housing as undesirable and problematic (Senior Urban Sociologist, Urban Planner-Sociologist, Urban Water Policy Researcher-Activist 1, City-Level Water Activist-Leader, Urban Planner-Academic, City-Level Housing Rights Activist).

Vertical Slums

The approach and focus of governing bodies on 'upgrading slums' resulted in a new category of housing in Mumbai over the last few decades, which ironically, the activists and academicians describe as the 'vertical slum'. As explained before, through the SRA (Slum Redevelopment Authority) scheme or for PAP (project-affected people) housing, tall buildings—anywhere between 7 to 15 storeyed—were built and a large number of urban poor were moved into these buildings. They are provided with water into ground-level storage tanks through formal connections. In both, SRA and the PAP housing, the general expectation of MCGM officials and politicians is that residents of these buildings should form a committee or a cooperating housing society and take care of operation and maintenance of the building and of basic

amenities including elevators (lifts) and water facilities. The residents are expected to invest in and pay for operation and maintenance of water pumps to take water to upper storeys. (Independent Urban Researcher, Senior Community-Development/Sanitation Activist, City-Level Water Activist, Senior Urban Community Activist, Senior Urban Sociology Academic, Urban Sanitation Activist, Urban Water Policy Academic, Urban Water Policy Researcher).

However, these residents, for various reasons, cannot fulfil these expectations. First, expenditure on operation and maintenance of pumps and elevators are beyond the means of these residents, mainly due to the high electricity tariff in the city. Another reason underlying inability to maintain these amenities is lack of required social cohesion among residents required for such collective action. These residents come from extremely diverse socio-cultural and economic backgrounds. They are brought from different parts of the city and literally bundled together by authorities—often overnight, without their consent, and against their will—in such an abrupt manner, that "*there's complete destruction of their earlier social and dependency relationships as well as work-home relationships*" (Senior Urban Sociology Academic). Most of them have to travel back and forth to their distant original locations to earn their livelihoods. Thus, as a combined effect of economic inability, lack of mutual familiarity and trust, and stress of everyday travel, residents of these 'vertical slums' fail to operate and maintain their water pumps, leading to curtailed loss of access to water. Senior Community-Development/Sanitation Activist explains:

> *"People from Chembur, across railway track were shifted overnight to Lallubhai Compound, MHADA, without livelihood, without educational facilities for children, their livelihoods are in Chembur . . . their children go to schools in Mulund . . . it is not a homogenous community supportive to each other, due to heterogeneity there is no binding*

with regard to spirit, emotionally, intellectually, culturally, and economically. So, you have taken a slum and made it from horizontal to vertical, but without any support for transition. Water is now available for limited hours, no elevators, seven storied buildings, different caste, class, ethnicity. It is a very difficult situation" .

Within a few years, these SRA and PAP complexes become dilapidated, elevators and water supply systems break down, and people move out of these complexes and back into harsh yet familiar situations of slum housing. Both the SRAs and PAP housings are broadly considered a failure by most activists and academics (Independent Urban Researcher, Senior Community-Development/Sanitation Activist, City-Level Water Activist, Senior Urban Community Activist, Senior Urban Sociology Academic, Urban Sanitation Activist, Urban Water Policy Academic, Urban Water Policy Researcher). Yet, government authorities are not ready to take the responsibility of maintenance of these amenities. In fact, there is no clarity on exactly which authority is responsible for these complexes and this issue goes back and forth among MMRDA, MCGM, and the Slum Redevelopment Authority (City-Level Water Activist).

Linking and Mixing of Two Narratives

It is interesting to see how the two narratives—one of structural characteristics of housing and other on legality of tenement—often are linked. As a result of this linking, at the narrative level, illegality, structural characteristics, and economic class are often mixed up, not just interlinked.

The classification of houses in terms of slums, chawls, apartment buildings, and bungalows acts as a proxy for economic classification of residents of the city. Though often false, there is an assumed economic

hierarchy among the four above mentioned structural types of housing. This mixing of structural categories of housing and economic classification creates a class hierarchy among water consumers of MCGM's Hydraulic Department (Independent Urban Researcher, Retired Municipal Water Engineer, Retired Senior Planner-Academic, Urban Water Engineer-Academic). "*The bifurcation is first between illegitimate and legitimate . . . and then, among the legitimate, there is low income, medium income, high income, and then commercial*'' (Urban Water Engineer-Academic).

Further, though there are 'legal' and 'illegal' slums, all slums are often equated with illegality. Urban Planner-Academic explains further:

> *"There is a very quick progression from undesirability to illegality . . . legality of a house in a slum for MCGM is about land ownership or formal standards of building . . . but, for common people, it means 'anything that is not pukka (properly built), are 'undesirable spaces' or 'ills of the city'. Middle or upper class think 'agar undesirable hai to illegal hai' (if it is undesirable, it must be illegal)"*.

More interestingly, the illegality does not remain limited to illegality of tenement but slums then are seen as abode of all illegal activities. Thus, "*slums are seen as a law-and-order problem not a housing problem*" (Retired Senior Planner-Academic).

Interests and Operative Values

The discussion in previous paragraphs brings out many operative values—or beliefs about what is appropriate and what is not when it comes to water-access—of protagonists of the narrative. Engineers from the Hydraulic Engineering Department seem to believe strongly in 'sanctity and supremacy of technical standards' that are set for providing water supply in the form of the three facilities. Further, they believe that they are 'duty bound to (and hence they strive to) adhere strictly to these technical standards', even though it means denial of water access to the poor. Thus, by denying water access, they effectively underscore another operative value that 'the needs of poor people are subsidiary even to technical norms'.

Coming to the officials in-charge of the SRA scheme and PAP Housings, their very actions betray their insensitivity and belief that 'poor could be manipulated and forced into unlivable conditions against their will'. They seem to believe that they have 'limited responsibility of providing initial infrastructure' to those who are uprooted from their homes. Thus, they implicitly assert that 'poor have no choice and have to accept what is offered to them by official agencies'.

The common people who often mix up the two narratives and also link them with economic class seem to believe that 'poor are not just poor but criminals indulging in illegality' and that such 'illegality does not deserve any empathy'.

Planning Lacunas: Narrative of Excuse

Introduction

The core rhetoric of the narrative could be encapsulated as: *"The water access challenges we face today are due to inadequate and inept planning and policies of urban development."*

This narrative is deployed mainly by engineers of MCGM and councillors of the party in power wherein they use lacuna in planning of the city as an excuse not to provide water access to slum dwellers. Lacunas in planning and policies are also pointed out by planners, media-persons, activists, and academics; however they do not indulge in the narrative and use it as an excuse.. Most of them engage in this narrative with an intention to diagnose the planning related reasons leading to failure of the water supply system, especially in providing water-access to poor.

Post-Facto Planning in Mumbai

"*History of planning in the city of Mumbai is the history of planning delays or effectiveness of lack of planning*" (Senior Water Policy Academic).

The formal city planning process began in the city with the very first Development Plan (DP) of the city which came out in 1964. This was supposed to be the response to high rates of migration in the city during the post-independence era. However, the plan paid very little attention to low cost housing; as a result, people coming to the city had to move into slums. It was a big failure of the planning process as it initiated

what became the main problem for the city, unplanned growth. This first DP was supposed to be revised in 1981, but the next DP could be finalized in 1993. This was because of interference of the builder lobby that had developed huge vested interests due to the real estate boom in the city (Retired Municipal Water Engineer). The firm grip of the builder lobby continued to exercise its influence even on the recent DP exercises. In fact, even legitimate planning related demands for civic amenities were responded by stock answer of "*ye DP ke daayre ke bahar hai* (this is outside the scope of DP)" (Urban Water Policy Researcher-Activist 1)

While stressing the need for people-centred planning, Activist and Urban Planner Academic 1 complains, "*There isn't even technocratic logic behind what is happening in the city, so you can't even plan with technocratic policies . . . because, frankly, there exist no planning*" (Activist and Urban Planner Academic 1).

Planning in Mumbai city has been transformed into market-led development, wherein the location and pace of development is determined by real-estate pricing and not by planned resource allocation. In other words, what is practiced in the city is complete lack of planning or post-facto planning. The impact of this lack of planning is further aggravated by the very high intensity of development in the city. This combination of factors makes it impossible to plan even for five years' horizon. (Activist and Urban Planner Academic 1, Activist and Urban Planner Academic 2)

As a result, all infrastructure facilities developed in the city are unplanned. Further, unfortunately, development of this unplanned infrastructure is conducted in such a haphazard and unorganized manner

that there is no adequate documentation or record, especially of the tail-end of the infrastructure such as pipelines and water connections. (Councillor of Party in Power)

Vernacular Print Media Person articulates this in very eloquent manner:

> "*Dusra asa ki shahar niyojan navachi kahi goshta aste je magashi apan mhantla ki vedivakdi kashihi vaadh zali mhanaje as ki jaga disli ki bandhkaam kara he aplyakade aahech. Moklya spaces cha aplyakade kahi sambandhach rahilela nahie, pan town planning madhe jya anek goshti yetat tyachyamadhe he shahar kiti mansa gheu shakta, hya mansanchya basic needs aahet . . . paani aahe, drainage aahe, veejecha purautha aahe, raste aahet . . . ashya saglya chotya mothya infrastructural needs aahet tya kiti ahet, tya kashya puravanar . . . kiti development hou shakate hya shahrat, tyachi capacity kiti, tya capacity chya baher he shahar jaata kaama naye ektar, aani tya capaciti vadhauna magach shahrachi vadh karuya*"

> (The second point is there is something called town planning . . . we talked before about the unplanned growth . . . our pattern is if there is open space it is filled up with construction. We do not think about the need to leave spaces open [in the city]. But town planning involves many things . . . it includes considering how many people this city can accommodate, what about the basic needs of these people . . . water, drainage, electricity supply, roads . . . [a city] has all these infrastructural needs . . . how these will be fulfilled . . . how much development this city can bear, what is its capacity, the city should not cross

limits of these capacity . . . the growth should take place only after increasing these capacities.)

This abject planning failure was further aggravated by "*balkanization, decentralisation, and pluralization in administration with multiple agencies*" (Senior Urban Sociology Academic). This is reflected in separate plans prepared by different agencies governing the city such as MCGM, MMRDA, and BPT (City-Level Water Activist).

Policy and Technical Lacunas

Coming to the slum related policies, there have been many shifts in these policies, which are directed by the World Bank. In the first phase, the 1964 Development Plan did not provide any attention, resources, or time for housing. The second phase was more 'socialist' in its appearance. Though it began with the policy of providing on-site services, later it was reduced to provision only of sanitary blocks. But even this was discontinued later, when the World Bank discontinued this approach at the global level. Phase Three is now focusing on redevelopment of slums (Urban Planner-Academic). However, all these policies neglected the real poor or "*poorest [who] can afford absolutely nothing*" (Urban Planner-Academic). As a Retired Senior Planner-Academic said "*you are missing the bottom of the pyramid*."

Urban Water Policy Researcher-Activist 2 asserts: "*Urban water related policies hai hi nahi* (there are no policies related to urban water)." He says agencies like MWRRA should look into urban water policies but it is out of its purview. He recommends that urban water should be integrated into city planning.

Urban Water Engineer-Academic traces the current water-related technical problems to early history when local wells and lakes were sources of water for the city. When confronted by sudden urbanization, the British colonizers decided to close down these local wells and lakes, and rely completely on the centralized water supply system drawing water from distant dams. He identifies many technical problems in the design and operation of such a centralized water supply system. For example, he points out that, while the water supply of the city is intermittent, the system is designed as per technical norms applicable for continuous water supply. This mismatch creates different types of technical problems including leakages and pressure differentials, in turn, affecting not just supply but the system also. He also points out that, while the centralized approach allows near-infinite expansion of the network, though by going against hydrological principles, the gravitational (i.e., unpressurized) supply is not capable of dealing effectively with such expansion. These problems are further exacerbated by sub-optimal maintenance of the pipe network.

Thinking about Future

While thinking about the future, some respondents indicate the need to shift from the city-level planning approach to the regional-level planning approach covering the entire Mumbai Metropolitan Region (MMR) (Independent Urban Researcher). Head of the Municipal Water Department, however, insists on the need to take technically sound though politically unpopular decisions while planning for the water system.

Both Activist and Urban Planner Academic suggest accepting, as given, the change in modality of planning in the city and the fact that most infrastructure provisioning in future would be in the post-facto mode which involves "*catching up with development rather than planning for future provisioning.*" To deal with

this challenge, there is a need for better coordination between agencies which provide services and those build housing. In the same vein, Urban Planner-Academic suggests that the problems created by lack of planning will have to be "*resolved at an administrative level or at the practice level, they cannot be resolved at the planning or policy level*".

MCGM is dealing with this challenge posed by unplanned growth by refusing to allow new buildings, especially big complexes, without installation of rainwater harvesting plants, big water storage tanks, and sewage treatment plants (Councillor of Party in Power).

While talking about the technical problems, Urban Water Engineer-Academic suggests that design of the water supply systems need to be improved, and, wherever possible, components of the system should be redesigned in order to ensure water-access to the poor. Such improvement of the system would need installation of new equipment and facilities, which, in turn, require, open plots of lands. But such plots are not available because requirements of such plants were never considered while planning the city. To overcome these barriers, according to him, out-of-box thinking will be needed, while adhering to principles of hydraulic engineering.

Interests and Operative Values Underlying the Narrative

The above discussion brings about many operative values of the protagonists of this narrative. Planners, activists, and the media-person express many values such as: 'rational city planning is needed for health growth of the city,' 'planning exercises should be conducted in timely and rational manner', 'planning should be people-centric', and 'growth of the city should follow planning guidelines'.

In the same line, there are some operative values regarding the policies, including, ‘slum and water policies should be rational and caring for the poor’, ‘institutional structure governing the city should be integrated and not fragmented’, ‘coordination among different administrations is desirable’. Coming to the technical matters, the values expressed by the hydraulic engineer include, ‘strict adherence to technical norms’, and ‘need for technical innovation and out of box thinking for serving the needs of the poor’.

Dissertation Roadmap

The first two narratives discussed in this chapter, both ‘Narrative of Legality of Tenement’ and ‘Narrative of Structure and Spatiality of Tenement’ are Narratives of Denial, used to deny access to water to slum dwellers. Both these narratives base this denial on certain characteristics of the tenement in which people live, shifting the focus away from the people who are being denied access to water. These two narratives were the most forcefully used narratives to counter Narratives of Claim discussed in the first chapter. The third narrative discussed in this chapter, ‘Planning Lacunas’, is a Narrative of Excuse, where the lack of access is said to be due to barriers created by inadequate and inept planning and policies of urban development. It is used as an excuse rather than for outright denial.

Chapter 5: Technology

Historical Trajectory and Ideological Roots

History of Modernization Paradigm

The roots of the Modernization paradigm on development could be traced to the debate surrounding the rise of capitalism and industrialization in Europe in the 17th and 18th centuries (Hudson 1992, Medick 1988, More 2002, Kemp 1966, Power 2020, Webster 1990). The phenomenon of industrialization brought in by the industrial revolution led to the shift in the agrarian form of economy to the industrial form of economy in Europe and the USA. This economic transition was accompanied, or somewhat preceded by, the emergence of modernity in the socio-cultural sphere and the concomitant shift from the traditional to the modern form of society. This economic transition was seen in a positive manner by thinkers like John Law and Karl Marx, who saw industrial capitalism bringing in higher living standards and higher levels of overall welfare to European and American societies. At the same time, there were critics like Malthus, Owen, and Proudhon who were concerned about implications of the capitalist mode of production such as the population explosion and resource scarcity.

The Modernization paradigm on development is often traced to the inaugural address of President Truman in 1949 (Esteva & Suri Prakash 1998), wherein he emphasized on the need to "embark on a bold new program for making the benefits of our scientific advance and industrial progress available for

improvement and growth of underdeveloped areas [of the world]" (Truman 1949) [3]. In the light of the recent WWII, the idea was for the USA to take the leadership role in helping regions in Africa and Asia transit beyond colonialism, by linking their economies to the expanding global economy, and, thus, forever ending wars over land (Arsel and Dasgupta 2015, Gunnarson 1985, Hettne 1983). But, with the strong USSR and the cold war on the global scene, there was a danger that, in the post-colonial phase, these newly developing countries would adopt the socialist model. So, the solution was to help—through massive loan and support programs—these newly independent countries industrialize their economies and accumulate capital by building on the key strength they had, namely, availability of cheap labor (Kanbur 2005, Sunkel 1977).

However, one main barrier to success of this model, apart from the lack of capital, was the lack of technological capabilities and of trained human resources in these countries. This required significant import of industrial goods from the developed world, which would adversely affect accumulation of capital in these countries. One way to overcome this outward drain on capital and resources was to adopt curbs on imports coupled with the import substitution strategy, which many countries, including India, adopted in the initial decades after independence. Another way was to use available capital, resources, and cheap labor to export some cheap goods to the rest of the world and use the returns from these exports for investing heavily in education and technology. This route was adopted by countries such as

[3] "We must embark on a bold new program for making the benefits of our scientific advance and industrial progress available for the improvement and growth of underdeveloped areas . . . we should make available to peace-loving peoples the benefits of our store of technical knowledge in order to help them realize their aspirations for a better life." (Harry S. Truman, Inaugural Address, January 20, 1049)

https://www.trumanlibrary.gov/photograph-records/58-283

Japan, South Korea, and, later, Taiwan.

However, critics, viewing through the lenses of the Dependency Theory and the World System Theory, saw this approach as further strengthening the parasitic relationship between the center (i.e., the developed world) and the periphery (i.e., the developing world) (Arsel and Dasgupta 2015, Chambers 2017, Kanbur 2005, Webster 1990). This relationship involved retaining by the developed world its control over technology, knowledge, and markets in order to continue siphoning of capital from the developing world, and, thus, continuing the colonial legacy in a different form.

Coming to the outcome, while countries like Japan, South Korea, and Taiwan could emerge from the WWII and climb the developmental ladder, most countries in Africa and Middle-East failed to do so (Arsel and Dasgupta 2015, Chambers 2017, Hettne 1983, Kanbur 2005, Powers 2020). After the 1980s, China could overcome the setback it had in the initial post-WWII decades, mainly by riding on its socio-cultural homogeneity and authoritarianism. However, the region of South Asia, including India, despite availability of a massive pool of cheap labor, continued to languish at the lower rungs of the development ladder, mainly due to acute socio-cultural fragmentation and after-effects of awkward decolonization.

Now, there are new questions and critiques directed at the very relevance of this modernization approach in the current era, on one hand, marked by techno-economic factors such as ICT, liberalization, globalization, and financial capitalism led by massive transnational corporations, and, on the other hand, marked by climate change and ecological degradation. In this background, discarding the Modernization paradigm, some thinkers are suggesting new and innovative paradigms—such as the Sustainable

Development paradigm—towards development that combine the state-led but decentralized institutional structures, ecologically-sound production, and participatory politics (Elliot 2006, Lele 1991, Redclift 1994).

Modernization Paradigm in India

At the time of independence, barring a few big cities like Mumbai, villages, towns, and cities in India relied for their domestic water needs on decentralized water supply systems that used traditional technologies and local water sources. The leadership of independent India accepted with very high enthusiasm the Modernization paradigm. It was seen as the key to handling pressing challenges such as food security and economic reconstruction, in which the water sector, one of the key infrastructure sectors, was expected to play a critical role (Baghel and Nusser 2010; Briscoe and Malik 2006; D'Souza 2008). The Modernization paradigm professes, as its foundational value-premise, the central role for modern technology in development of the water sector (D'Souza 2008). This value-premise leads to the prescription of centralized, large-size water infrastructure for development of the water sector.

In pursuance of this Modernization paradigm, decentralized water supply systems from the pre-independence era in towns and cities have been replaced in the post-independence era by centralized large-size water supply systems serving water needs of entire towns and cities. These centralized systems source water from distant, large-size dams or from large-scale water-lifting schemes using high-power pumps (Das 2006, Wagle and Deekshit 2011). The large volumes of water are then pumped—using high-power pumps—over long distances through long, large-size, metallic pipelines.

However, within a few decades after independence, these large centralized water supply systems came

under severe criticism. According to the critics, these large infrastructural systems are fraught with serious technical problems in design, erection, and operation stages. Especially dams, on which these centralized systems rely as sources of water, were found to be unreliable sources of water (Sangmeswaran et al. 2008, Wagle et al. 2011). Moreover, dams also caused alarming levels of economic disparity and deprivation, social disruption, and environmental damages (Dharmadhikary et al. 2005; Mehta et al. 2010; Mollinga 2008; Narrain 2005; Wade 2011; WCD 2000).

The failure of the Modernization paradigm prompted various actors to push for reforms in the Indian water sector. As a response, most mainstream actors—including government agencies and technical experts—accepted what is often called as the Neoliberal paradigm for water sector development (Briscoe and Malik 2006; Ranganathan et al. 2009; Sangameswaran et al. 2008; Wagle et al. 2011, World Bank 1993). The Neoliberal paradigm also emphasizes the importance of modern technology and supports large, centralized urban water supply systems.

However, another set of actors have both reservations about the Neoliberal paradigm and disillusionment with the Modernization paradigm. These actors include: environmental movements, developmental organizations, non-party political organizations, independent experts, and sections of media (Baviskar 2005, Bisht 2011, McCully 1996, Narula 2008, Chowdhury 2014, Saberwal and Rangarajan 2003, Shah 2008). Their reservations and disillusionment prompt their advocacy for revisiting and reinventing the decentralized urban water supply systems from the pre-modern times. These supporters of Pre-Modern systems advocate—as an alternative to modern technology and to centralized water supply systems—return to decentralized, community-level water supply systems based on traditional technologies and local sources of water (Sanyal 1996; Shah 2008).

These suggestions are vehemently criticized and dismissed as outdated and irrelevant by votaries of Modernization as well as Neoliberal paradigms. The first criticism pertains to severe limitations on the quantum of water that can be made available by such a traditional system. Researchers who studied traditional water harvesting systems (TWHS) are sceptical about adequacy of water made available by TWHS for increased water demand even in villages (Das and Sharma n.d.). The second criticism is about the unreliability and unsustainability of local, small-size sources of water especially in the summer season. Both these limitations, according to critics, make decentralized systems a unsound proposition for economies and life-styles of modern-day cities.

Mumbai Water Supply

The water supply system of Mumbai has been built over decades, beginning in the colonial times, i.e., from the mid 19th Century. The system is called a centralized system as it is entirely dependent on water imported over long distances from a few dams located in the hinterlands of the city. Specifically, about 3500 MLD million litres per day of raw water is sourced every day from seven dams located outside the boundary of the city. The earliest was built in 1860 and the latest one was built in 2012 [details in the first chapter]. Most of these dams are owned by MCGM and are entirely dedicated to supplying water to the city. From these dams, water is brought to three water treatment plants. After treatment in these plants, water is then taken to 27 storage reservoirs inside the city. These storage reservoirs are at the ground level (i.e., neither underground or elevated), though built on hill-tops in the city. From these 27 reservoirs, water flows to the city through various outlet pipes, with diameters varying between 48 to 108 inches. These outlet pipes branch out into pipes of smaller and smaller diameters, forming the water distribution network which is spread across the city. This network, comprising many local-level distribution networks,

brings water to different communities and to ground-level storage tanks of individual apartment complexes. In recent years, many elevated water tanks have been built on the down-stream side of these 27 main reservoirs for storing water before it is supplied to their respective distribution zones.

This water distribution network is roughly divided into two broad sub-networks: one for the old city and the other for suburban areas. This dissertation is focused more on the issues in water access in slums located in suburban areas. Apart from the Bhatsa dam, the entire water supply of the city is designed as a gravitational system—i.e., without any pumping. In recent years, pumps are deployed at some locations on the down-stream sides of the reservoirs to take water to residences located on the hills or steep slopes. Because of this gravitational supply, MCGM has significantly low production cost (Retired Senior Municipal Water Engineer, Head of Municipal Water Department, Municipal Water Engineer 1). Water supply in Mumbai is not continuous, rather it is intermittent which means water is supplied to localities only during windows of a few hours of the day. Though it is claimed that water supply network is designed and operated to provide water supply for about 8 hours in a day to every area (Head of Municipal Water Department), most localities get water for about 2 hours, some get it for 3-4 hours. Hydraulic Department of MCGM draws up a schedule of water supply to each locality, which is then operationalized by lowest levels of employees of Hydraulic Department called chavivalas or 'key-holders' that open and close the water pipelines based on the schedule using a long metallic rod [called a key] (Anand 2014).

In better-off neighbourhoods, water is supplied directly to ground-level storage tanks during supply hours, which is then pumped to storage tanks built above the buildings (called overhead storage tanks) and is made available through water taps in houses in the building for use by residents as and when needed. It is mandatory that all apartment complexes have ground-level storage tanks. In low-income settlements

(such as slums or chawls), there are no such storage tanks. In this situation, due to intermittent water supply, it is not possible to make tap water available as and when needed by residents. Additionally, there is a difference in the volume of water provided to different settlements. Most better-off neighbourhoods get water supply of about 150 LPCD (litres per capita per day)—some even receive up to 250 LPCD—however, slum communities are allocated 45 LPCD water supply (Retired Senior Municipal Water Engineer, Head of Municipal Water Department, Municipal Water Engineer 1, Retired Municipal Water Engineer).

The water supply system in the city of Mumbai is said to be ridden with a host of serious problems (Gandy 2008, Graham et.al. 2013, Nallathiga 2009). These problems include, for example, aged and crumbling infrastructure, poor maintenance, bad quality of service to consumers, and billing and collection problems. A major problem faced by the city is leakage of water from the network, which officially ranges between 20% to 25% (Gandy 2008). A related problem is what is called the high percentage of Non-Revenue Water (NRW). NRW is the volume of water (often expressed in percentage of total water produced) that is produced but is not accounted for in the bills issued to consumers (Safe Water Network 2016). This figure, for the city of Mumbai, is said to be between 40% and 60% while officials maintain that it is between 25-30% (City-Level Water Activist-Leader, Retired Senior Municipal Water Engineer, Retired Municipal Water Engineer).

MCGM has been implementing various initiatives in recent decades to deal with these problems. One such initiative, undertaken in 2004, involving a multinational company hired for setting up '24-by-7' water supply has been discussed in a previous chapter. In 2007, under the title of Sujal Mumbai, a set of water sector reforms were initiated by MCGM. These reform measures mainly focus on technical measures

aimed at upgrading and modernizing the water supply network of the city, which include initiatives such as '24-by-7' or Continuous Water Supply Scheme, leakage detection systems, and enhanced customer services (Anand 2014).

Techno-Barriers: Narrative of Excuse

Core Rhetoric of the Narrative and Main Users

The core rhetoric of this narrative is that there are many technical difficulties with the formal water supply network, which act as barriers to providing access to the formal water supply network to poor living in slums. The narrative is used by technically qualified people, mainly by engineers working with MCGM as well as by other actors such as some elected councillors of MCGM. Engineers and planners from other agencies or academia often refer to technical difficulties in order to point out problems with water supply from MCGM, but they are not seen here as using this narrative. The narrative, comprising different technical difficulties or barriers, is used by its proponents mainly in response to complaints about water supply made by citizens or activists. These responses differ, depending on the nature of complaints made. While accepting that there are issues with infrastructure, activists and some academics in the city, however, think that these barriers are primarily excuses to deny water to poor residing in legal and illegal slums, as the same issues do not seem to affect the water supply to the well-off communities in the city.

The following paragraphs, first, discuss in detail some major complaints made by citizens, elected councillors (mainly from parties in opposition), and activists. It is followed by detailed discussion of

technical barriers—which together form the narrative—cited in response to these complaints about water supply.

System-Level Complaints on Technical and Performance Issues

The water supply system of the city was formalized and technicized when British colonial administration decided to close all local sources of water in the city used by citizens and to bring water for the city from outside the city. This was around the year 1860 when the first dam called Vihar Dam was built. Infrastructure of the water supply system of the city of Mumbai has been built gradually over decades since then (Independent Urban Researcher 1 and 2).

Concerns about infrastructure expressed by activists and experts begin with problems with technical design of the water supply system. Urban Water Engineer-Academic points out that the core problem with the system is its centralized character. This character could be seen reflected not just in sourcing of huge volumes of water from a few dams, but even in feeding of local distribution networks directly by a limited number of large reservoirs. He opines that many technical problems in the distribution system arise because of large sizes of local-level distribution networks and their unplanned expansion. These networks are fed directly by a limited number of large surface-level reservoirs. He, thus, points at the need for small-size distribution zones using local-level equipment including small-size local sumps.

The current water infrastructure in the city is found to be inadequate in its coverage and reach, especially in outlying suburban areas where a large proportion of population lives in slums (Urban Community-Development/Sanitation Activist, Urban Water Policy Researcher-Activist 1). Urban Community-

Development/Sanitation Activist complains that there is reluctance on the part of MCGM to augment the capacity of distribution infrastructure, which is necessary for taking water to these slums in fringe suburbs. Adding new water connections without capacity augmentation not only reduces volume of supply and water pressure at the tap but also increases technical problems (Urban Water Engineer-Academic, Councillor of Party in Opposition). Senior Urban Community Activist complains that the capacity of water storage tanks in the slum area, where she is active, has not been augmented, despite repeated petitions, in the last 25 years though the population has increased enormously. Urban Water Policy Researcher-Activist (1) informs that limitations of infrastructure is often cited as a main technical barrier, however, according to her, it is an excuse to avoid supply of water to particular areas populated by slums. Confirming this, City-Level Water Activist-Leader cites an example, wherein an office building of a corporate house located on a hill gets enough water and with adequate pressure, but slums at the bottom of the same hill do not get water in adequate quantity or pressure.

It is also shared that parts of the transmission infrastructure (i.e., the infrastructure that brings water to the city from dams in the hinterland) as well as most of the distribution infrastructure in the city dates back to colonial times, and some more than a hundred years old (Vernacular Print Media Person 2 and Urban Community-Development/Sanitation Activist). There are complaints about the old age and disrepair of infrastructure also in the last mile of the distribution network in suburban areas (Senior Urban Community Activist, Urban Community-Development/Sanitation Activist). These problems lead to supply disruptions and contamination of water supplied.

Another fall-out of the old age of infrastructure is that there are no records or maps of the infrastructure, especially of pipelines. This makes it difficult to repair or replace the infrastructure (Urban Water

Engineer-Academic, Independent Urban Researcher 1 and 2). However, even in suburbs, though the network is comparatively new, engineers working in local-level offices do not have formal maps of the water supply network in their respective areas of operation, called wards (Urban Water Policy Researcher 1, Urban Water Policy Academic, Senior Water Policy Academic) This is mainly because of haphazard, peace-meal, and often informal (or illegal) manners in which pipelines are extended to give new connections. It is also due to lack of organizational efforts by MCGM and incompetence of its junior engineers in keeping records at the local level. As a result, local-level water engineers often rely on informal, hand-drawn maps of local networks in their areas, which are handed down by their predecessors, and which are often developed with help from local plumbers (contractors who lay pipelines) and chavivala (meaning key-men) who operate valves on daily basis to release water to different zones.

Astonishingly, as Senior Water Policy Academic shared, in one recent joint meeting of academics, researchers, and engineers organized by the Head of Municipal Water Department, an engineer representing a small, nondescript unit within the Hydraulic Department of MCGM made a presentation. He said that his unit, through a special project, had developed a set of GIS maps of the water network in most parts of the city using remote sensing techniques. This was a surprise for not just all researchers but also for most local-level engineers of the Hydraulic Department attending the meeting. When asked to share the maps, the engineer said that the unit did not have any policy to share this data with entities outside of MCGM.

Local-Level Complaints on Technical and Performance Issues

The issue of leakage of water from the formal water network, which is a major issue in the city, is raised at two levels, at the system level and at the level of the local distribution networks, and especially in last miles of local networks. Estimates of system-level leakage in terms of the percentage of water leaking out of the entire network varies from 20% to as high as 40% (Retired Municipal Water Engineer, Independent Urban Researcher 1 and 2). This is compared with about 12% to 15% of leakages in most other big cities and 5% in case of Singapore (Retired Municipal Water Engineer).

City-Level Water Activist-Leader blames MCGM for leakages. He complains that the Hydraulic Department is not serious about leakages; it does not even attempt to measure leakages, let alone controlling or reducing it. He also complains about system-level neglect by MCGM, especially of large-size transmission pipelines bringing water into the city. In support, he points at the decision to close down a special and separate cell within the Hydraulic Department of MCGM which was given the responsibility of monitoring and carrying out preventive maintenance of these pipe-lines which frequently burst due to different technical reasons.

Coming to leakages in the distribution network, it is a common complaint in slums that old pipes have leakages and, as a result, water gets contaminated with dirty sanitation water (Leader of Party in Opposition, Municipal Water Engineer 1, Vernacular Print Media Person 2). However, illegal connections to formal water supply pipelines often cause punctures and ruptures in these pipelines, which lead to contamination of the water supplied (Councillor of Party in Opposition). Illegal pipe-lines are laid in an unprofessional and hurried manner and pass through open drains or alongside drainage lines. In some cases, even legal pipelines have to be laid through drainage channels (Municipal Water Engineer 1). These

pipelines are open (not buried in ground or covered) and, hence, vulnerable to tampering and accidents, and, as a result, develop punctures and cause contamination of water supply. Such contamination has serious health implications for residents of slums, especially children and elderly (Councillor of Party in Opposition, Urban Community-Development/Sanitation Activist).

Another set of frequent complaints are about inadequate water pressure in local distribution networks, especially those serving slums (Councillor of Party in Power, Leader of Party in Opposition, City-Level Water Activist-Leader). If pressure is low, water does not reach slum-pockets or households located at the end of pipelines or at higher elevation. In some areas, this results in disruption in water supply for a few days every month. In response, households suffering regularly from the problem of low pressure make use of small-capacity pumps (called as booster pumps) fitted directly on the pipeline to suck water towards their households (Leader of Party in Opposition, Retired Senior Planner). City-Level Water Activist-Leader accuses that water pressure is often kept purposely low in the distribution networks serving slums, *"technically slums should get 150 lpcd [litres per capita per day] but municipal water engineers say [that] the pressure is maintained [low] so that only 45 lpcd would get through to slums".*

According to Retired Municipal Water Engineer, one major factor in this regard is elevated tanks deployed in the distribution network, which were first introduced in the 1960s, but are being deployed in larger numbers in recent years especially in newly expanding suburban areas. These elevated tanks are meant to push water to newly developed distant areas or slums on hill-slopes. But, in the process, these tanks increase water pressure in the network and, as a result, water leakages from the network increase. As compared to this, the ground-level reservoirs, which feed water into local distribution networks, have lower pressure in the pipelines and, hence, cause less leakage. However, lower pressure also makes

detection of leakage difficult in these pipelines. Another difficulty in detecting leakages is high noise levels in the city, especially on roads, even during late night hours. For detection of leakages, MCGM uses technologies that are based on sound-detecting techniques, which try to detect sound of water leaking out of a pipe. As most pipelines are laid under roads, high noise levels in the city, especially on roads, render these technologies ineffective.

It is also complained that infrastructure, especially the distribution network has been effectively controlled by a group of employees of MCGM called chawivalas (Key-Men), who operate the local-level valves to release water in different branches of the local distribution network (Independent Urban Researcher 1 and 2). With tacit support from their supervisors, these employees manipulate the network to serve vested interests. In doing so, they create many technical disruptions in the network. Doubts were also raised about the technical capabilities of junior-level technical staff of the water department of MCGM.

Responses from MCGM Engineers: System-Level Technical Barriers

However, MCGM engineers have different responses—in the form of technical difficulties or barriers—to all these complaints. These responses, together, form their narrative around technical barriers.

The Head of the Municipal Water Department explains that, at a broader level, the Hydraulic Department faces problems on both sides, supply and demand of water, *"We are an island city, there are no local sources of water. We are bringing water from outside. We even do not have big-size sumps or storages to store water over a long period, so we have to bring in water and supply it to people on a daily basis".* And,

on the demand side, according to him, MCGM is trying to supply water to a large population whose demands are growing by leaps and bounds, *"not just because population and businesses are increasing, but standards of living of people are also increasing, and we have very low tariff, which hardly encourages people to use water cautiously or not to waste it . . . water coming into Mumbai is sufficient but demand management is the issue. . . the Corporation should be given free hand to take technical measures without political interference."*

In response to suggestions for strengthening and decentralizing the water supply network, MCGM engineers complain that they do not have access to plots of open land which could be used to build facilities and locate equipment (such as small-size ESRs or sumps and pumping stations) necessary for expanding or strengthening the network (Municipal Water Engineer 1, Head of Municipal Water Department). However, according to Urban Water Engineer-Academic, the problem is the lack of communication between MCGM and agencies doing planning for the city *"BMC has to work with the planning department . . . historically we have not left land in the city for utilities . . . city is also like an animal, all the functions need to be taken care of".* At a broader level, Urban Water Engineer-Academic raises the issue of lack of vision, technical capabilities, and innovation capabilities of MCGM engineers, not just at the level of junior but even senior engineer level. These, according to him, are also key factors to look into.

Another major system-level barrier, according to MCGM engineers, lies in two key and basic characteristics of water supply of the city—gravitational and intermittent supply, which put severe technical limitations in both, expanding the network and supplying water of adequate quantity and at appropriate pressure (Head of Municipal Water Department). While agreeing with this, Urban Water

Engineer-Academic argues that if MCGM wants to address these barriers, it cannot rely on conventional measures and should be ready to experiment, innovate, and think in the out-of-box manner. In a very emphatic manner he says: "*There is no dearth of technical solutions, it is a problem of understanding hydraulics and operating it*."

Responses from MCGM Engineers: Local Level Technical Barriers

In response to various problems pertaining to the local-level distribution networks discussed in previous paragraphs, especially those troubling slum areas, Head of Municipal Water Department explains the first technical barrier, *"all these [slum] colonies are new, post 80s and 90s, there exists no proper infrastructure or no proper width of the road and the infrastructure is grossly inadequate to be sufficient for proper water supply."*

As the second major barrier to addressing problems with local-level networks, the Head of Municipal Water Department points out, *"it's a gravitational system so there are [bound to be] pressure differences, and upper-level and initial consumers (those who are on the up-stream side of the pipeline) always benefit"*. MCGM is said to be taking measures to deal with the problems created by the gravitational and intermittent characters of water supply (Municipal Water Engineer 3).

The third barrier is topography and terrain of the city, according to a Councillor of Party in Power, inadequacies related to reach and coverage are also due to long lengths of pipelines and hilly terrains in some areas of the city. Head of the Municipal Water Department explains, "*there are elevation differences within [distribution] zones and we try to keep pressures high enough to reach the highest point but*

obviously the lower regions are better served". However, Municipal Water Engineer (No. 1) assures that the network is designed in such a way that pipelines reach close to every house or connection; this ensures that water is available to everybody with good pressure. He admits the existence of the problem of low pressure especially in the end portions of local networks at some places, but he lays the main blame for disruptions in the supply on those consumers who install booster pumps. Use of booster pumps by consumers create serious problems for the entire distribution network. The problems get aggravated and go beyond control, when a large number of consumers—because these pumps are available at comparatively low prices—put up such booster pumps in the network (Municipal Water Engineer 3, Municipal Water Engineer 1). Booster pumps also increase contamination by sucking in higher volumes of dirty water from outside into water pipelines, both surface and underground.

Intermittent supply is another technical barrier cited by engineers, which leads to low pressures when water is flowing and to contamination when water is not flowing. Activists complain about another impact of intermittent supply—highly inconvenient timing of water supply, especially to slums. Unlike apartments and buildings, slums do not have underground water storage facilities to store water when supplied by MCGM and use it later. As a result, slum dwellers have to personally remain present near taps to collect water when MCGM releases it and, then, store this water in their barrels, pots, or pans. Some slums receive water during the time-slot of 2 am to 4 am, which is highly problematic for people living in slums, who have to put in more than 12 hours a day for earning their livelihoods (Urban Water Policy Researcher-Activist 1). Municipal Water Engineer (No. 3) says that such inconvenient timings of water supply to slums are being changed and water will be supplied at such odd hours only to buildings which have ground-level storage tanks.

Another complaint in this regard is curtailment or changes in pre-announced hours of supply to a zone in which slums are located, sometimes even without prior intimation (Urban Water Policy Researcher-Activist 1). Head of the Municipal Water Department responded by saying that, generally, such disruptions or variation in supply are due to variation in incoming volume of water for the day. But, MCGM, according to him, makes an attempt to plan water supply so that each zone would get supply for 8 hours, thus, such variations in incoming volume could be taken care of. But, he admitted that, in reality, often the supply hours to zones vary from 2 to 24 hours.

Another set of technical barriers, according to MCGM engineers, include problems faced in laying the local-level distribution networks (Municipal Water Engineer 1). The main problem in this regard is lack of corridors of open land with adequate width for laying pipelines in most slum colonies. This is mainly because of haphazard siting of houses in slums and their uncontrolled expansion, which create many problems. First, at many places, lanes are so narrow that MCGM is forced to lay pipelines through open channels for sewage water (Head of Municipal Water Department , Municipal Water Engineer 1). The narrow passages also restrict the diameter of water pipes that can be laid inside slums, which often is not more than 2 inches. This severely restricts the total volume of water that can enter these settlements during the fixed supply hours for the zone.

There are other difficulties in laying the network; and often these technical difficulties are cited as excuses. Senior Urban Sociologist provides an example, wherein existence of a state highway was cited as a barrier to laying a pipeline to provide water to a transit camp constructed by a government agency. The highway has been in place since the early 1970s, much before the colony was planned and constructed. Similarly, at another place, a newly constructed ESR (elevated surface reservoir) is said to have limited capacity and

is not able to provide adequate water to all households in its zone (Urban Water Policy Researcher-Activist).

According to MCGM engineers, another set of technical barriers are created by illegal actions by local actors, including consumers (Head of Municipal Water Department, Municipal Water Engineer 1). As explained by MCGM engineers, in slums, water connections are given to a group of about five to fifteen houses in the form of a standing water pipe (called a stand-post) located near the common washing place. The network is designed to provide water at the designated pressure at the end of the pipe at this stand-post. The connection, pipeline, and flow of water are designed in such a way that total volume of water supplied will be sufficient for all households who are members of the group connection. But the design requires consumers to fill up their pots, one by one, and carry them to their houses for storage. However, in most cases, consumers lay their own pipelines from the stand-post and up to their individual houses and start drawing water from the stand-post simultaneously. This leads to further and significant drop in water pressure in all these extended pipelines. Thus, households from the group that are at a longer distance from the stand-post or at a relatively higher elevation suffer as compared to those from the same group which are closer to the stand-post or at lower elevation. As a result, in some places, households which get more water start selling it to other consumers. Second, this pressure differential prompts the households at the receiving ends of the problem to put up booster pumps, which then push the entire network into turmoil.

Another instance of illegal actions by consumers causing technical problems pertain to settlements that are located on the hills or on elevation (Head of Municipal Water Department). In many such settlements, politically dominant local people monopolize distribution of water obtained from MCGM. They get water

through a small number of legal connections from MCGM into storage tanks located at the bottom of the hill and make arrangements to pump it up the hill and sell it to quite a large number of slum dwellers. This practice creates problems for MCGM as the water connection designed to cater to 100 people is then used to provide water to 500 people, sparking complaints of inadequate supply of water.

Head of the Municipal Water Department concluded by saying, *"water access in Mumbai slums is a socio-economic and political is*(Baghel & Nusser, 2010; Briscoe & Malik, 2006; D'Souza, 2008)*sue rather than a technical issue. . . . technically we have the solutions*".

Operative Values and Interests

The responses of engineers to the technical complaints related to water access divulge some key operative values they believe. Their rigid approach to the set technical parameters and approaches, as exposed by the technical academic, indicate their belief in 'sanctity of conventional technical approaches and standards' as well as the belief that 'poor people's needs are expendable vis-à-vis technical standards'.

Techno-Fixes: Narrative of Evasion

The core rhetoric of this narrative is that there are technical solutions (or fixes) which will help ease present problems in water supply faced by citizens in general and by residents of slums in particular. It is also added that MCGM is implementing policies required to propagate and implement these technical solutions.

The narrative is mainly used by high-level MCGM officials and politicians especially when they address the public or media (Pillai 2018). The narrative is used to indirectly assuage concerns and evade criticisms by the general public, activists, and media regarding problems in water supply suffered by citizens in general and slum dwellers in particular. This narrative is also picked up by some elected councillors to evade questions over water supply in their respective wards or in the city.

Continuous Supply or 24 by 7 Water Supply

The technical solution of Continuous Water Supply (or 24 by 7 Supply of water) is often cited by high-level municipal officials and city-level political leaders in MCGM. But the issue was also raised by some respondents. This issue has a certain historical trajectory in the city which has been discussed in detail in a previous chapter. In summary, following the World Bank's logic and with its active financial and knowledge support, MCGM tried to bring in a multi-national consultant company to establish a 24 by 7 supply system in a small area of western suburbs in the year 2004. The entire effort turned into a major controversy and was abandoned soon, mainly due to stiff resistance by engineers of MCGM and activists. The main concern prompting stiff resistance by both these actors was the alleged privatization of water supply attempted through this effort. While MCGM engineers found their jobs threatened due to this move, activists had ideological and practical concerns over privatization of a public utility.

However, in later years, MCGM has been running a comprehensive project called Sujal Mumbai. One of the main components of the project involves establishment of a 24 by 7 system in one zone each in western and eastern suburbs. Though supply in these areas will not be privatized, the contract of

establishing this system has been given to a private multinational corporation (MNC). This MNC works in collaboration with a team of MCGM engineers on this project. As per informal information shared by some engineers, the project is delayed and is facing many technical and procedural barriers, which is also confirmed by newspaper reports (Thakkar 2020, TNN 2018).

The rhetoric over this project is a major element of this narrative and is included, as mentioned before, in the usual list of talking points of high level MCGM officials and politicians when they address the public or media (Pillai 2018). This rhetoric is also used by, often without much of knowledge of the project, by some elected councillors when confronted with queries over water access in their area or in the city as a whole (Councillor of Party in Power, Councillor of Party in Opposition, Leader of Party in Opposition)

Most MCGM engineers, both from senior as well as junior levels, consider this idea of 24 by 7 as neither viable nor relevant for solving problems faced by the city (Head of Municipal Water Department, Municipal Water Engineer 1, Municipal Water Engineer 3). While senior engineers seem convinced and share privately this conclusion, under the pressure from their political and bureaucratic bosses (who are civil servants sent in by the state government), they continue to go through motions of implementing the 24 by 7 projects in the city in collaboration with the MNC. The junior or local-level engineers of MCGM, especially those working in areas occupied by slums, clearly state that this idea is not viable in slum areas (Municipal Water Engineer 1, Municipal Water Engineer 3). Some engineers also hinted at involvement of top-level political vested interests that ensure continuation of the contract to the MNC for 24 by 7 supply despite its evident failure.

Criticisms of 24 by 7 Scheme

The Vernacular Print Media Person says that continuous water supply is neither a need not an aspiration for residents of the city. They have adapted, for generations, to intermittent water supply in the city without much inconvenience or serious costs. What residents rather need is assured, timely, and adequate supply of water, which should be fulfilled first before showing them this pipedream of 24 by 7 supply.

Agreeing largely with her, City-Level Water Activist-Leader says that, instead of chasing this mirage, MCGM should try to improve supply as well as other aspects of the water services such as consumer services, metering, billing, leakages. Unless MCGM takes care of all these aspects, 24 by 7 is impossible. He asserts that the scheme is not viable technically, especially for slum areas.

Coming to experts and researchers, some of them see 24 by 7 leading to more problems including leakages, as revamping the entire network of the city will be a gargantuan task (Independent Urban Researcher 1, 2, 3). Senior Urban Sociology Academic does not see any need for 24 by 7 supply, he says that what is needed is adequate quantity and storage facilities for water. He, however, adds that the scheme is being pushed by a coalition of vested interests including external agencies, politicians, and some elements in MCGM; and engineers are hired to support them. He also criticizes engineers for their failure to challenge such technically unsound proposals coming from vested interests. According to Urban Water Engineer-Academic, an honest technical assessment needs to be done before pushing this technical option. He says that the idea has been tried in Mumbai and other cities and has not been successful for various technical reasons.

Other Technical Fixes

High-level MCGM officials and political leaders, especially the elected councillors of the parties in power, also include in their narrative other technical fixes—apart from the 24 by 7 scheme—such as rainwater harvesting, reuse of treated waste-water, and desalination of seawater (Councillor of Party in Power). They essentially promise that such technical solutions will help in great measures to ease, in future, problems faced by citizens in general and by those staying in slums in particular. They also mention the new policies implemented by MCGM which will help early and effective adoption of such technical solutions. For example, it was pointed out that, as per the new policy, new buildings will not get occupation certification and other permissions unless a rain harvesting system is provided for. Another policy is also cited in this regard, which requires all big residential and commercial complexes to provide for sewage treatment plants for treating their own sewage.

Activists like City-Level Water Activist-Leader see these other technical solutions as nothing but diversions, prompting people to chase technological mirage. These are deployed in order to divert people from demanding for other feasible reforms. Without commenting on the technological feasibility of these technical options, both Urban Planner Academics question the economic viability and affordability of these techno-fixes for the city and especially for people living in slum settlements.

Head of the Municipal Water Department is quite unenthusiastic about these technical solutions; he says "*these are good on paper."* Regarding the rainwater harvesting systems, he explains that there are serious difficulties in storing and using the harvested rainwater. First, there is hardly any space available with

most buildings in the city to build tanks for storing harvested water above the ground, while the cost of building underground tanks will be prohibitive and unviable in view of the low tariff of fresh water supplied by MCGM. Second, it will be futile to use harvested water to augment groundwater as groundwater in most coastal parts of the city is highly saline due to ingress of sea water, and, in the remaining areas of the city, groundwater is highly contaminated.

Regarding the technical solution of reuse of treated waste-water, the Head of Municipal Water Department informs that such plants have already been set up, but there are a few critical barriers. First of all, in the city with such high land prices, the land is simply not available for locating such plants. Further, the cost of laying an alternative network to take this treated water back to consumers is prohibitive. Urban Water Engineer-Academic also says that extremely low water tariff in the city is a major barrier for economic viability of reuse of waste-water. Regarding the solution of desalination of seawater, Head of Municipal Water Department dismisses the idea on the same grounds—non-availability of land in the city and excessive capital and operational (energy) costs involved. He points out that the option would be three times costly as compared to the option of putting up another dam and pipelines.

However, a few non-official respondent recommend paying serious attention to revival of wells and lakes in different parts of the city and suburban areas which were villages and hamlets a couple of decades before (Urban Planner Academic 1 and 2, Vernacular Print Media Person 1, Senior Urban Community Activist and Urban Sanitation Activist). They accept that the groundwater in many fringe areas, especially near creeks and dumping ground are not usable. However, they feel that groundwater from other areas can be used for non-domestic purposes. Senior Urban Community Activist and Urban Sanitation Activist, in fact, argue that even in the suburban areas near creeks, the groundwater could be put to use for non-

domestic purposes, at least as an interim arrangement. They suggest that MCGM should try to make arrangements to clean and process this water to make it useful for such non-domestic purposes.

Operative Values and Interests

The main proponents of this narrative, the high-level of MCGM non-engineering officers and elected councillors from party in power, seem to believe that 'technology is a panacea for all problems pertaining to the water access to the poor'.

Dissertation Roadmap

'Narrative of Technical Barriers' discussed in this chapter is another member of the category of Narratives of Excuse. It puts forth an excuse for the lack of access to water by claiming that it is difficult to provide water because of the challenges posed by an aging, complicated, water supply system that relies on the gravitational flow. 'Narrative of Techno-fixes', however, is from another strategic category of 'Narratives of Evasion', as it attempts to divert our attention away from the main issue of concern, the denial of water access. It tries to do so by indicating futuristic, end-of-pipe technological solutions or fixes as a way ahead for the water supply system in Mumbai. Interestingly, this narrative is often used by its proponents to side-track the focus from violation by MCGM of the court orders based on 'Narrative of Human Rights' (detailed in Chapter 1). It, thus, is turned into a combined rhetoric 'Now that everyone is getting water, as water is a human right, we should focus on building technologically sound solutions'.

Chapter 6: Economics

Historical Trajectory and Ideological Roots

After independence in 1947, as discussed in the previous chapter, the Indian water sector was developed following what is called as the Modernization paradigm (Baghel and Nusser 2010; Briscoe and Malik 2006; D'Souza 2008). The main objective was to achieve prosperity and economic independence for the newly independent country (D'Souza 2008).

As its value-premise, the Modernization paradigm professes that water is a social good and a prerequisite for development. The second value-premise of the paradigm pertains to the central role and total responsibility given to the state in providing water—a social good—to all citizens and at an affordable price, if not free. In pursuance of the Modernization paradigm, all across the country, urban water supply systems have been built, owned, operated, and maintained by agencies of state-level governments such as Public Health Engineering Departments (PHEDs) or Water Supply and Sanitation Boards (WSSBs). Once completed and commissioned, these schemes are to be operated and maintained by local-level agencies of the state in urban areas often called as Urban Local Bodies (or ULBs) (Das 2006, Wagle et al. 2011). In metro cities, however, the entire responsibility of provisioning water is given to equally large-size municipal corporations—local-level agencies of the state.

However, technical, economic, and financial performance of all these agencies entrusted with the responsibility or urban water supply has received severe criticism. In most urban centres, water supply has been inadequate in quantity, bad in quality, highly unreliable and irregular. While the infrastructure created had many technical problems, operations of most of these agencies are economically unviable and their financial situation is, at best, precarious (Sangmenswaran et al. 2008, Wagle et al. 2011).

These failures of the Modernization paradigm prompted various actors to push for reforms in the urban water sector in India. A major factor that favoured reforms in the Indian water sector was changes in the international-level discourses over development and environment (Lele 2000; Phadke 2013). The developmental discourse underwent a significant shift from the Modernization discourse of development to the Neoliberal discourse that is identified with the terms such as 'Washington Consensus' and 'Structural Adjustments' (Sampat 2007; Rodrik 2006). The fiscal crisis faced by the central and state governments in India in the 1990s put further pressure for acceptance of sectoral reforms in the water sector sponsored by international financial institutions (IFIs) and rooted in the Neoliberal paradigm of water sector development (Molle et al. 2009).

As a result of the practical failure of the Modernization paradigm, its value-premises have been under severe criticism (Gadgil and Guha 1994; Lele, 2000; Molle et al. 2009; Phadke 2013). It is argued by supporters of the Neoliberal paradigm that a scarce resource like water, which is a prerequisite for economic growth, cannot be treated as a social good (Briscoe and Malik 2006, Sangmenswaran et al. 2008, World Bank 2014). Providing water at affordable prices or free is seen as the failure to reflect in tariff the true economic cost of providing water. This, in turn, is seen as leading to mis-placed use, misuse, and wastage of water.

The supporters of the Neoliberal paradigm also criticize the central role given by the Modernization paradigm to the state and its bureaucracy in managing the urban water sector. Their argument finds state-owned agencies seriously lacking capabilities and motivation required to govern the massive, techno-socially complex sector (Briscoe and Malik 2006; World Bank 1993). It is also argued that the state-controlled institutional structure does not have any effective incentive for state actors to deliver water services in an effective and efficient manner.

The Neoliberal paradigm of water sector development professes two basic value premises, first, that water is an economic good or a commodity, and, second, that state should be a facilitator and not a provider of water services (Deekshit 2018; Ranganathan et al. 2009; Sangameswaran et al. 2008; Wagle et al. 2011).

These two core value premises lead to a host of economic-financial and institutional prescriptions from the Neoliberal paradigm which are considered as measures for reform in India's urban water sector. For example, Neoliberal institutional prescriptions include: splitting (i.e., unbundling) of state-level government agencies to perform different functions, corporatization or commercialization of these unbundled state agencies, and delegation of some powers of state-level agencies to local-level governing bodies such as urban local bodies or ULBs (Coelho 2010; Deekshit 2018, Ranganathan et al. 2009; McKenzie and Ray 2009; Wagle et al. 2011). These delegated powers include powers to raise finances from private sources, to set tariff, and to choose technologies and private partners. The Neoliberal institutional prescriptions also profess an increasing role for private sector actors: from outsourcing of some tasks to private contractors to handing over complete ownership and control of state-owned

agencies or infrastructure to private investors. Public-Private-Partnerships (PPPs) are seen as a suitable reform measure especially in the urban water sector. This is premised on the expectation that tariff reform in this sector would be effective and would raise the revenue required to make PPPs financially viable. Similarly, 24-by-7 water supply projects are seen as another way to increase private sector participation in the urban water sector.

Treating water as an economic good or a commodity brings in various economic and financial reform prescriptions, which include commercialization of operations of agencies in the urban water sector. It also includes rationalization of tariff (price) in order to ensure recovery of the full cost of water supply (Coelho 2010; Ranganathan et al. 2009; Wagle et al. 2011). The rationalization of tariff also leads to other prescriptions such as universal metering, strict budgeting and monitoring of water supply, and ring-fencing of accounts and operations of water utilities.

Coming to the criticism of the Neoliberal paradigm, the main value-premise of the Neoliberal paradigm—that water is an economic good or a commodity—is contested by supporters of the Modernization paradigm (Dwivedi 2010; Joshi 2011; Ranganathan et al. 2009; Madhav 2008; McCully 1996; Sangameswaran 2008). According to this criticism, water is a scarce resource in most regions of the country and for most part of the year. Further, a large section of population in the country has been historically suffering from serious economic deprivation and disparity due to socio-cultural and political reasons. It is argued that, in such conditions, making water a commodity would lead to further aggravation of disparity and deprivation. Supporters of the Modernization paradigm are critical of the second value-premise of the Neoliberal paradigm—that the state should play the role of facilitator and not of a provider. They also criticize the related prescription of delegating the responsibility of water provisioning to actors

from the private (for-profit) sector (Rodrik 2006). Their argument in this regard, is that the prime motive of private actors—i.e., maximizing their profits—would lead to higher tariffs/prices and exclusion from water services of citizens with low levels of consumption and limited paying capacity.

These debates at the international and national levels could also be seen as replicated at the city level not only at the rhetoric but also at the practical levels.

Economic and Financial Barriers: Narrative of Excuse

The core rhetoric of the narrative is that because of many economic and financial barriers, it is not possible for MCGM to provide formal water supply to poor staying in slum settlements. The main position of the narrative is that MCGM is facing so many economic and financial challenges that it is not in position to take special efforts to supply water to slum-dwellers. The narrative is used mainly by officials and engineers of the Hydraulic Department of MCGM as an excuse to avoid the responsibility of supplying water to poor slum dwellers.

The main argument, in short, of the proponent of this narrative is that the cost of providing water to the city is really high as water is brought from a great distance (Head of Municipal Water Department). The production cost is increasing every year, the current cost is about Rs. 19 per kilo litre. While the total cost of production (including supply) is high, there is little scope in reducing it. One of the factors that increased this cost is the fact that the dams supplying water are owned by MCGM and it has to pay the entire cost

of rehabilitation of people displaced by these dams (Retired Senior Municipal Water Engineer). But this cost is, in fact, lower as compared to other cities as most of the water supply coming into the city and within the city is gravitational. Thus, the high production cost is a major economic barrier to any improvement in water supply.

Because there is not much scope for reduction in the production cost of water, the entire focus is on the revenue side. Explaining the details on the revenue side of the Hydraulic Department of MCGM, Head of Municipal Water Department explains that there are three types of consumers in city, residential, industrial, and commercial, and they pay three types of water charges: (a) Water Charges or Water Tax (b) Water Benefit tax (applicable to all consumers and is used as the capital) (c) Water Sewerage tax. Here, Water Charge is as per the volume of water supplied while Water Tax as well as Water Benefit and Water Sewerage Taxes are based on estimated taxable (capital) value of the property. From June 2018, Water Charges or the rate per kilo-litre (i.e., 1000 litre) for connections in notified slums is Rs. (Rupees) 3.82, while for connections in post-2000 slums it is Rs. 4.23. For non-slum residential consumers, the rate is Rs. 5.9; and, for industrial and commercial consumers, the rate is in the range between Rs. 20 to Rs. 106. About 90% of the water consumption in Mumbai is by domestic or residential consumers, which, as can be seen is highly subsidised, and hardly 10% of consumption is by industrial consumers. The total collected Water Charges and Taxes are around Rs. 12 Trillion and Water Benefit and Sewerage Taxes is around Rs 14 Trillion. Thus, an annual revenue income is about Rs. 26 Trillion.

There are two main berries on the revenue side (Head of Municipal Water Department). The first is the highly subsidized tariff charged to residential or domestic consumers who use a bulk of the water as evidenced from the discussion in the previous paragraph.

The second main barrier relates to the decreasing number of industrial consumers and their consumption (Head of Municipal Water Department). After liberalization policies of 1991, economic growth took off and the prices of real estate in the city skyrocketed (Retired Municipal Water Engineer). As a result, manufacturing industries from different sectors, including textile mills, stopped functioning or were pushed out of Mumbai. In the 1990s, industrial consumers used 20% of water but gave 80% revenue to the water dept of MCGM. Thus, industrial consumers were cross-subsidizing domestic consumers in a big way. But, by 2001, only 7% water was consumed by industries. Most of the manufacturing industries were replaced by service industry establishments which do not need as much water as manufacturing industries. So the amount of cross-subsidy was reduced drastically, but the tariff of domestic consumers was not increased in a commensurate manner. As a result, the revenue of the Hydraulic Department of MCGM affected the server.

The only way out of this serious economic and financial situation is to rationalize tariffs especially of domestic or residential consumers, including that for poor consumers staying in slums, in significant manner (Head of Municipal Water Department). This rationalization certainly means a significant increase in domestic tariff, but also bringing in a telescopic tariff system, wherein unit rate would increase in steps as consumption by a consumer increases.

Critiques of the Narrative

The main critique of this narrative comes from activists and academics who point out that there are many other options to deal with these economic and financial barriers (City-Level Water Activist-Leader, Urban

Water Policy Researcher-Activist 1, Urban Water Policy Researcher-Activist). First, the activists suggest that MCGM should try to reduce losses and leakages [this issue has been covered in the other chapter]. The second main suggestion is to improve metering of water consumption by connections which are charged on volume basis. Retired Municipal Water Engineer points out that there are serious problems also with the billing operations of MCGM. It is also suggested that the water tariff for consumers from rich and middle classes could also be increased.

Citing the Head of Municipal Water Department and Urban Water Policy Researcher-Activist 1 suggest that legal connections should be given in large numbers to slums, which will increase revenue of the Hydraulic Department. Supporting this, the Councilor of Party in Opposition 2 says that if water is made legally available to slum dwellers, they will be happy to pay even higher rate to the MCGM, which will also benefit from increase in the revenue. She says that most people in slums pay much higher rates for water to informal providers as compared to the rates charged by MCGM. Independent Urban Researcher 2 and 3 suggests that MCGM should invest in and implement measures for demand-side management (DSM), apart from improving metering.

Operative Values and Interests

An explicit operative value on the part of engineers that comes out in this narrative is that 'tariff should be rational', i.e., 'tariff for water should not be subsidized'. Similarly, these engineers also believe that tariff should be telescopic which means that 'those who use more water should pay more for each unit of water consumed'.

As against this, activists believe that MCGM should improve their technical and financial performance before asking for a higher tariff. In a way, they propose that 'tariff should be linked with the quality of performance'.

The main interest of engineers of the Hydraulic Department of MCGM in using this narrative is to 'avoid the responsibility of handling difficult and complicated work' involved in providing water access to poor in slum settlements. Another interest of these engineers underlying this narrative is to promote the demand for tariff rationalization or tariff increase, which will 'strengthen financial conditions of their department'.

Commodification and Privatization: Narrative of Evasion

The core rhetoric of the narrative says that once water is treated as a commodity and water supply is privatized all water-related problems faced by the city of Mumbai will be solved. The main position of this narrative asserts that water is a commodity and it should be treated as a commodity. This primarily means that we should recover the full cost of supply of water from those who use it. Those who are not ready to pay full costs, such as slum-dwellers, have no right to demand access to water and they need not be supplied with water. As water is a commodity, its supply should be managed following commercial principles, which could be implemented well by private entities. This narrative is used by high-level officials of MCGM and even by some elected councillors often to deflect the issue of water-access to slum-dwellers. It needs to be mentioned that the engineers of the Hydraulic Department do not support the agenda of privatization.

The focus on this issue of water being a commodity arises from the complaint that the tariff charged, especially to domestic or residential consumers is disproportionately low as compared to the cost of production of water (Head of Municipal Water Department). MCGM supplies water as if it is its social responsibility (Retired Municipal Water Engineer). To continue operations on a sustainable basis, MCGM needs revenues that are adequate to pay for the cost of production. This mode of supply will help neither MCGM nor consumers. Supplying water to millions of slum-dwellers by individual connections, as per demands of activists, would mean significant increase in costs. For example, MCGM has a norm that it needs to have 8 employees per 1000 connections, which will imply huge increase in wages and salaries.

Talking specifically about connections to slum-dwellers, Retired Municipal Water Engineer explains that supplying water to formal resident who pay property taxes is obligation of MCGM like any urban governance agency. In a sense, these formal residents pay for water through the taxes they pay. Thus, slum-dwellers who do not pay property taxes to MCGM are essentially squatters and have no status as former residents of the city. So, MCGM is not duty-bound to supply water to slum-dwellers as an urban service. Rather, MCGM is effectively selling water as if it is a private goods owned by MCGM. Thus, as far as slum dwellers are concerned, water is a commodity that they have to purchase at full cost. According to Head of Municipal Water Department the recent court verdict requiring MCGM to give connections to all slum-dwellers does not contradict the claim that water is a commodity.

Retired Municipal Water Engineer also indicates that unless water is treated as a commodity, its tariff cannot and will not be rationalized. Once tariff is rationalized, there is a need to manage metering, billing, recovery, and accounting operations, which are critical for stable financial situations. He adds that the

World Bank advised that, for such rationalized tariff and effective functioning, water supply will have to be privatized. Senior Water Policy Academic explains the logic underlying demands and efforts for privatization. As per this logic, privatization will bring in technical efficiency and financial discipline because the private company will be driven by the objective of maximum possible reduction of costs in order to maximise its profits, which is its prime motive.

Critiques of the Narrative

Activists argue that water is a basic survival need and social good and hence it cannot be considered as a commodity to be sold at full cost (City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist 1). Being a social good, water should be made available at price affordable to poor sections of society. Activists are not happy that the High Court suggested that MCGM can levy higher water charges for connections given to illegal slums (City-Level Water Activist-Leader). Their argument is if it is a human rights issue, then the court cannot differentiate between two human beings. They got this permission by the court as going against the principle that water is a social good. However, for strategic reasons, they decided not to challenge this.

With this position, activists did oppose the initiative undertaken by MCGM allegedly to privatize water supply in 2004 through a stepwise process for contracting out the water supply with help of a multinational corporation [MNC] (City-Level Water Activist-Leader). Their main argument was that the problems faced by MCGM's Hydraulic Department are not manageable even for a private agency (City-Level Water Activist-Leader). Any private agency will not be able to control the local politicians who often are local musclemen and indulge in all kinds of nefarious activities related to water supply. They also point out that the main defaulters who have not paid water bills include powerful agencies of central and state

government including the main Secretariat of the state government and the High Court. No private party will be able to recover bills from these agencies.

Independent Urban Researcher 2 argues that water has a central place in Indian culture, which considers any effort to provide water to needy as the most pious charity. We cannot simply commodify it, as it is against the social norm, especially when there are such a large number of people who are not in position to pay for the full cost of water. Even MCGM performs religious ceremonies when the dams fill up after the monsoon.

Vernacular Print Media Person 1 reminds that water has been a publicly and freely available natural resource even in the city of Mumbai until a few years before. She reminds us that there was an elaborate system of water provisioning at all public places in the city, be it railway stations or street corners. Both public agencies and private philanthropists ensure that even during the worst summer, drinking water will be available in the city. All this was broken down, first, in name of quality, and then in the name of privatization. She further points at the politics of globalization operating at the local, national, and global levels. She suggests that we should respect water as a scarce natural resource and should avoid its wastage. Pricing does not avoid wastage, those who afford the price tend to continue to waste it; so the person who is wasting water will change. Thus, the point is the logic that commodification helps conservation of water is faulty. Once we get commodification out of our way, then we can distribute water as per each person's need.

Some activists find this debate on commodification and privatization somewhat irrelevant from the

perspective of slum dwellers. Urban Community-Development/Sanitation Activist says that people who lack assured access to water have to buy it at whatever cost that they have to pay, cutting on other expenditure. City-Level Housing Rights Activist says, when MCGM avoids to supply water even after the court verdict, slum dwellers have to be supplied water even if it is necessary to sell it to them as a commodity as it is a survival need. This privilege of taking an ideological position on water could be affordable for some activists but not for slum-dwellers.

Water ATMs

When it comes to the issue of Water ATMs, there is an interesting twist in the arguments over commodification and privatization, which divides activists. In the year 2010, MCGM offered to put up Water ATMs on the boundaries of slums situated on the private plots (Senior Water Policy Academic). This strategic solution would address many barriers. First, it would not require MCGM to enter privately-owned lands in order to supply water. It would allow MCGM to control supply and discourage the middlemen, mafia, and other 'anti-social' elements. It would allow MCGM to ensure steady revenue and most importantly, it would provide water to slum-dwellers at rates, though somewhat higher than MCGM's rate, that would be still affordable. While a section of activists was open to experimentation on this option, a large section of activists stridently opposed it mainly on ideological grounds. Finally, the proposal was not pursued by MCGM.

But the idea did not die. One of the activist groups set up a water ATM which was run by the local community organization. It is not inoperative as the community now has a formal water supply. At another location, an ATM was set up by Rotary Club using philanthropic support from a corporate house. While the technical management was with the company providing the Reverse Osmosis technology, the day-to-

day operation was supposed to be handled by a thrift and saving group of local women. This ATM though operational even now is run by a private individual with technical support from the company that set up the plant.

The debate however still continues among activists and academics on whether ATM implies privatization or not. Some academics take a cautious approach and view it as an experiment to explore how private operations perform in the area of water provisioning to slums (Senior Urban Sociologist). As mentioned before, one section of activists opposes it with the apprehension that ATMs would open doors for privatization (Urban Water Policy Researcher-Activist 1, City-Level Water Activist-Leader). They argue that water is a human right and the state has an obligation to provide it to all citizens. Some activists and academics argue that slum dwellers need water, if water ATMs are put up with involvement of MCGM, there will be significant improvement in quality, quantity, and pricing of water provided as compared to the informal channels (Senior Water Policy Academic, City-Level Housing Rights Activist). As Senior Water Policy Academic points out that Water ATM is per say a gadget and it can be operated under through different institutional arrangements including, owned and operated by the state [i.e., MCGM], entirely private, regulated by MCGM but operated by private or community-based agency, under complete control and operation by community -organization. City-Level Housing Rights Activist doubts whether the private or thrift-group model of operation would work in slum areas. Other groups of activists do not want to entertain the idea of ATMs under any arrangements (City-Level Water Activist-Leader).

Operative Values and Interests

The explicitly mentioned operative value—that 'water is a commodity'—in this narrative is linked with many other operative values which emerge out of the arguments and justifications provided by

proponents of this narrative. These include the value that 'a fair price should be paid for goods or services consumed'. It also implies that 'those who do not pay fair price have no right to consume goods or services'. Coming to privatization, the main operative values are 'efficiency of functioning of an agency' and 'discipline in functioning of an agency'. Those using the privatization narrative, especially high-level officials of MCGM and city-level politicians, are seen as driven by their 'economic vested interests and career-related vested interests' respectively.

However, when it comes to the issue of Water ATMs, some activists are steadfast about their commitment to 'access to water as a right' and are not ready to accept any compromise on this position. But some activists seem to be taking a more pragmatic position and accepting to pay a higher price for water from ATMs and are also ready if ATMs are privately operated. In a sense, they adopt the operative values that 'water can be priced as long as it is affordable', and 'water can be provided with involvement of a private party as an intermediate step' to getting access to the formal supply network of the state.

Slum-dwellers are Free-Riders (*Phukate*): Narrative of Denial

According to the core rhetoric of this narrative, slum-dwellers tend to be free-riders (phukate) when it comes to paying for water. The main position of the narrative argues that, even if slum-dwellers are given legal water connection, they would not pay water bills. Hence, there is no point in giving them legal connections. The narrative is often used by officials and engineers of the Hydraulic Department of MCGM to deny water access to slums.

Head of Municipal Water Department complains that we are ready to provide water to slum-dwellers, but then they should pay water charges. He complains that out of the total bill charged to slum-dwellers is only 10% the total billing done by Hydraulic Department. However, only 50% of this billed amount is paid by slum-dwellers. Thus, MCGM gets only INR 1 trillion annually from slum dwellers though they represent about 40% of the population and consume about 600 MLD (million litre per day) of water.

He further complains that though the number of defaulters is so high, it is not possible to recover the arrears of disconnect the supply due to political pressures. Even if the supply is disconnected, it is quickly connected illegally once the officer returns. On many occasions, the slum dwellers simply disown the group connection which has huge arrears and applies for a new connection.

Critiques of the Narrative

Activists take strong objections to the accusation that slum dwellers are free-riders (City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist 1). They point out that there are serious problems with metering and billing operations of the Hydraulic Department of MCGM.

The common complaint of consumers having metered connections is that the meter shows excessive consumption as compared to water used (City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist). This mistrust prompts these consumers to tamper with these meters; some consumers damage meters in frustration, and some simply refuse to pay the excessive charges. Head of the Municipal Water Department agrees that there are serious problems with mechanical meters used by

MCGM. These meters designed for continuous water supply, show excessive readings due to intermittent water supply. According to him, these mechanical meters should be replaced by electromagnetic or ultrasonic meters, which are significantly costly.

Based on the information collected from MCGM using provisions in Right to Information law, activists argue that the large private firms, especially developers as well as many agencies of the state and central governments have huge arrears (City-Level Water Activist-Leader). These major defaulters, as per activists include, central government agencies such as Indian Railways, Central Government schools. The list also includes state government agencies such as the main Secretariat, offices of SRA and MHADA, even the High Court. Further, the list also includes big corporate houses including five-star luxury hotels in the city. He says blaming poor slum dwellers as defaulters causing financial troubles to MCGM is ironic in the face of this list. Head of the Municipal Water Department agrees that some of the central government and state government agencies are defaulters, but these defaults are due to some unresolved disputes and technical objections regarding the metering or other issues.

Senior Urban Community Activists take strong objection to the accusation from officials that slum dwellers are free-riders. Based on her own experience, she describes various coping strategies—as well as the immense physical and mental strife and drudgery involved in these coping strategies—slum dwellers have to adopt when they do not have access to water. As a result, even if they get access to an informal source of water, they are ready to pay an extremely high price for water despite bad quality. Hence, according to her, a legal water connection is so precious for slum-dwelling poor that they will not let it go at any cost, lest by not paying the bill.

Operative Values and Interests

The explicit operative value held by proponents of the narrative is that 'poor are, by nature, free-riders', they want everything free. The approach taken by engineers towards the other defaulters—that these defaulters have genuine reasons underlying their default—also indicates the implicit operative value that 'non-poor have genuine grievances when they do not pay their dues'. As against this, activists believe that 'poor, as usual, are made scapegoats for default by non-poor'. They also believe that 'poor slumdwellers are willing to pay for water they consume' but they are helpless when they are forced in the situation where they are asked to pay excessively.

Slum-Dwellers are Thieves (*Chor*): Narrative of Denial

The core rhetoric of this narrative argues that slum-dwellers steal water from MCGM water supply networks through illegal connections. The main position of the narrative adds further that slum-dwellers should be punished for doing so and should be denied water. The narrative is used mainly by higher officials of MCGM and engineers of its Hydraulic Department to deny water access to slum-dwelling poor.

As per the narrative, slum-dwellers—individually, in groups, or through local leaders—tap nearby municipal pipe lines illegally and take water connections (Head of Municipal Water Department, Municipal Water Engineer 1, Municipal Water Engineer 3). This causes severe problems such as pressure disruptions, discontinuation or reduction of supply, and contamination of water affecting the legally connected consumers of MCGM. This also affects the water supply network and revenue of MCGM. MCGM finds it

difficult to contain this problem mainly due to its limited human resources vis-à-vis the scale and number of illegal connections. In many situations, these illegal connections get protection and support from local musclemen and politicians.

Counter-Arguments to the Narrative

Activists explain some intricacies involved in this issue (Senior Urban Community Activist, Urban Water Policy Researcher-Activist, City-Level Water Activist-Leader). When a new slum settlement gets established, it is under complete control of the slum mafia, often with help from one political party. Moreover, residents of this slum are also new migrants to the city without much social or political contact with city actors. The water supply is often in the hands of informal providers and mafia. Gradually, the slum and its residents settle, develop economic, social, and political relationships with the city around, develop confidence. At the same time, other political parties, activists from movements reach out to these residents. Once settled, these residents increase their aspirations for legality and urban services, then they start demanding legal connections. At this stage, often the residents encounter financial and technical difficulties in taking water from distant municipal pipelines, so they have to continue to rely on illegal connections and informal providers. In the next state, the municipal network gets extended, which makes it easier for slum residents to claim for legal connections. And they, often in a large number, start demanding formal connections.

Responding to accusation against slum residents regarding illegal connections, activists and politicians from parties in opposition point out that slum residents would like to have legal connections, but, in most circumstances, they are pushed into relying on illegal connections (Councillor of Party in Opposition 2, Leader of Party in Opposition, Urban Water Policy Researcher-Activist). Senior Urban Community Activist

argues that legal connections are something poor slum dwellers always aspire to but often find it beyond their reach. Senior Urban Sociology Academic supports the activists and points out that there are illegal water bottling plants in the city and most legal bottling plants consume water much beyond their allocations.

However, getting a formal connection is a significant financial investment, hence, often a group of residents applied for a common or group connection (Municipal Water Engineer 3, Municipal Water Engineer 1). The formal expenditure includes: deposit and scrutiny fee to MCGM (INR 1500-2000), meter costs (INR 1500-2000), material cost (INR 4,000-5,000), road digging charges (4000 -10000), fees of the licensed plumbers (INR 2,000 to 10,000). As can be seen, such an expenditure, even after sharing with other group members, is unaffordable unless the resident is settled economically.

Activists add that the residents have to pay, in addition to these formal charges, bribes to municipal employees and local councillors (Urban Water Policy Researcher-Activist 1 and City-Level Water Activist-Leader). The bribe often amounts to additional INR 10000 to 20000 (Councillor of Party in Opposition 2). This makes it really difficult for most residents, especially of the illegal slums to afford legal connections and they have to continue to rely on informal providers and illegal connections. Another steep and common barrier faced by residents of 'illegal' slums is resistance from local municipal engineers and local councillors who pressurize the licenced plumbers to raise all kinds of technical financial difficulties in providing legal connections (Senior Urban Community Activist). As a response, one of the activists gave the accreditation examination and became a licensed plumber. Most importantly, the circular of MCGM, prepared in response to the order of the High Court, rules out many slums settlements located on private

lands, lands owned by the central government and coastal lands through different regulations. Residents of these slums will have to continue relying on illegal connections and informal providers.

Retired Municipal Water Engineer points out another problem even in the settled slums. Due to the continued absence of legal and affordable housing in the city, slums continue to grow and settled slums grow vertically as households construct one or more floors on the original house. This leads to significant increase in population of the settlement requiring more water and more connections. Lack of land (to lay the pipeline) and often due to lack of water supply in main pipelines, MCGM is not in positions to provide additional legal connections to fulfil the need of this increasing population. This prompts illegal tapping of the existing pipelines and creates a problem of illegal connections in legal slums.

Senior Water Policy Academic insists, *"you cannot call slum dwellers thieves, don't forget that these same poor slum people buy electricity at significantly high prices".* He explains, though MCGM refuses water access to them, there is no law that bars dwellers of illegal slums from getting formal electricity connections (Senior Water Policy Academic). So, even if electricity is not a survival need as water is, most residents of illegal slums apply for and pay to get a formal electricity connection and regularly pay electricity charges which are quite high as compared to water charges. He. Then, says *"What you have here is twisted administrative rules that link legality of tenement to water access, which then is used by officials of MCGM and city-level politicians to serve their ideological, political, and economic vested interests"*.

Urban Water Policy Researcher-Activist sums up by saying, "*we tend to look at slum dwellers as parasites and criminalize their efforts to satisfy their thirst, instead of being appreciative of their resilience . . . paani kyon chori kar rahe ho (why people are stealing water) is a concern . . . kyon chori karna pad raha hai (why people have to steal water). . . nobody asks*."

Operative Values and Interests

The explicit operative value held by proponents of this narrative is that 'poor are, by nature, thieves'. It also implies the value that 'however poor you may be, you should not steal even for your survival'. As against this, activists believe that, 'unless pushed into a corner, poor do not indulge in illegal activity' and that 'poor indulge in illegal activity only when their very survival is under threat'. They also argue that 'poor always aspire for legitimacy', which is often denied to them just because they are poor.

Mafia, Profiteers, and Nexus: Narrative of Excuse

The core rhetoric of this narrative argues that slums are controlled by water mafia, water profiteers, or a nexus of dominant actors who steal water. The main position of the narrative further adds that these actors steal or obtain water from MCGM pipes at very low (or no) prices and sell it at high prices to slum dwellers. So, if MCGM attempts to supply water to slums, these 'anti-social' elements will grab it and profit from it. This narrative is used by a variety of actors in interesting manners. It is used mainly by officials of MCGM and engineers of its Hydraulic Department as an excuse to deny water to slum dwellers. Through the narrative, they indicate their helplessness and justify their inability in increasing legal water supply to slums. It is also used by activists and some councillors from the party in opposition to criticise

both MCGM and elected councillors. The narrative is seen as an excuse, as it is conveniently silent on the fact that mafia, profiteers, and nexus are not created by poor slum dwellers, rather, it is the duty of MCGM to ensure that its own water will not be stolen or used for profiteering.

Head of the Municipal Water Department explains different types of these 'anti-social' elements. Most insignificant are those who are common citizens, profiteering by selling excess water they get from their own individual legal connections to a couple of slum-dwellers who do not get adequate water. Then, there are organized but small-time profiteers who are local community leaders (Head of Municipal Water Department). They form small-size community organizations called mandals, take legal water connections and then officially distribute it to other people in the community. In doing so, according to the officials, they enter into mal-practices such as selling water to outsiders, selling it at high prices, indulging in fudging of accounts, or using water as a weapon in the local community politics(Head of Municipal Water Department). To secure protection, these profiteers become supporters of local municipal councillors. This practice is rife especially in slum communities situated on hill-slopes. MCGM refuses to pump up water to supply these slums. So these mandals construct storage tanks at the level of municipal connection and then pump this stored water to supply it to households on hill slopes.

The third type are mafia elements, who have their other criminal activities conducted in and from the slums (such as bootlegging, extortion, and organised theft of government property or goods) (Municipal Water Engineer 1, Municipal Water Engineer 3, Urban Water Policy Researcher-Activist 2). In some slum pockets, such mafia gangs set up their own business of informal water provisioning. These gangs run quite organized operations. They obtain water from some borewell (deep drilled well) or steal it by puncturing municipal water pipes (Councillor of Party in Opposition 1). This water is then carried by motorised

tankers to slum communities and sold at exorbitant prices. They maintain their control over the community using the threat of physical violence and actively dissuade slum dwellers from obtaining legal water connections. Because they use tankers, they are often referred to as tanker mafia (Independent Urban Researcher, Leader of Party in Power).

The fourth type is more powerful and dangerous wherein the mafia operation is taken over by a nexus among local mafia, the elected councillors, local plumbers accredited by MCGM, and municipal employees, especially chavivalas (Municipal Water Engineer 1, Municipal Water Engineer 3). The mafia runs the operation, they get water from the local municipal pipeline with help from the municipal employees. They are protected by the local elected municipal councillor from police of higher municipal authorities. According to Urban Water Policy Researcher-Activist 2, these councillors allow these informal markets and illegal systems to thrive in their constituencies as they want their voters to depend on them for survival needs such as water, which is often used as a political weapon to crush the local dissent.

Many a times, the line of separation between the mafia members and political activists of local councillors are blurred (Independent Urban Researcher). In many cases, the same nexus of actors are involved in setting up the illegal slum colonies (Municipal Water Engineer 1, Municipal Water Engineer 3). As a result, they have full control over the lives of slum-dwellers and, under their terror, slum-dwellers do not even apply for legal connections.

The Leader of the Party in Power feels that this is the problem in the community, municipal administration cannot solve it. It is a behavioural problem and could be addressed partly by policing. But Senior Urban

Community Activist insists that por slum dwellers are not at fault when it comes to these profiteers and mafia. She argues that, on one hand, the slum dwellers are hard pressed by everyday struggle to get water for their survival. On the other hand, they are too disempowered economically, politically, and even physically to attempt to resist these 'anti-social' elements.

Senior Water Policy Academic, however, points out that there is certain improvement in understanding of city politicians and officials in the last ten years who deploy the narrative of criminalization. These actors are now differentiating between the real criminal elements and helpless, poor slum dwellers. He reminds the rampart revanchism in which the middle-classes of the city indulged during 2009 and 2010, when the slum dwellers were painted in black as criminal parasites out to destroy the city through their nefarious activities. He traces roots of these changes to many factors, mainly to the changing demographics and political climate in the city, which shifted away from aggressive regionalism, though the party in power in MCGM remains the same. Another factor is the changing demographics of residents of both legal and illegal slums. As the affidavits by Mr Sukhatankar (retired municipal commissioner and former Chief Secretary of the state) divulged, a large number of employees (including officers) of MCGM, BEST (the electricity and transportation utility of MCGM), and even police departments have been staying in the so called 'illegal' slums.

Operative Values and Interests

The narrative implies the operative value that 'water cannot be used for illegitimate purposes'. It also implies that 'needs of the poor are dispensable if water provided to them is grabbed by 'anti-social' elements'. As against this, activists believe that 'poor should not be held ransom for illegal actions of dominant sections'.

Dissertation Roadmap

'Narrative of Slum-dwellers as Free-riders' and 'Narrative of Slum-dwellers as Thieves' discussed in this chapters are from the category of ;Narratives of Denial', as these are used to justify denial of access to water to slum-dwellers. 'Narrative of Commodification and Privatization' is a member of the group of 'Narratives of Evasion', as its proponents use these two economic fixes as end-all solutions to the very complex and multi-dimensional problem of access to water. Similar to 'Narrative of Technical Barriers' discussed in Chapter 4, 'Narrative of Economic and Financial Barriers' is also from the group of 'Narratives of Excuse', as the proponents of these narratives use these barriers as excuses, claiming that these barriers are out of their sphere of influence or action (while in reality they might not be). Additionally, 'Narrative of Mafia, Profiteers, and Nexus is also a 'Narrative of Excuse', as it attempts to push the responsibility of the lack of access off the shoulders of MCGM by pointing at these problems and denying the responsibility of dealing with them.

Chapter 7: Politics of Narratives

The four previous chapters in this dissertation articulate and discuss key elements of, in all, twelve narratives about the issue of access to slum dwellers to the formal water supply network of MCGM (Metropolitan Corporation of Greater Mumbai). These twelve narratives are divided in four chapters organized along the core theme in substantive contents of these narratives such as: rights, tenements, technology, and economics. The narratives emerged from interviews of sixty-four respondents representing five categories: (i) activists who are working on water and other urban issues in Mumbai, (ii) retired and working engineers of Hydraulic Department of MCGM, (iii) elected municipal councillors and politicians representing different political parties, (iv) academics and experts, and (v) members of media. Apart from articulating these narratives in detail, the previous chapters also present historical trajectory and ideological roots of these narratives. Thus, these four chapters achieve the first two research objectives defined in the research design of this thesis (described in Chapter 2)—namely, (a) to articulate narratives, and (b) to articulate and analyse historical trajectories and ideological roots of these narratives.

This chapter takes the next step of analysing these narratives, in an effort to achieve the third and the last research objective of the thesis—to elaborate and discuss politics around the water access in Mumbai. This analysis aimed at elaborating politics around the issue of water access to slum dwellers in Mumbai, as reflected in twelve narratives. In this effort, the analysis takes an overall view of these narratives by strategically juxtaposing, first, all twelve narratives, second, values and interest of key actors emerging

from these narratives, and, then, the positions of key actors towards water-access as reflected in these narratives.

Typology of Narrative: Approaches to the Demand for Water Access

To bring out politics around the issue reflected in these narratives, twelve narratives are classified into four broad groups along their strategic content or strategic positions towards the issue of water access to slum-dwellers (Please refer to Table 7.1):

(i) Narratives of Claim (to the Access): Narratives in this group help their proponents put up or support the claims of slum-dwellers on access to water from the formal supply network of MCGM.

(ii) Narratives of Denial (of Access): Narratives from these groups help their proponents deny these claims for water access for slum-dwellers, by providing different grounds for denial.

(iii) Narratives of Excuse: These narratives provide various reasons (or excuses) that purportedly make it difficult, if not impossible, for MCGM to provide water access to slum-dwellers.

(iv) Narratives of Evasion: These narratives help evade the issue of water-access to slum-dwellers, by promising some solutions that do not directly address the issue of access but promise improvement in the overall water supply situation.

Table 7.1: Typology of Narrative: Strategic Approaches to Demand for Water Access

Sr. No.	Narratives of Claim	Narratives of Denial	Narratives of Excuse	Narratives of Evasion
1	Human Rights (3)	Legality of Tenement (4)	Planning Lacunas (4)	Techno-Fixes (5)
2	Right to City (3)	Structure and Spatiality of Tenement (4)	Economic & Financial Barriers (6)	Commodification & Privatization (6)
3		Slum-Dwellers are Free-Riders (6)	Techno-Barriers (5)	
4		Slum-Dwellers are Thieves (6)	Mafia, Profiteers, & Nexus (6)	

Note: The figure in the bracket indicates the serial number of the chapter in which the narrative is articulated.

As depicted in Table 7.1, this arrangement of twelve narratives among four strategic groups clearly brings out the conflict among these twelve narratives on the issue of water-access to slum-dwellers in Mumbai (please refer to Figure 7.1). On the side, activists and politicians in opposition from the minority parties who use the two Narratives of Claim, which stake claims on water-access on behalf of slum-dwellers. On the other side are the three remaining groups of narratives. While four Narratives of Denial help their

proponents emphatically deny, and justify this denial of water-access to slum dwellers, four Narratives of Excuse put forth excuses for not providing water-access, externalising the responsibility. The two Narratives of Evasion attempt to evade the issue by making some unrelated suggestions.

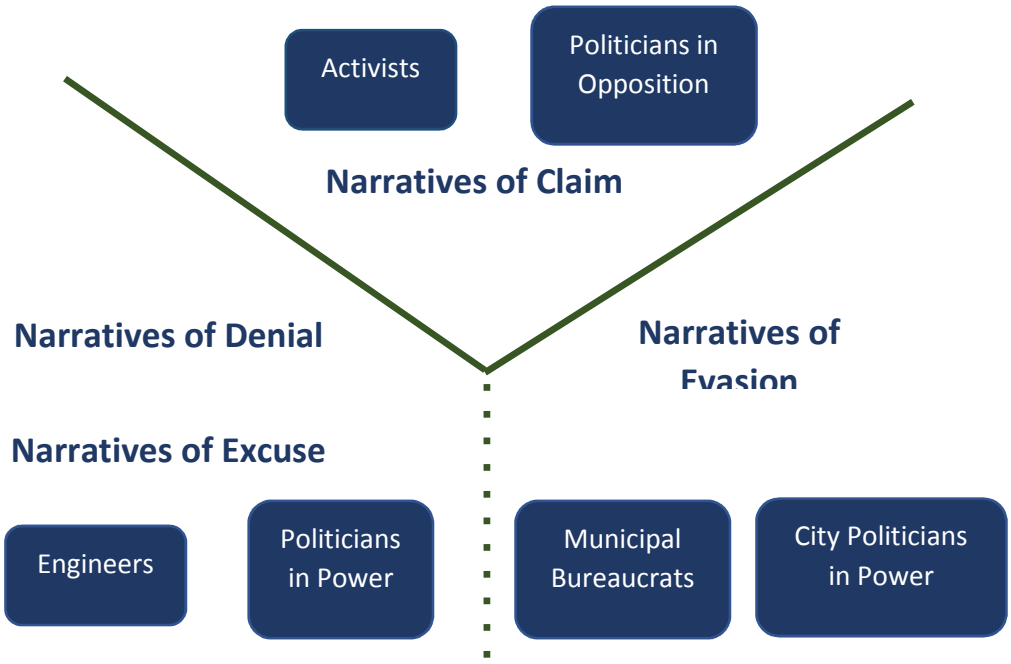

Figure 7.1 Strategic Positioning of Narratives and Actors

These three groups of narratives opposing the demand for access are further divided in two subgroups as per their main proponents. The first sub-group of narratives comprises Narratives Denial and Narratives of Excuse which are primarily used by MCGM engineers and politicians in power. The second sub-group contains Narratives of Evasion which are used by municipal bureaucrats (i.e., civil servant bosses of MCGM engineers) and political bosses holding positions of power at the city-level. These two sub-groups of narratives and their proponents occasionally collaborate to oppose the Narratives of Claim and proponents of these narratives (as suggested by the dashed line separating them in Figure 7.1)

Narratives and Powers Exerted

As the next step in understanding Politics of Narratives, let us try to understand how the different narratives help their proponents exert different kinds of powers and authority in the conflict over the issue of water access to slum dwellers.

The four Narratives of Denial lead to the use of different types of power by their proponents while contributing to power-dynamics. To begin with, the proponents of Structure and Spatiality Narrative essentially say that because of the structural vulnerability of individual houses in slums it becomes difficult to give them individual water connections. This is because weak structural elements make it impossible to ensure safe and adequate provisioning of storage tanks or overhead tanks required by intermittent supply of water through the formal network. Further, the narrative helps asserts that due to haphazard and close siting of individual houses in slums, it is impossible to lay pipelines of adequate diameter in the manner that can ensure its safety from tampering or damage. This makes it difficult to give even common or shared water connections. Urban Water Engineer-Academic emphatically asserts that there are ways and means to overcome these technical difficulties. However, MCGM engineers persist with the narrative and deny water-access by exercising the power of their knowledge combined with power vested in their formal authority.

Narrative of Free-Riding Slum-Dwellers, essentially helps its proponents argue that slum-dwellers are by nature free riding, hence, they should be denied water access. Similarly, the Narrative of Water-Stealing Slum-Dwellers argues that slum-dwellers are, by their nature water-stealers, hence, they should not be given water-access. Both these narratives, thus, invoke ethical sanctions to deny water slum-dwellers. For denying water-access to slum-dwellers, Legality of Tenement Narrative links eligibility of a household for

access to water to the procedural requirement of paying property taxes. This is, in turn, linked with two more procedural requirements, first, legal occupancy of the land plot on which tenement is located, and second, adherence of the tenement to Development and Control Rules of the Building Department of MCGM. Thus, it essentially involves use of the authority to make rules to deny water to slum dwellers. This is very much evident in the design of the policy created by MCGM in response to the verdict of the Bombay High Court, which is in blatant violation of the spirit and letter of the verdict in this regard of the Bombay High Court that side-lined these procedural requirements (Senior Water Policy Academic). In other words, MCGM misused its authority (i.e., formal power) to make rules in order to persist with denial of water access, defeating the efforts of the court and activists to protect human rights of slum-dwellers.

Narrative of Planning Lacunas focuses on the claim of its proponents that lacunas in planning and policies create insurmountable barriers to providing water access to slum-dwellers. But as pointed out by Urban Water Policy Researcher-Activist (1), on one hand, MCGM engineers claim that it is impossible to make available the open plots of even small-sizes for erecting water facilities required for giving access to slums. On the other hand, slums in a huge plot in the same area are cleared and rehabilitated for constructing a flyover within a short span of time.

Similarly, the other two Narratives of Excuse, namely, Narrative of Techno-Barriers and Narrative of Economic & Financial barriers present excuses put forth by engineers of MCGM to deny water-access to slum dwellers. In this regard, while Urban Water Engineer-Academic dismisses technical barriers as result of inability or unwillingness of MCGM engineers to think in the out-of-box manner, activists and academics point out ways in which economic and financial barriers could be effectively addressed by MCGM. Regarding Narrative of the Mafia, Profiteers, and Nexus, activists and academics point out the role played

by many engineers and officials as well as by elected councilors in creating and supporting these anti-social elements. Thus, while propagating all these narratives, MCGM authorities contribute to this power dynamics by not using their authority to take decisions and actions required for providing water access to slum-dwellers.

The two Narratives of Evasion—Narrative of Techno-Fixes and Narrative of Commodification and Privatization—are primarily adopted by higher-level MCGM officials and city-level leaders of parties in power by using their authority to overrule the dissent and disagreement not just by activists but even by engineers of MCGM.

Juxtaposing Values and Interests: Festering of Conflict

The articulation and discussion on twelve narratives presented in previous four chapters also contain some discussion on operative values and vested interests of proponents or key opponents of these narratives. In some cases, the discussion also refers to indirect pressures acting on these actors which are exerted by other actors having direct vested interests. As these operative values and vested interests are discerned from their own narratives and arguments, these do not present a complete picture, especially in the case of vested interests. Nonetheless, juxtaposition of these operative values and vested interests, presented in Tables 7.2 to Table 7.4, divulge an interesting picture.

Table 7. 2 Values and Interests of Engineers Working in Hydraulic Department of MCGM

Narrative	Operative Values and Direct Interests/ Indirect Pressures
Legality of Tenement	**Operative Values** ● Squatters do not deserve even basic services. ● Urban land deserves better use than shabby squatting by the poor. ● Sanctity of legality and procedures ● Poor are the problems. ● Poor are dispensable.
	Direct Interests/ Indirect Pressures ● Pressure of Developers and Politicians to Free-up Lands from Slums
Structure and Spatiality of Tenement	**Operative Values** ● Sanctity and supremacy of technical standards ● Duty to adhere strictly to these technical standards ● Needs of poor people are subsidiary even to technical
Techno-barriers	**Operative Values** ● Sanctity of conventional technical approaches and standards'
Economic & Financial Barriers	**Operative Values** ● Tariff for water should not be subsidized. ● Those who use more water should pay a higher unit price.
	Direct Interests/ Indirect Pressures ● Avoiding responsibility of handling difficult and complicated work

	● Strengthening financial conditions of their department
Commodification and Privatization	**Operative Values** ● Water is a commodity. ● Fair price should be paid for goods or services consumed.
Slum-dwellers are free-riders	**Operative Values** ● Poor are, by nature, free-riders. ● Non-poor have genuine grievances for non-payment of dues.
Slum-dwellers are thieves	**Operative Values** ● Poor are, by nature, thieves. ● Poor should not steal even for survival
Mafia, Profiteers and Nexus	**Operative Values** ● Water cannot be used for illegitimate purposes. ● Needs of the poor are dispensable if water provided to them is grabbed by 'anti-social' elements.

Tables 7.2 to Table 7.4 present operative values and direct vested interests respectively of—and indirect pressures experienced—three key and decisive actors in the conflict over water-access to slum-dwellers in Mumbai, namely, (a) engineers working with Hydraulic Department of MCGM, (b) high-level officials and top-level political bosses in MCGM, (c) activists working for securing water-access to slum-dwellers.

As can be seen from Table 7.2, engineers working with MCGM are driven by a long list of operative values which are both, professional values and personal values. While the professional values emerge from their professional training and work experience, their personal values emerge from their economic, socio-cultural, political, and gender locations and their life-worlds. At the same time, these engineers are driven by their own mainly professional, rather institutional, interests which are directly affecting their careers.

Table 7. 3 Values and Interests of High-Level Officials and Political Leaders of MCGM

Narrative	Operative Values and Direct Interests/ Indirect Pressures
Planning Lacunas	**Direct Interests/ Indirect Pressures** ● Economic vested interests in making lands available to real-estate developers for profit making.
Techno-fixes	**Operative Values** ● Technology is a panacea for all problems of the water sector
Commodification and Privatization	**Operative Values** ● Privatization is a panacea for all problems of the water sector **Direct Interests/ Indirect Pressures** ● Economic vested interests of political leaders ● Career-related vested interests of high-level MCGM officials

Table 7. 4 Values and Interests of Activists Working for Water-Access to Slum-Dwellers

Narrative	Operative Values and Direct Interests/ Indirect Pressures
Human Rights	**Operative Values** ● Every human being has a right to access water.
Right to the City	**Operative Values** ● Every resident of the city has the right to seek access to water. ● Every resident has a right to participate in making decisions about the city's affairs.
Legality of Tenement	**Operative Values** ● Linking of tenement legality with water-access is unjustified.
Economic & Financial Barriers	**Operative Values** ● Tariff should be linked with the quality of performance.
Commodification and Privatization	**Operative Values** ● Water is not a saleable commodity, so no pricing at all. (1st Group) ● Water can be priced as long as it is affordable. (2nd Group) ● No involvement of the private sector in water provisioning. (1st Group) ● Private involvement in water provisioning acceptable to private parties as an intermediate step if prices are affordable. (2nd Group)
Slum-dwellers are free-riders	**Operative Values** ● Poor people are willing to pay tariffs. ● Poor are made scapegoats for default by non-poor.

Slum-dwellers are thieves	**Operative Values** ● Unless pushed into a corner, poor do not indulge in illegal activity. ● Poor people always aspire for legitimacy.
Mafia, Profiteers and Nexus	**Operative Values** ● Poor should not be held ransom for illegal actions of powerful actors.

The effect of values and interests is further compounded by the indirect pressures on them to serve their administrative and political bosses (Senior Water Policy Academic, Vernacular Print Media Person 1). Table 7.3 presents vested interests and operative values of these actors. These administrative bosses are career civil servants sent by the state government who, being part of the civil service cadre, enjoy immense immunity and freedom. This researcher has seen the ruthless and condescending manner in which some of these administrative bosses treat these engineers publicly. While some bureaucrats make best use of this freedom and immunity for protecting public interest, many choose to work in collusion with the other powerful actors in MCGM, the city-level political party bosses, and corporate houses (Senior Water Policy Academic, City-Level Water Activist-Leader). These city-level, political bosses are senior elected councillors who have decades-long administrative and political experience of working in the omnipotent committee in MCGM called Standing Committee, which controls all major economic and financial decisions of MCGM. These political bosses wield enormous influence and power, including the muscle power, as they are the main sources of campaign funding for their state and national level party bosses. Thus, while denying water-access to slum-dwellers, engineers are not only driven by their own strong value-base and vested interests, but are also under tremendous pressure from their extremely powerful administrative and political bosses. It needs to be mentioned that these higher level actors,

namely, the administrative bosses and city-level political party bosses, have no interests whatsoever in the issue of water-access to slum-dwellers as long as their interests are not affected by this issue.

On the other hand, the main adversaries of engineers, the activists, are driven by their own and equally strong value-base that is rooted in their own life experiences as well as their ideological commitments at the personal level. This researcher, while spending hours with these activists, witnessed the diligence and doggedness (bordering on stubbornness) with which these activists work as well as the personal costs, including economic and health costs, that they pay in the process. Many of these activists have and are still experiencing, at the personal level, cost and suffering caused by denial of water-access. Some activists coming from the middle class background are driven by their ideological commitment and empathy towards poor slum-dwellers. Both these groups of activists working together in this struggle for water access are actively guided and motivated by an internationally known very senior activist, who comes from this city and in fact has worked in these slums in her previous years. She is known for her hard bargains and very stubborn tactics in fighting with bureaucracy which is reflected in these struggles for water access in the city of Mumbai.

The key finding here is that the main actor-groups on both the sides of the conflict are driven by such strong values and / or interests that it is difficult to envisage any of these adversary groups deviating from its position or accepting a compromise. This makes any resolution of the conflict extremely difficult or, rather, impossible, implying that the current logjam or gridlock among these conflicting narratives will persist.

Key Actors and Their Positions on Narratives

As the next step in elaborating Politics of Narratives, Table 7.5 to Table 7.9 present, in brief, the essence of positions of five key actor-groups towards different narratives that are found relevant by them. These actors include: (i) engineers working (both currently and previously) with Hydraulic Department of MCGM , (ii) activists working for securing water-access to the formal water system for slum-dwellers, (iii) elected councillors and leaders of political parties in power (or the ruling parties) in MCGM, (iv) elected councillors and leaders of political parties in opposition (or minority party) in MCGM, and (v) experts, which mainly included academics and independent researchers, from different disciplines including, engineering, social sciences, public policy, and planning.

As expected, engineers working with the Hydraulic Department of MCGM largely believe most of the Narratives of Denial, however, there are interesting nuances in their positions on these narratives (Please refer to Table 7.5). These engineers are aware that legality is a matter of procedures, which have been changed often. So, they, per say, have no objection in giving water to all slum-dwellers, if procedures are changed. Regarding the Human Rights Narrative, their position is guarded due to the court verdict referred to before. While, on one hand, in response to the court verdict, they say that they are ready to give water to all slum dwellers, they point at many technical, economic, and financial barriers. Interestingly, they do not see any merit in techno-fixes espoused by their administrative and political bosses. However, they are opposed to the idea of privatization, as it threatens their institution and their jobs, though they support commodification, with the expectation that the full-cost pricing would improve the revenue of MCGM. Additionally, some of them suggest that, in view of legal and techno-economic barriers, the only way to provide water to the poor is selling them through ATMs set up on municipal lands.

Table 7.5: Essence of Positions of Hydraulic Engineers of MCGM on Key Narratives

Narrative	Essence of Position
Human Rights	No opposition per say, once accepted by the Court
Right to City	No position on this, unknown to most of them, the ones who know think of it as an academic endeavour
Legality of Tenement	Committed to procedures, but ready to provide access if rules are changed
Structure & Spatiality	See these as inescapable technical problems
Techno-Barriers	
Economic & Financial Barriers	Subscribe to this narrative
Slum-Dwellers are Free-Riders	Subscribe to this, though some agree that if available and affordable, slum-dwellers choose legal connections.
Slum-Dwellers are Thieves	
Mafia, Profiteers, & Nexus	Subscribe to this narrative.
Techno-Fixes	Don't see any merit in most of these as serious options
Commodification & Privatization	Opposed to privatization, but support commodification

On the other side, activists working for securing access to slum-dwellers to the formal water network, as expected, dismiss, in an outright manner, all four Narratives of Denial as well as Narratives of Technical, Economic, and Financial Barriers (Please refer to Table 7.6). They believe that all these barriers could be easily and effectively addressed by MCGM. They accept the Narrative of Planning Lacunas as well as the Narrative of Mafia, Profiteers, and Nexus, but blame MCGM for these problems. They oppose both commodification and privatization on both, ideological as well as practical grounds. However, though they use both the rights related narratives, they have differences of opinions about some details. One group of activists is quite uncompromising over the human rights issue, and finds Right to City Narrative as academic but strategically useful. Another group, however, is more flexible on Human Rights Narrative if this flexibility leads to access of slum-dwellers to water at an affordable price. This group, however, finds little strategic merit in Right to City Narrative.

Table 7.6: Essence of Positions of Water-Sector Activists on Key Narratives

Narrative	Essence of Position
Human Rights	One group firmly committed to this, but others looked at it flexibly, giving priority to getting affordable water over human rights.
Right to City	One group does not see any merit, while the other group finds it academic, but strategically useful to build coalitions.
All 4 Narratives of Denial	All activists are unanimous in criticizing all these four narratives.

Technical Barriers	All activists dismiss them as excuses, as they believe that these could be addressed by MCGM.
Economic & Financial Barriers	
Planning Lacunas	All activists accept their existence but blame MCGM for failure.
Mafia, Profiteers, & Nexus	All activists accept their existence but blame MCGM and local elected councillors for these perversions.
Techno-Fixes	All activists dismiss them as evasive tactics.
Commodification & Privatization	All activists oppose both of these on both, ideological as well as practical grounds.

Coming to elected councillors and leaders representing political parties in power (i.e., ruling parties) in MCGM, they cannot criticize the administration that they have been leading for a long time. As a result, most of them agree with all four Narratives of Denial as well as with Narratives of Technical, Economic, and Financial Barriers (please refer to Table 7.7). When it comes to Human Rights Narrative, they refer to the court order to avoid expressing their opinion about it. They accept the presence of planning lacunas but refuse that MCGM is responsible for these. They also accept the presence of water-mafia, profiteers, and nexus of interests in slums but put the blame on politicians from other parties, on slumlords, and even on slum dwellers. They enthusiastically support and often cite the Narrative of Techno-Fixes and Narrative of Commodification and Privatization.

Another group of key actors comprise elected councillors and leaders representing political parties which are in opposition (i.e., minority parties in American parlance) in MCGM (please refer to Table 7.8). They are supportive of Human Rights Narrative, but are highly critical of all the four Narratives of Denial. They accept some elements of Narratives of Technical, Economic, and Financial Barriers, but want MCGM to work on these and provide water-access to slum dwellers. Regarding the Narrative of Mafia, Profiteers, and Nexus, they are critical about the role of MCGM employees in these but do not ascribe much significance. It is necessary to note here that the elected councillors from political parties in power often allege collusion of these councillors from opposition parties with the anti-social elements involved in Mafia and Nexus. These councillors and leaders from opposition parties are aware about suggested techno-fixes but not aware of details of these fixes. Still, they are open to these ideas if they help enhance water access to slum-dwellers, who essentially are their voters. Similarly, they have no ideological opposition to the ideas of commodification or privatization and are open to accept these ideas if it leads to increased water-access at affordable rates to slum-dwellers.

Table 7.7: Essence of Positions of Elected Councillor and Leader of Parties in Power

<table>
<tr><th>Narrative</th><th>Essence of Position</th></tr>
<tr><td>Human Rights</td><td>Accept the court order rather reluctantly, but use it to evade discussion on the issue</td></tr>
<tr><td>All 4 Narratives of Denial</td><td rowspan="3">Most of them agree with all six narratives</td></tr>
<tr><td>Technical Barriers</td></tr>
<tr><td>Economic & Financial Barriers</td></tr>
</table>

Planning Lacunas	Cite the lacunas but not ready to take responsibility or say it will take time to overcome that hurdle
Mafia, Profiteers, & Nexus	Accept and blame politicians from other parties, slum lords, or slum-dwellers themselves
Techno-Fixes	Support and use it when cornered on the issue of access to slum-dwellers
Commodification & Privatization	Support both ideas and will be willing to implement

Table 7.8: Essence of Positions of Elected Councillor and Leader of Parties in Opposition

Narrative	**Essence of Position**
Human Rights	Very supportive of the idea
All 4 Narratives of Denial	They criticize all the four Narratives of Denial
Planning Lacunas	Accept these, but blame MCGM for these
Economic & Financial Barriers	Accept some of these, but want MCGM to work on these to provide water-access to slum-dwellers
Technical Barriers	
Mafia, Profiteers, & Nexus	Critical of MCGM employees for their participation in these illegal activities, but do not find these significant

Techno-Fixes	Receptive but largely ignorant about feasibility
Commodification & Privatization	Open to these ideas if the result is availability of water at affordable prices

Coming to the last group of actors, namely experts which included academics and independent researchers from the disciplines of engineering, public policy, social sciences, and urban planning. All the experts are quite sympathetic and supportive of Human Rights Narrative on both philosophical as well as strategic grounds (please refer to Table 7.9). Except social scientists, other experts find Right to City Narrative too academic, but all of them see strategic value in it in terms of building coalitions and providing broader agenda for wider mobilization. All experts, including engineers and planners, are highly critical of all four Narratives of Denial. While social scientists and planners focus on faults in the Narrative of Legality, the engineering academic joined planners in criticizing the Narrative of Structure and Spatiality. In the case of the Narrative of Technical Barriers, the engineering academic felt that these barriers could be effectively handled if MCGM engineers take an innovative approach and think in the 'out-of-box' manner. Coming to Economic and Financial Barriers, experts felt that it is very much possible for MCGM to work on these barriers and reduce their impact significantly. All experts accept the existence of water-mafia, profiteers, and nexuses, but blame mainly local elected councillors for these undesirable phenomena. The engineering academic and planning experts find techno-fixes suggested by high-level officials of MCGM worth considering for possible contribution of these fixes to enhancement of overall sustainability of the city. However, they are categorical about serious limitations on contribution of these fixes to enhancing water access to slum-dwellers. All experts do not find the ideas of commodification and privatization either desirable or necessary.

Table 7.9: Essence of Positions of Experts on Key Narratives

Narrative	Essence of Position
Human Rights	All experts (i.e., from engineering, public policy, planning, and social sciences) are sympathetic and supportive.
Right to City	Most find it academic but some find it strategically useful.
All 4 Narratives of Denial	All experts are highly critical of all four and find many faults in Legality as well as Structure and Spatiality narratives.
Planning Lacunas	All experts accepted lacunas but want MCGM to actively coordinate with planning authorities.
Technical Barriers	Engineering academic felt that technical solutions are available if MCGM thinks 'out-of-box'.
Economic and Financial Barriers	Experts felt that there are many areas in which MCGM should improve its performance, e.g., metering, billing, and accounting.
Mafia, Profiteers, & Nexus	Experts accept existence of these, but blame mainly the local elected councillors for these undesirable phenomena
Techno-Fixes	Experts find some techno-fixes useful from sustainability angle, but don't see these as measure for improving access
Commodification & Privatization	Experts do not find both the ideas either desirable or necessary

Explaining Persistence of the Gridlock of Conflict over Water-Access

Thus, what emerges from these five tables is quite a mixed picture. Three main findings emerge from the discussion in previous paragraphs. First, it is not the case that there is one, single dominant narrative on either side of the conflict. In other words, neither those who claim the access for slum-dwellers use only one narrative or those who oppose giving such access are using one narrative. The claimers of access use both the narratives, the Narrative of Human Rights and Narrative of Right to City, in their struggle for access to water. On the other side, each group of actors who tend to deny such an access, often use all the four Narratives of Denial as well as some of the Narratives of Excuse and Evasion.

Second, again on both the sides of the conflict, there are some differences of opinions about the narratives that are used to put forth their own respective positions. For example, a group of activists claiming the access find the Narrative of Right to City too academic to be of significant strategic use. Coming to Human Rights Narrative, one group of activists is quite uncompromising in its commitment to the narrative and refuses to dilute the demand to treat slum-dwellers at par with other residents of the city in the matter of water-access. But, another group of activists finds this stand too stubborn. It would accept solutions that are sub-par in comparison with other residents if water is available and affordable to slum dwellers. This division of opinion is evident on the issue of acceptance of Water ATMs managed by private franchisees as an intermediate solution. Similarly, the main actors on the other side, i.e., engineers of Hydraulic Department of MCGM, especially those on senior positions, see the issue of legality as something procedurally binding on them, and they indicate their willingness to supply water to all slum-dwellers if these legal constraints are removed. They also dismiss the Narrative of Techno-Fixes—used frequently by their administrative as well as political bosses—as irrelevant and neither technically feasible nor economically viable.

Third, actors on both the sides of the conflict do show partial agreement or sympathy towards some elements of narratives used by actors on the other side. For example, activists demanding access do see many merits in arguments presented through Narratives of Technical as well as Economic and Financial Barriers or of Planning Lacunas, though they blame MCGM for these lacunas and barriers. On the other side, engineers do see value in the argument that slum-dwellers, being human beings, deserve to be supplied with good quality and adequate water, though they may not talk in terms of Human Rights. Further, junior-level engineers, working on the frontlines, share that, if formal connections are available and affordable, slum-dwellers do choose the legal route to water access.

Roe (1991) provides a scheme envisaging a single dominant policy narrative emerging from a conflict of narratives. The scheme proposes that a conflict among narratives emerges because one dominant narrative is challenged by another narrative which is gathering its strength. In this fight among two strong narratives for the position of dominance, one narrative is ultimately successful in taking the centre-stage at the cost of the other narrative, which is then pushed onto the fringe or in oblivion. Thus, one single dominant narrative eventually emerges from the conflict of narrative.

However, this scheme does not seem to fit in the case of the conflict of narratives over formal water-access to slum dwellers in Mumbai. The first finding indicates that there is no single dominant narrative on either side of the conflict, which implies that there is no candidate narrative that can take the central position and push other narratives on the fringe, and, thus, resolve the conflict. The second and the third findings clearly indicate that there is significant diversity in opinions and confusion over different

narratives in the ranks of proponents on the two conflicting sides. This further eliminates the possibility that a single narrative would emerge to resolve the conflict from either side.

Thus, the three findings clearly indicate the situation that can be described as a gridlock in politics—i.e., the state of politics that fails to push the conflict towards its definitive resolution—among these twelve conflicting narratives. This gridlock can be seen as rooted in the failure of any of these narratives to come out strongly and overwhelm other narratives in order to take the central position and resolve the conflict in politics of narratives.

In short, what we see here is a very confused or muddled picture of politics of narrative. As a result, the twelve conflicting narratives are locked into a gridlock without much of a possibility of any move towards the resolution of the conflict of narratives over the access to slum dwellers in Mumbai to the formal water supply network. This gridlock in the politics of narratives can be seen as explaining persistence of conflict over water-access in the city of Mumbai.

Chapter 8: Politics of Practice

Inequality, Denial, and Power Dynamics

The discussion on the historical background of water access in the Introduction chapter shows that denial and resultant inequality in water-access have been phenomena in the city since its inception, while there is significant literature discussing inequality in water access in the city of Mumbai in the present days (Anand 2017, Bawa 2011, Bjorkman 2015, Gandy 2008). The discussion in previous chapters clearly demonstrates that denial of access to the formal water supply network of MCGM to a large number of households in slums is the main cause behind existence and persistence of inequality in the water-access in the city. Such denial of access and the resultant debilitating inequality in water availability and consumption breed the conflict around the issues of access to formal water supply networks (Swyngedouw 2009).

In the city of Mumbai, this denial and inequality in water access are significant and serious in both their extent and effect. There are many areas in Mumbai suburbs wherein apartment buildings located next to slums get water, but the slums are denied water (Urban Water Policy Researcher-Activist 1, Vernacular Print Media Person). Vernacular Print Media Person elaborates,

"Mumbaichya paanyacha khup mottha vaata ha shreemant aani ati shreemant lokansathich rakheev aahe . . . garibanni paani vikat ghyava lagta . . . baryach thikani position ashi aahe ki yenara paani purat nahi,

tyamule tanker kinva dusrya sources madhun paani yeta…mansa gallon var paani ghetat . . . Mhanje ek chitra asa vichitra dista aplyala ki jyanchyakade bharpur paisa aahe . . . jo sathavya majlyavar rahto tyala tulanene atishay svastamadhe paani milta aani 24 taas pani milta . . . wheras je atishay gareeb aahet aani sadhya vastit rahtat tyanna rojchya khanyavarahi paise kharcha karna hi avghad goshta aste . . . te paani vikat ghenyasathi shreemant mansapeksha jast paise kharch kartat"

(A large share of water that Mumbai gets is reserved for rich and super-rich people . . . poor have to buy water . . . in many places, the situation [of poor] is that water they receive [from MCGM] is not adequate, hence, water has to be obtained from tankers or other sources . . . [poor] people buy water by gallons. So, we get a very weird picture that the person who has a lot of money and stays on the 60th floor gets water at a relatively cheap rate and for 24 hours . . . whereas those who are very poor, who stay in simple settlements, who find it difficult to pay for their everyday meals have to pay more than a rich person to buy water).

As Head of Municipal Water Department shares, some areas in South Mumbai, especially those occupied by high-end apartment buildings enjoy water supply up to 350 LPCD (the norm is 150 LPCD), whereas in the same area, some slums do not get even 45 LPCD as prescribed. Coming to the debilitating effect of inequality, residents of some slums in eastern suburbs have to go around begging for water on a daily basis (City-Level Water Activist-Leader). While sharing his own experience of begging for water, City-Level Water Activist-Leader emphasizes that it is immensely degrading, and, hence, debilitating to be unsure of whether you would get a bucket of water today or not, to be treated by other people as beggars, and to be chased away by people using sticks and throwing stones. He says that begging for water is nothing less than slavery.

As Swyngedouw (2009) suggests, who gets access to water depends on the power dynamics among different actors, the social structures in which they are located, and the economic strata to which they belong. Thus, the subsequent discussion in this chapter is dedicated to understanding power dynamics underlying the conflict over water-access as well as the role played in these dynamics by economic as well as social locations of actors involved. The focus of this chapter is on three politics of practice emerging from my data: politics of policy, politics of class, and politics of othering.

Politics of Policy

The data also brought out invaluable insights into power-dynamics and politics around water-access among four key actors involved in governance of the city—the judiciary, the local civil society, and the bureaucracy as well as the technocracy in MCGM and the state government of Maharashtra. As mentioned in the chapter titled Tenement, Government of Maharashtra and MCGM have policy instruments that together prohibit water-access to slums that were established after 1st January 2000 (pushed ahead from the first cut-off date of 1995). Activists working on urban and water issues made concentrated efforts, for about a decade, to get these policies repealed. After trying out many strategies and tactics including petitions, marches, and sit-ins, in the year 2012, activists decided to seek relief from the court (City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist 3). It was a long legal battle in which MCGM tried to stretch the battle as much as possible, waiting for activists to run out of resources. However, finally, the High Court at Bombay ruled in favor of slum-dwellers and came out with the interim order dated 15th December 2014. The order, as part of its main direction for action, asked

MCGM: *"to formulate a policy for providing water supply in some form to the occupants of the slums which have been illegally erected after 1st January 2000. The policy shall be for providing water supply to those who are occupying such slums for residential purposes"* (Interim Order of High Court at Bombay Paragraph 21 (i)). Thus, the court order is applicable to all slums including "*which have been illegally erected after 1st January 2000*". This policy was to be formulated "*as expeditiously as possible and in any event by the end of February 2015*" (Interim Order of High Court at Bombay Paragraph 21 (v)). Further, the court made it clear that, for this water supply, MCGM could charge rates higher than that paid by authorized constructions (Interim Order of High Court at Bombay Paragraph 21 (iv)). As the discussion in the order clearly indicates, the court was in favour of the solution of providing Water ATMs on the border separating municipal lands and private plots of land on which these illegal slums are located. This was the solution suggested by MCGM in 2010 to which the lawyer representing slum-dwellers was agreeable. Hence, the direction of the court stated: "*the water supply need not be necessarily by providing water lines to individual huts or individual colonies of huts*" (Interim Order of High Court at Bombay Paragraph 21 (ii)). This, in fact, made MCGM's task easier and also would help slum-dwellers get water soon.

In view of this, it is interesting to study power-dynamics underlying the course of subsequent events. It was expected that MCGM would appeal against this order in the Supreme Court of India, located in New Delhi. As per activists involved, MCGM made it informally known to people concerned that it was considering this option but did not take any action (City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist 1). Activists were concerned about this possibility, as they did not have resources to fight the case in the Supreme Court located in New Delhi. As a result, the deadline given by the court, "end of February 2015," passed without any action by MCGM. This was an opportunity for activists involved to approach the High Court with a plea of the contempt of the court and force execution of its order. MCGM was also testing the waters to see what activists would do. However, activists did not take

this step due to the fear that it would prompt MCGM to go to the Supreme Court. Taking advantage of weaknesses of activists, MCGM continued with its own inaction. Then activists started following up with MCGM for formulation of the policy. This follow-up went on for months and MCGM tested the patience of activists. Finally, instead of "at the end of February 2015" as required by the court, MCGM formulated its policy in the form of a circular on 10th January 2017, i.e., more than twenty-one months after the deadline given by the High Court.

The study of contents of the circular (i.e., the policy), when compared with above-mentioned directions in the order, brings out further interesting insights into this power-dynamics. The order clearly says that MCGM has to supply water to all slums "which have been illegally erected after 1st January 2000". However, MCGM circular made an exception of six different types of slums from giving the water supply, without mentioning any explanation. It specifically asks residents of slums located on the lands owned by central government agencies to produce NOC (No-Objection Certificate) from these agencies, which is an extremely difficult, if not an impossible task. In the case of slums situated on private lands where the encroachment is under litigation (which is the case with most slums on private plots), the policy required a legal opinion from the law department of MCGM before it would sanction the connection. All these conditionalities are a clear violation of the spirit and letter of the court order and have led to exclusion of a significant number of slum pockets constructed after 1st January 2000 (City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist 1).

As per the court order, MCGM fixed higher charges for water as compared to other consumers. However, instead of setting up Water ATMs, the MCGM policy required these slum-dwellers to follow the procedures that are same as other legal consumers for securing sanction of a water connection, for laying

the pipeline required to connect the household to the nearest main municipal pipeline, and for setting up the water connection. This similarity in the procedures was not a large-hearted gesture as activists realized later (City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist 1). These procedures comprise many stages and steps involving many officials, employees, and engineers from different departments of MGCM and mainly involved licensed plumbers accredited by MCGM. The bureaucratic maze is the trap, which very few slum dwellers migrated recently in the city would be able to handle. In the procedures, a licensed plumber has a key role in execution of both technical as well as bureaucratic steps. The licensed plumber is, in fact, one node of the ill-famous nexus in the water department of MCGM working at the ground-level, while the other two nodes are: local-level engineers of MCGM and local elected councilors. The plumber works as the agent of other two players and often collects bribes, as he is allowed to charge his fees which are not regulated. Activists soon realized that this nexus started ensuring that the new policy will not be implemented on ground. When slum-dwellers, with help from activists, apply for new connections following the procedure, local engineers and plumbers would find a host of excuses and raise a number of barriers at every step. New connections in these slums, in most cases, require extension of the existing main municipal pipelines, which became the main step in which engineers raised a host of barriers to effectively deny access. Even if the main pipeline is nearby, the plumber would refuse to give technical certificate for the connection as required by the procedure. At one stage, one of the activists, a trained architect, appeared for the examination and acquired a license to act as a plumber in order to help slum dwellers and activists expedite the procedure. As a result, in the period of about two years after formulation of the policy, about three thousand households could get water access out of estimated 250,000 tenements in illegal slums.

In short, the politics among judiciary, bureaucracy, technocracy, and civil society brought clearly out power and vulnerabilities of these actors as well as sources of these power and vulnerabilities. As can be

seen, politics around making and preserving a policy, which was the outcome of this very politics was successful in defeating the judicial intent, frustrating efforts of civil society activists, and, thus, ensuring continuation of policies that deny water access to a large number of slum-dwellers.

Politics of Class

At the center, rather at the receiving end of this politics, were slum-dwellers who have been denied access to water from the formal water supply network in the city of Mumbai. It is interesting to see exactly what the composition of this group is referred to as slum-dwellers. First, not all slum-dwellers in the city are included in this group, but only those who are denied water-access. The more controversial among these—who are in the eye of the current conflict over water-access—are residents of slums that came into existence after 1st January 2000. It must be noted that there are many slum areas established before 1st January 2000 and after 1st January 1995, which are yet to get formal water access. But, the dwellers of slums established before the year 1995 are not included in this group. These slums have been regularized and have, by now, secured formal water-access. Thus, slum-dwellers who are denied formal water-access are recent migrants who came to the city in the last few decades.

But these slum-dwellers are denied water not only because they are recent migrants (Senior Water Policy Academic, Urban Community-Development/Sanitation Activist). There are more than a few million recent migrants who came to city in last two decades due to explosion in the numbers of firms in the city operating in sectors like, entertainment (which include television, film, and web-based entertainment), IT (Information Technology), ITES (Information Technology Enabled Services) and Finance. However, a large

number of recent migrants working in these industries do get access to not just water but all urban services from MCGM. This is because they reside in buildings that are declared legal by MCGM. Only those recent migrants who live in slums are denied access to water only because MCGM links water-access to the legality of building. As Urban Community-Development/Sanitation Activist says, "*aamhi pan migrant shot, amhala pani milta (we are also migrants, [but] we get water)*"

The explicit argument made in court in this regard by MCGM contends that giving water-access to slum-dwellers residing in slums constructed after 1st January 2000 would encourage further construction of illegal slums. The High Court of Bombay, however, rejected this argument by saying,

It is obvious that the water supply to an occupant of such an illegal hut does not affect the illegal nature of the hut. We must note here [that] . . . the electricity supply is being provided to illegal slums . . . Thus, the occupants of such huts are made entitled to electricity supply, but not the water supply. We fail to understand how . . . providing water supply to the occupants of the slums erected after 1st January 2000 will amount to encouraging people to construct slums or to occupy illegal slums (Interim Order of High Court at Bombay 2014 Paragraph 19 and 20).

Coming back to the issue of illegality of slums or squatting, the question arises why these slum-dwellers choose to squat instead of occupying legal tenements. The answer lies in the extremely high prices of land and extreme lack of availability of affordable housing in the city. "*The city has always been expensive as compared to the village wherefrom a new migrant comes. But earlier, once you get a job, even the job of a handyman, you could get a simple room on rent in a legally built chawl. However, as land prices*

increased, all the lands were cornered by builders who are building expensive homes, which are not affordable for even a middle-class person having a white-color job in a government agency" (Vernacular Print Media Person)

Such arguments are not offered just by activists or media people supporting slum-dwellers but also reflect in observations made in the order by the High Court at Bombay: "*Another reason [for creation of slums] can be the failure of the State to make available affordable residential accommodation in the city of Mumbai for common man . . . . In the city of Mumbai, considering the rates at which houses are sold, a common man cannot even dream of acquiring a residential accommodation in the city"* (Interim Order of High Court at Bombay 2014 Paragraph 2 and 14).

Going a step further, the court also lays blame on the state government and MCGM, first, for failing in their duty to remove slums, and then for encouraging squatting by regularizing it from time to time: *"There are several reasons why the illegal slums have come up. One reason can be the failure of the Municipal and other Authorities to take timely action for preventing construction of the illegal slums and/or demolishing the same. We must note here that the State Government has from time to time legalized the slums illegally erected on the public properties in the City of Mumbai"* (Interim Order of High Court at Bombay 2014 Paragraph 2).

Thus, water-access is denied to slum-dwellers because they occupy illegal tenement, which they are forced to occupy due to lack of economic resources to occupy legal tenement, simply put, because they are poor. Urban Sanitation Activist and Senior Urban Community Activist are very clear on this issue, "*The*

thought process is to keep denying water to people belonging to the have-not class. All the people in the system right from the MCGM staff to the corporator, the MLA, and the MP carry similar baggage and have similar mentality of excluding the poor".

This point of unfair treatment to the poor is further strengthened often by activists with another argument. City-Level Water Activist-Leader argues that MCGM was not concerned with legality of tenement and was not genuine in linking water-access with legality of tenement. This is evident from the fact that MCGM had been providing water to better-off people staying in a large number of unauthorized buildings in the city, though MCGM does not have any legal compulsion to do so. The High Court at Bombay is very forthright in pointing out this unfair treatment.

"*Mumbai Municipal Corporation accepted that in case of buildings in the city of Mumbai which do not have occupation certificates or completion certificates, the Municipal Corporation is providing water supply to the occupants thereof on humanitarian grounds. [Thus] the unauthorized occupants of [illegally] constructed buildings are protected by providing water supply, but not the persons residing in slums. We are mentioning this only to point out the [unfair] approach of the Municipal Corporation*" (Interim Order of High Court at Bombay 2014 Paragraph 15).

The animosity against poor migrants resulting in their criminalization and calls for cutting their illegal water supply and for denial of formal water access was at its peak in the year 2009-2010 (City-Level Water Activist-Leader, Urban Community-Development/Sanitation Activist). These years were marked by militant activism by representatives of middle-class colonies—referred in the literature as middle-class

revanchism—leading to raids on slums to cut 'illegal' connections and confiscating 'illegal' booster pumps in large numbers.

In summary, the denial of water-access to slum-dwelling recent migrants is traced essentially to their status of being poor. Most of these recent poor migrants are members of the army of daily-wage workers working in firms operating at the tertiary or even quaternary or quinary levels of city's economy (Urban Water Policy Researcher-Activist 3, Urban Sociologist, Urban Water Policy Researcher-Activist 2). The women in these migrant households are involved in one of the most exploitative forms of labor relations—the piece-rate based work from home, which is carried out for firms operating at the tertiary, quaternary or quinary levels.

In short, these slum-dwelling recent migrants are at the bottom of the economic pyramid of the city. Urban Planner Academic 1 explicitly links denial of water access with economic exploitation of these slum dwellers, "*The incredible inequality of access to water . . . reveals the exploitation that exists in the city of the informal working class"*. Senior Urban Sociologist sums up by saying, "*Migration is not only of the poor but of people from different classes . . . we don't question water access to the well-off people but deny it to the poor . . . it is the logic of capitalism. . .[in which] water is a resource . . . [and] in the capitalist mode of operation, resources are to be consumed for maximization of profits*".

Politics of Othering

At this stage of analysis, some nuances in the data become relevant. A few elected councillors from the parties in power have somewhat different take on the narratives (Councillor of (Political) Party in Power 1 and Councillor of (Political) Party in Power 2). These councillors represent constituencies on the fringes of suburban areas where illegal slums are located. They are, in a sense, selective when they discuss the issue of water-access to slum-dwellers from illegal slums. These elected representatives have an objection to providing water-access to dwellers of illegal slums whom they consider as free-riders and thieves; echoing arguments and narratives of their other colleagues in parties in power. However, these elected representatives want to make an exception of some 'genuine' dwellers of illegal slums, whom they referred to as 'apale lok' (i.e., our people). In contrast, those slum-dwellers who are considered thieves and free-riders and, hence, unworthy of water-access are called 'te lok' (i.e., those people or other people).

This phenomenon of othering has been quite wide-spread in the city. Urban Water Policy Researcher-Activist 3 explains the phenomenon of othering and its power, *"when you want to deny someone's right to water you build a narrative . . . that's the power of narrative. I want to think that my problems are because of the other people. …like 'bahar ke log' (people from outside) . . . such narratives are easy to swallow.*" Urban Community-Development/Sanitation Activist further explains the power dimension of the phenomenon, "*In othering what happens is one section [of population] creates a lens to look at the other section, which has in-built power relations*".

Tracing history of this phenomenon of othering in the city, Senior Sociologist refers to Shiv Sena (SS), a major political party in the city, which has been working since the 1970s with the main plank of 'Marathi Manus' (i.e., people speaking Marathi, the local language of the state of Maharashtra in which the city lies) or rather the plank of 'sons of soil' (Senior Water Policy Academic, Urban Water Policy Researcher-Activist 3, Vernacular Print Media Person). Shiv Sena (SS) has a long history of political campaigns, peppered often with street violence, against migrants from other states. In the year 1995, the coalition of Shiv Sena (SS) and Bharatiya Janata Party (BJP), which fought elections on the plank of Hindu nationalism, came to power in the state assembly of Maharashtra wherein Mumbai is situated. By the time SS also had accepted the plank of Hindu nationalism. In the year 1996, SS came to power in the house of representatives in MCGM and has retained the power until now (i.e, the year 2019). As seen in the previous chapter on legality of tenement, illegality of tenements in slums is the combined outcome of different policy instruments created at the state and city levels. The first explicit policy decreeing denial of water-access to so-called illegal slums came in 1996. The presence of SS in the position of power especially in MCGM since 1996 has certainly led to othering on the basis of region or language, wherein people from outside the state of Maharashtra, especially those from the states of Uttar Pradesh and Bihar are targeted (Leader of (Political) Party in Power, Urban Water Policy Researcher-Activist 3). Engineers—especially at the junior levels—of MCGM, coming largely from the state of Maharashtra, are actively involved in this discrimination against slum dwellers coming from other states. These engineers were audacious enough to ignore recommendations from the then sitting MP (Member of Parliament) pertaining to water connections to slums occupied by people from Uttar Pradesh (Leader of Political Party in Power). It is noteworthy that this MP was from the party in power, who represented the eastern suburban parliamentary constituency, is born in the city and speaks Marathi well, though his ancestors came from outside the state of Maharashtra.

The phenomenon of othering also takes place along the caste lines. Slum pockets occupied by so-called low-level or Dalit castes did get unequal treatment at the hands of local elected councillors as well as of engineers of MCGM (City-Level Water Activist, Urban Water Policy Researcher-Activist 1). It was observed that, slums named as Gautam Nagar or Siddharth Nagar (names indicating that these are occupied by people from Dalit castes and followers of Buddhism) were categorically ignored while adjoining pockets occupied by people from so-called higher castes were provided water, though the legal conditions remained same (City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist 1). City-Level Water Activist-Leader informs that, across the city, there are 54 slums occupied by people from Dalit castes which do not have water access. He adds, "*Aamhi tar openly mhanato ki he caste discrimination aahe . . . janeevpurvak kelela aahe . . . karan samakaleen vastyanmadhe tumhala pharak disto na . . . tyach velela jya baaki samajachya vastya tayar zhalya . . . tyanna paani aahe na (We openly say that there is caste discrimination . . . and that is consciously perpetrated . . . you can see the difference [in water access] across settlements which came up simultaneously. . . . the settlements occupied by other [than Dalit] castes at the same time have access to water)".*

City-Level Water Activist also pointed at the phenomenon of othering suffered by Adivasi (tribal) people who were located in the forested areas of Mumbai suburbs of Goregaon and Borivali. Adivasis i.e., people of indigenous tribes who are known officially as people of Scheduled Tribes (or STs) are original inhabitants of these forested areas in the city. These people have been relying on natural water sources in these forested areas, which have increasingly been destroyed with increasing urbanization around these forested areas. The settlements of these people, though very old, are also termed as illegal slums and are denied water access.

Another factor that prompts the phenomenon of othering in the city is religion. It has been a frequent complaint of elected councillors and a leader from a party in opposition that slums occupied by Islamic or Muslim populations were purposely denied water despite their adherence to all procedures and even after follow-up for years (Leader of Party in Opposition, Councillor of Political Party in Opposition 3). Other activists also supported this observation about denial of water-access due to othering along religious lines (City-Level Water Activist-Leader, Urban Water Policy Researcher-Activist). This religion-related othering is discussed also in the literature on this issue (Contractor 2012). City-Level Water Activist-Leader informs, **"(***loka saral mhanatat ki 'theek ahe na te musalmanach aahet kashala paani pahije tyanna' (people [engineers] openly say 'It's OK. They are Muslims why do they need water***)".** Senior Urban Community Activist, herself a Muslim, shared her experience of religious discrimination when she approached municipal engineers for water access to the settlement occupied by Muslims. She was told, "*tumako pani kyo chahiye, tum log to jumme ke jumme nahate ho (why do you people need water, you take bath only on Fridays (i.e., before Namaz).*"

However, while accepting that there could be an odd incidence of bias along caste or religious lines, Retired Senior Municipal Water Engineer denies that there is such a broad-based process of denial driven by othering. He says, "*it can happen but it hasn't happened yet that anybody has explicitly asked MCGM not to put the water network in a particular area . . . Shivaji Nagar, Govandi area is almost 90% Muslims yet nobody has ever said don't give them water . . . it is just a political stunt to blame each other*".

In the context of othering along religious lines, Senior Water Policy Academic brings in the larger context of ascendance and dominance of the political discourse of Hindu nationalism in the post 1992 period, to

which both SS and BJP are committed and are strident adherents of. According to him, this discourse is enthusiastically supported by the large section of middle and higher-middle class population of the city. He points out that, since the year 2014, when the BJP came to power at the national level, the city has often supported the coalition of BJP and SS in elections.

The support of engineers—who predominantly come from middle classes—to denial of water-access need to be seen in the context of support from the middle classes to the phenomenon of othering along regional/language, caste, and religion lines. As mentioned before, the personal values of these engineers towards slum-dwellers play a critical role in their support to denial of water-access to slum-dwellers. Urban Water Policy Researcher-Activist (1) comments that these engineers, in their personal lives, are essentially high-caste, middle class, and largely Marathi-speaking males. Urban Water Policy Researcher-Activist (2) clarifies that it is not just engineers and elected councillors but even people in media have very strong class, caste, and religious biases, though they often take critical stands towards privatization. He points out that even the media is populated mainly by the middle-class.

While admitting that "caste is a big issue, religion is [also] a big issue", Leader of (Political) Party in Power explains the phenomenon of othering and power dynamics it sets into the motion in a very cryptic manner "*kahi demographic islands ahet . . . aani tithe inducted migration hota* . . . this is a result of quantitative politics . . . voter profile aani political actors chya actions are interdependent*" (there are some demographic island which witness inducted migration . . . this is a result of quantitative politics . . . voter profile [of a settlement] and actions by political actors are interdependent)*". In other words, she says that demographic islands are created and sustained by migration of new people to the area who are known to early residents of the area. These new migrants are brought in through active efforts of early residents

and of local political actors who are interested in their votes. Once such islands are created, their demographic characteristics (such as caste, language, and religion) decide their voting profile (i.e., which party they would vote for). Based on this voting profile, different political actors decide whether to help people living in these settlements or not.

Thus, the analysis using the lens of political ecology and focused on power-dynamics underlying the denial of access and resultant inequality clearly indicates that such denial and inequality in access are rooted in politics of class as well as politics of othering. In other words, coming back to Swyngedouw (2009), having access to water depends on the power dynamics among different actors, the social structures in which they are located, and the economic strata to which they belong.

Gridlock in the Politics of Policy and Class

As discussed in this chapter before, the new policy in the form of circular (dated January 10th 2017) has made exception of tenements erected after the cut-off date of 1st January 2000 and which are located on the six different categories of lands. This exception left out mainly only those land pieces that are owned by MCGM and that are not planned to be utilized for any projects. As per activists, such land pieces are few in numbers. Even for tenement on such land pieces, as discussed before, in most cases, the local municipal councillors or local-level engineers of MCGM's water department were raising different kinds of barriers with help from the accredited plumbers. Effectively, the new policy has been used by these actors to continue with denial of new connections to the formal water supply to a large number of slum-dwellers who are staying in tenements erected after 1st January 2000. At the same time, activists supporting these slum-dwellers continued their efforts to change this policy, while helping slum dwellers to use the official procedure to get water connections. While this policy effectively denied water-access

to slum dwellers, MCGM, despite strong disapproval by the court, continued to supply water to middle-class consumers staying in illegal buildings. This situation is similar to the case with the politics of narratives, discussed in the previous chapter, which witnessed a gridlock. In short, borrowing from the concept introduced at the end of Chapter 7, the conflict over water-access also witnessed a gridlock—i.e., the state of politics that fails to push the conflict towards its definitive resolution—in the politics of policy and politics of class. Thus, the gridlock in the politics of policy and politics of class can be seen as leading to persistence of water-access conflict in the city of Mumbai.

In this discussion, one needs to be cognizant of the power difference on both sides of the argument. While the slum dwellers are indeed powerless and marginalized, the people advocating for them and who are the ones proponents of narratives of claims, namely the activists and politicians in minority, are not necessarily in a disadvantaged position. Through immense work and efforts of coalition building, social movements, using electoral politics, and gaining endorsements (all strategies discussed in detail in the next chapter), they have managed to empower themselves enough to be able to thwart the efforts of more powerful actors in the picture. It is a testament to their tenacity that they are not easily swept aside by the powerful actors, in which case the conflict would not be in a gridlock but smoothed over to the disadvantage of marginalized communities.

Chapter 9: Dynamic Gridlock

Plane of Narratives and Plane of Practice

The analysis of politics of narratives in Chapter 7 led to emergence of the concept of gridlock in Politics of Narratives that was seen as explaining persistence of the water-access conflict in Mumbai. Similarly, the discussion especially on Politics of Policy and Politics of Class in Chapter 8 demonstrated relevance of the concept of gridlock in the Politics of Policy and Politics of Class that was seen as leading to persistence of water-access conflict in the city of Mumbai. The discussion in this present chapter brings together these threads of analyses in the last two chapters.

In the background of these two gridlocks mentioned in the previous paragraph, a relook at the data brings forth more relevant nuances and insights. Based on such a relook, I would like to propose a conceptual schema or a model to understand and explain the conflict over water-access in Mumbai. Drawing from the data, this schema or model could then be used to propose a more nuanced explanation to persistence of water-access conflict in Mumbai.

The main proposition of this model or schema is that there are two planes on which the conflict around water-access in Mumbai unfolds: The Plane of Narratives and the Plane of Practice. In other words, the schema suggests that there is a separate plane—i.e., Plane of Narratives—on which the narratives operate

or are deployed; and this plane is interconnected with the second plane, Plane of Practice, in different degrees and in diverse ways. This lane of Narratives is a theatre on its own for the conflict to unfold, and, often, has its own dynamics around the conflict that is separate, but interconnected with the dynamics around the conflict on Plane of Practice. In other words, these dynamics on these two planes are, often, mutually influencing and affecting each other, making these two separate planes dynamically interconnected as shown in Figure 9.1. The narratives on this plane have another interesting characteristic; these are seen as having life of their own as these often transcends sectors, issues, and even time.

In addition, as discussed in the previous chapter, three different spheres of politics around the same issue also emerge from analysis of data, which operate on the Plane of Practice (as distinct from Plane of Narratives). These include: Politics of Policy, Politics of Class, and Politics of Othering (as discussed in Chapter 8). It is also proposed that the dynamics around the conflict on Plane of Practice would be operating at different scales (such as the city, state, national, or global scale) and even in an inter-scalar mode. As my data is focused largely on the city-scale, all these spheres of politics operate mainly on the city-scale.

It also needs to be mentioned here for further clarity that there could be different politics on Plane of Practice at different scales on the same issue that have been articulated by other researchers. In the case of the issue of inequality and conflict over water-access in the city of Mumbai, different politics on different scales have been researched and discussed by different researchers, apart from this dissertation that mainly discusses politics of narrative at the city level. These would, for example, include: politics of infrastructure at the city scale and community scale discussed by Nikhil Anand, at the regional level

discussed by Sachin Tiwale, politics of religion at the community scale discussed by Qudsiya Contractor, and politics of patronization at the community scale discussed by Lisa Bjorkman.

Policy-makers and even policy researchers are normally focused on developments on the Plane of Practice, they sometimes also look at how policies and people's views affect each other. But findings of this dissertation suggest that policy researchers should acknowledge the existence of this second, separate Plane of Narratives and take cognizance in their research of developments on this plane. Such attention and cognizance are necessary because of the interesting ability of individual narratives to transcend sectors, issues, and time as mentioned before. An example of this could be the three parallel movements for Right to Water, Right to Pee, and Right to Housing, operating simultaneously in three distinct sectors in the city of Mumbai, whichuse similar narratives around the themes of human rights and the right to city. Narrative of Legality of Tenement deployed in the case of water-access conflicts by MCGM is also used by the official agencies in the housing sector. Moreover, as evident in the discussion in this dissertation on the historical trajectory of narratives, these narratives appear to sense changes in the circumstances, and, in response, evolve over time by incorporating new ideas and evidence, while remaining unchanged in their core argument. For example, one Narrative of Denial was used against natives (local common people) by British rulers during the early colonial times, which was natives as unworthy of piped water supply. This seems to have transformed in the current times in the form of two Narratives of Denial, namely, Narrative of Slum-dwellers as Thieves and Narrative of Slum-Dwellers as Free-Riders. In other words, narratives withstand changes taking place over time, by evolving and by adapting to suit the demands and language of the new situation.

Different spheres of politics on these two planes often engage in dynamic interactions across the two planes, which affect changes in different interacting politics and push them ahead. These interactions are in the form of responses to and learning by actors either from changes in narratives or from developments (including events) in the ground-conditions on Plane of Practice. In the case of water-access conflict in Mumbai, the three politics on the Plane of Practice are linked with Politics of Narrative in diverse ways. Politics of Class and Politics of Othering (on the basis of Caste and Religion) involve use of narratives such as Narratives of 'Slum-Dwellers as Thieves' and 'Slum-Dwellers as Free Riders'. These narratives are used to marginalize—by justifying the discriminatory actions against—certain groups among slum-dwellers such as urban migrants, religious minorities, and scheduled castes. Another such interconnection can be seen in one major episode of Politics of Policy that took place during and around the High Court Case. The case involved legal battle between, on one hand, activists who were demanding water-access claiming that water-access is a matter of human rights, and, on the other hand, MCGM engineers who were opposing this claim on the ground that these slum dwellers reside in illegal tenements. Thus, the court case was nothing but a reflection of the tussle between the Narrative of Human Rights and the Narrative of Legality of Tenement that was raging on the Plane of Narratives before the case. It is worth noting that the court order—an event on Plane of Practice—delegitimize the Narrative of Legality of Tenement that relied on a cut-off date.

Conversely, outcomes of Politics of Policy (operating on Plane of Practice) reflect in the changes happening on Plane of Narratives. For example, MCGM came out with a new policy after the court order, which ensured continued denial of water-access. As activists shared, as a response to this current gridlock, they are building and sharpening a new narrative that will focus on caste-based denial of water-access. This new narrative in offing, which could be called as Narrative of Caste-Discrimination, is the response of activists to the gridlock they are facing in _Politics of Policy unfolding on Plane of Practice. At the same

time, the idea and inspiration of this new narrative comes from the Politics of Othering practiced on Plane of Practice.

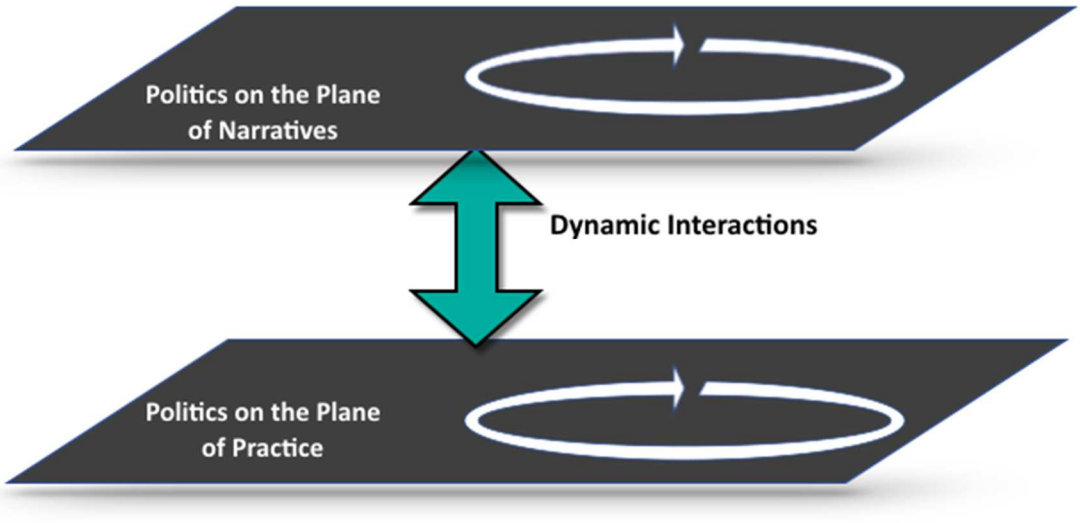

Figure 9.1 Two Separate but Interconnected Planes

Dynamic Gridlock

Thus, to sum up the discussion until this point, the conceptual schema or the model proposed here involves different spheres of politics operating on two separate but interconnected planes—namely Plane of Narratives and Plane of Practice. These politics mutually interact, often across the two planes, through responses to and learnings of actors from different developments on these two planes. As a result of these interactions, these politics move ahead along the time axis on their respective planes. In short, the conflict

around water-access in Mumbai manifests in the form of these different spheres of politics on two separate but dynamically interacting planes.

Building on this idea of different spheres of politics on two separate but interacting planes, the schema is expanded further to incorporate the concept of gridlock drawn out of analysis at the end of the previous two chapters. The concept suggested that there is currently a gridlock—i.e., the state of politics that fails to push the conflict towards its definitive resolution—in Politics of Narratives as well as Politics of Policy and Politics of Class.

As mentioned above, while deploying narratives, actors acknowledge changes in the circumstances, and, in response, incorporate new evidence and ideas. In this manner, narratives—through learnings of their proponent actors—evolve, get strengthened, or, at times, get reinvented, while essentially remaining unchanged in their core positions. Such evolution happens, not only in the case of one narrative, but in many such narratives around an issue. Thus, many narratives, with their roots in old history, often evolve to fit the present context in order to propagate themselves, and, thus, simultaneously become robust and relevant to the current context.

So if one narrative—through efforts of its proponents—manages to break out of or escape the gridlock, then proponents of contrarian narratives sense this change and evolve or strengthen their own narratives in order to ensure that the first narrative does not lead to gains for its proponents (i.e., the gains made by promoting their values and interests), thus, bringing back the gridlock at a later point in time.

In other words, the actors involved in this gridlocked Politics of Narratives do not allow themselves to get stagnated. They draw lessons from different sources and from the changing context of Plane of Practice, they learn, they evolve their narratives into new narratives, strengthen old narratives, or abandon the irrelevant narratives. Doing this, at a point, they manage to break out of the gridlock. They, in the process, gain some advantage and even benefits. However, in response, their adversaries also learn, evolve, change their narratives, and resist the push of their adversaries, and eventually precipitate a new gridlock.

Thus, this continuous tussle among the actors putting forward competing but adaptive narratives create the phenomenon of dynamic gridlock wherein the gridlock in politics of narrative changes its spatial-societal-temporal location from one location to another, with some interlude. In the intervening period when the gridlock is broken open, some actors do secure new or more benefits while some pay new or more costs.

There is a similar phenomenon of dynamic gridlock on Plane of Practice. As we saw through the analysis in Chapter 8, the gridlock in Politics of Policy, and Politics of Class precipitates from activities and counter-activities of different actor-groups involved who keep on trying to secure or deny water access for slum dwellers. Even on this plane, the actors involved on both sides continuously try to break out of this gridlock by changing or strengthening their strategies, securing new and stronger endorsements, forming new coalitions, and building new social movements. Such continuous efforts by both sides lead to the similar phenomenon of dynamic gridlock on the Plane of Practice. This phenomenon involves changes in spatial-societal-temporal locations of gridlocks in different spheres of politics on this plane, with some interlude.

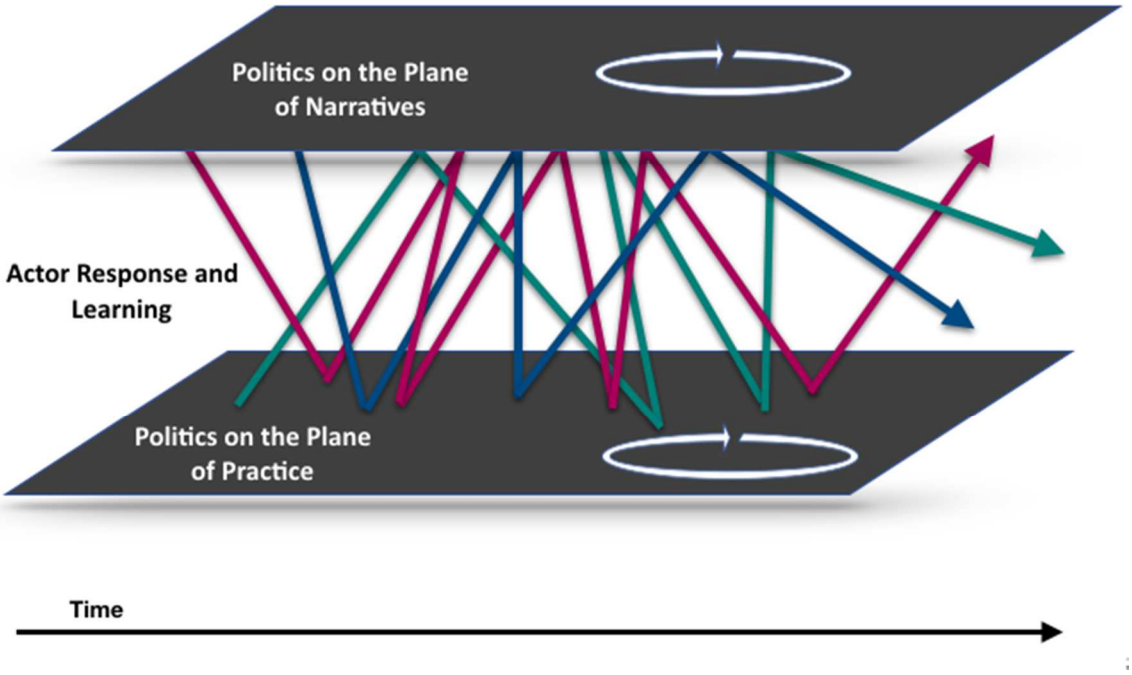

Figure 9.2 Dynamic Gridlock

This phenomenon of dynamic gridlock unfolding on two planes could be traced across a period of two decades in the case of the conflict around water-access in Mumbai. As described in previous chapters in the dissertation, Narrative of Right to City emerged as a response to denial of water-access through the policy of the arbitrary 'cut-off-date' which was supported, justified, and strengthened using Narrative of Legality of Tenement. For about five years, the gridlock between these two narratives remained unbroken.

In this situation, around the years 2005-06, the MCGM;s top brass tried to push a privatization project, using the Narrative of Privatization and Commodification, in an effort to make use of the then existing gridlock and push their agenda further. However, activists strengthened and used the Narrative of Right to City to vehemently oppose this privatization project. Through various political activities and strategies,

activists could effectively defeat not just one privatization project but even the possibility of further privatization. They could also put to rest Narrative of Privatization and Commodification which justified efforts for privatization. MCGM engineers provided back-door support to activists in these efforts, as engineers also did not want privatization.

However, after this brief diversion, the politics around the conflict of water access returned back to the gridlock between Narratives of Legality of Tenement (deployed by MCGM engineers) and Narrative of Right to City (used by activists). In order to break out of this gridlock, for another period of five to six years, activists engaged in different activities on Plane of Practice such as marches, picketing, and lobbying with councilors. As reported before, at the end of the year 2012, learning from the failure of these efforts to break the gridlock, activists changed not just their strategy on Plane of Practice but also their main narrative. Following advice from a lawyer, they went to the High Court of Mumbai with a legal suit based on the Narrative of Human Rights.

As the subsequent history shows, which is described before, activists were successful in breaking this gridlock when the High Court not just accepted their Narrative of Human Rights but gave order to MCGM to give water to all slum dwellers. However, their adversaries, MCGM engineers, learning from these new developments, reorganized not just their strategy on Plane of Practice but also recast their narratives. Engineers devised a new policy which continued denial of water access to slum dwellers, and brought back the gridlock within a short time. During this transition of the new gridlock in Politics of Policy, a few slum dwellers could, at least legally and may not be practically, were benefitted. The slum dwellers on land-pieces owned by MCGM which are not allocated to projects—which are very few in number as per

activists—are now eligible to get water access as per the new policy. However, a large number of slum dwellers remained without formal access.

After the verdict of the court, Narrative of Legality of Tenement lost its legitimacy, though it is continued in practice through the new policy. Engineers, being employees of MCGM, had to formally accept the Narrative of Human Rights due to its acceptance by the court. As an additional response, engineers developed various new narratives of denial and excuses such as Narratives of Technical Barriers and Narratives of Economic and Financial Barriers. In addition, old but convenient narratives were reinvented and strengthened further such as Narratives of Slum-Dwellers as Thieves.

Actor Strategies

The three most common strategies of actors on the plane of practice are building social movements, drawing support from actors in the electoral politics, endorsements from strong actors and sources, and building coalitions with supportive actors.

Social Movements

Activists involved in water-access conflict in Mumbai often resorted to the strategy of building social movements, i.e., mobilizing affected groups and getting them engaged in social action in the form of different activities on the plane of practice such as petitioning, protest marches at the local or city level, and picketing before MCGM. This was the main strategy they adopted in the periods before and after

their victory against the privatization effort. However, such activities are conducted especially on the local level by activists on a continuous basis.

Support from Electoral Politics

While we have been talking about different politics around the issue of water-access to slum-dwellers in Mumbai on the plane of practice as well as on plane of narratives, there exists another entirely different, broader-level, electoral politics operating at the city, the state, and the national levels.

The broader electoral politics especially at the city level has significant relevance and implications for the developments and dynamics around the issue of water-access to Mumbai slum-dwellers. This electoral politics at the city level decides the relative power of different political parties involved in governance of the city and the interests and values of these contending political parties do decide the policies, decisions, and actions of MCGM authorities affecting the issue of water-access to slum-dwellers. This electoral politics at the city level is often closely influenced by the electoral politics at the state level in a significant manner, and also influenced by the electoral politics at the national level, though not in that significant manner. However, different politics around the issue of water-access to Mumbai slum-dwellers have had comparatively limited and varying influence on the city-level broader electoral political dynamics, at least until now.

Actors involved in the conflict over water-access, especially activists and MCGM officials, always attempt to draw support from this electoral politics especially at the city-level. In fact, the activists involved sometimes directly participate in the electoral politics or provide support to candidates in these elections.

However, as the experience suggests, for various reasons, these actors involved have not been able to link these two politics and draw support and benefits from these.

Endorsements

The activists working for securing water-access to slum dwellers have had endorsements from many otherwise powerful groups and individuals. These include not just endorsement but active support from Ms. Medha Patkar, who is arguably the most-celebrated, most-respected, and internationally decorated activists of India.

Additionally, through the order on the PIL filed by them, the activists received a direct and very strong endorsement from the High Court of Mumbai (the state-level highest court). The High-Court in its order invoked the fundamental right enshrined in the Constitution of India as well as the UN statement making right to the water as a human right. But they have not worked mainly because the policy decisions are made at the level of electoral politics, which is hardly affected by the otherwise strong endorsements.

However, such endorsement did not help the cause of these slum dwellers on the ground. The main factor underlying the inefficacy of these endorsements is that these endorsements are of very little significance or relevance to the broader electoral politics at the city, state, or national level. As a result, the real power holders in MCGM did not take cognizance of these endorsements, allowing the engineers to have a free-hand in this issue of water-access to slum dwellers.

On the other hand, the World Bank endorsing the measure of privatization pushed by higher-level bureaucrats and politicians in MCGM, was thrown out by activists when they found that privatization would harm the cause of water-access to slum dwellers. Again, the success of activists in throwing the World Bank out was attributed to the amount of the loan offered by the World Bank which was found to be small in comparison with the funds available with MCGM.

Building Coalitions

The history of the conflict around water-access to slum dwellers that new coalitions do help open the gridlock to some extent and temporality bring about some (small or big) changes in ground situations, benefitting some sections. But soon, the narratives learn and ground conditions change and the gridlock at both the stages return. This has been the experience until now.

The first such example is the coalition in the early stages of the right to water movement of the slum-dwellers and workers from textile mills who were residing in chawls in the central part of the city of Mumbai. These mill workers were organized in strong trade unions. The struggle for water access waged by this coalition was successful in breaking open the existing gridlock and the mill workers were successful in gaining water access. However, once they obtained access, the mill workers concentrated on their struggle against job losses and closure of their mills, and the coalition broke down, allowing the gridlock to return.

In another example, a somewhat unexpected coalition emerged against the effort led by higher-level MCGM officials to bring in privatization of Mumbai water supply in steps. Sensing the threats to their

respective interests, the activists working for water access to slum-dwellers joined hands with their adversaries in the conflict over this water-access, namely, MCGM engineers to frustrate the efforts to bring in privatization. With such a strong coalition to oppose it, the idea of privatization was soon abandoned by the higher-level officials in a couple of years. Once this threat vanished from the scene, the coalition broke down and the gridlock returned.

Even now, many coalitions are active on this issue, such as that among engineers, higher-level municipal officials, and elected councilors in the party in power. On the other side, there are interesting coalitions such as that of activists and elected councilors from minority parties, the coalition of activists and progressive lawyers (which together fought the PIL), and coalition of activists and academics from different disciplines.

Another coalition that did have effect on the gridlock as was the case with the success of the coalition of activists and lawyers in winning the High Court case. It did help to loosen the gridlock for some time and helped ameliorate the water-access situation, but the gridlock soon returned with the new policy, as the engineers could find time and resources to learn and to create new barriers to access in terms of the provision in the policy, and, thus, ensured that the gridlock would not be undone completely. This is another example of the dynamic nature of the gridlock.

Breaking the Current Dynamic Gridlock?

Coming to the possibilities of breaking out of this phenomenon of dynamic gridlock, there appear on the horizon two emerging opportunities for long-term and definitive resolution of this prolonged conflict over water-access in the city.

The city-level leader of the right to water movement in his interview said that his organization is planning to turn the issue of access-denial to slum dwellers in Mumbai, into an issue of caste-based discrimination and mobilize slum-dwellers around this agenda. There is a good chance that this well-calculated strategic move would reshape the struggle of slumdwellers for water-access as a social movement against caste-based discrimination. This is because caste is a major issue in the broader electoral politics at all the levels in India. In this sense, this planned social movement around caste-discrimination might make this issue politically more attractive to mainstream parties involved in the electoral politics, who would then support activists fighting for water-access. In this case, with this support, activists may be able to break the present dynamic gridlock and make major gains, if not ensure definitive resolution of the conflict in their favor.

Continuing with the discussion on the efficacy of coalition in breaking the dynamic gridlock, there is an entirely new and unimaginable development in state-level electoral politics. In the aftermath of the political instability following the election for the state legislative assembly of Maharashtra in the year 2019, a new political coalition emerged in the state. Shiv Sena (SS), a regional party with the right-wing agenda had a coalition for the last twenty-five years and even for fighting the 2019 elections with another right-wing political party called Bharatiya Janata Party (BJP), which is in power at the national level.

However, after the state elections in 2019, SS broke the ranks and joined the coalition of opposition parties in the state and formed the government in the state. It needs to be noted that SS is still in power in MCGM.

With this new coalition, the dynamics of broader-level electoral politics at the state-level has turned topsy-turvy. SS has publicly abdicated its nationalist Hindutva agenda. It is still too fresh a development to gauge or assess its impact on the issue of water-access in Mumbai. But this unexpected coalition, until now (April 2020), is seen to be putting forward an effective response to the pandemic and has withstood all political efforts to weaken or break the coalition. This new coalition in power also has boosted the morale of the elected councilors in parties in opposition in MCGM who have been fighting the cause of these slum dwellers. Thus, this new state-level government presenta a new possibility on the horizon for breaking this dynamic gridlock around the issue of water-access to slum-dwellers in a definitive manner. The new coalition also indicates the possibility that, in general, such unexpected coalitions (unimaginable three months before) could shape up in future and break this or similar gridlocks which appear to be unbreakable.

The third factor that might be able to break the gridlock is the Covid pandemic (discussed in detail in the Postscript to this dissertation). The pandemic and the subsequent massive exodus of migrant labor population out of the city could turn out as a shock that is big enough to push politics on both planes out of the dynamic gridlock. The pandemic might also give rise to new and more powerful narratives when Mumbai will realize that the slum dwellers, who were so far denied access to water, were the invisible labor who worked to run the city or hold it in place. It might also help the actors realize that the city is only as resilient as its most marginalized and vulnerable population.

Dynamic Gridlock as a Substantive Theory

The conceptual schema or the model proposed and discussed in this chapter is envisaged to explain, in a detailed and nuanced manner, persistence of conflicts of water-access in the city of Mumbai. Based on this discussion, a possibility is suggested here that the schema or the model could be considered as a substantive theory that can help us understand the perplexing nature of conflicts and their persistence in some other situations.

A substantive theory is a working model that is different from a formal theory. It is the main output of the research strategy of Grounded Theory. The strategy involves discovery of a substantive theory which is explained as: "the formulation of concepts and their interrelation into a set of hypotheses for a given substantive area--such as patient care, gang behaviour, or education-based on research in the area" (Glasser and Strauss 1965, p. 5). As Glaser and Strauss (1967) further explain: "Substantive theory is developed for a specific area of inquiry, such as patient care, professional education, delinquency, etc. [while] formal theory is [developed] for a conceptual area of inquiry such as stigma, deviant behavior, formal organization, socialization, reward systems" (p. 32). In short, a substantive theory is developed for a particular and limited substantive context.

Such a substantive theory is however not generalizable like a formal theory which is developed through a deductive procedure (Dwivedi et al. 2009, Hogan and DeSantis 1991, Mills et al. 2010). However, a substantive theory is considered transferable to contexts that are similar to the specific context for which the substantive theory is developed.

The conceptual schema or model evolved from the data collected for this research and discussed above is evolved for a specific context of the conflict around water-access in Mumbai. Though it is not evolved through a rigorous application of some techniques of the strategy of grounded theory, it did emerge from the empirical data collected for this research through a systematic coding exercise aimed at extraction of abstract essence of the qualitative empirical data.

Hence, the value of this substantive theory is seen in terms of its potential to transfer its relevance to other long-persisting conflicts, having a context that is similar to the specific context of the water-access conflict in Mumbai. Here, the substantive context of the theory is not the water sector or the natural resource sector. Rather, the relevant context here is the particular dynamics of the water-access conflict in Mumbai, which this substantive theory has captured. In other words, this particular substantive theory is not about the substance that is related to the water sector but about the ways in which this particular conflict shapes and advances. This specific, dynamics-related context could be elaborated in terms of certain key features that are related to its dynamics. First, the conflict needs to have an adequately long history; second, it should also have a plethora of narratives around it. Third, the actors involved in the conflict should have adequate political power and economic resources to engage in a long-enduring tussle on Plane of Practice, using diverse political strategies such as building coalitions and social movements or gaining endorsements or support from electoral politics. Finally, these actors should also possess appropriate vision, adequate knowledge, robust ideological mooring, and capabilities of articulation to indulge in an equally enduring and demanding clash on Plane of Narratives. The model then could be seen as transferable to contexts that have these features.

Chapter 10: Conclusion

Dissertation in Summary

The point of departure for this dissertation is the persistence of conflict over water-access in the city of Mumbai, despite adequacy of water and financial resources available to the city. This leads to the articulation of the initial research question: *How do conflicts over water-access persist in Mumbai?* For this research, the theoretical lens of Political Ecology is chosen. In essence, political ecology focuses on relationships between political, economic, and social sources of power that govern or shape environmental issues. In other words, the lens of political ecology helps researchers investigate power-dynamics and resultant inequality related to environmental issues. As a result, the initial research question is revised to: *How does politics around water-access shape persistence of conflicts around water-access in Mumbai?* Further, the dissertation uses the methodological approach that involves eliciting, articulating, and analysing narratives of key actors over the issue of water-access in Mumbai. For the purpose, the dissertation evolves and uses an elaborate conceptual scheme around the concept of a narrative. Here, a narrative is an account or exposition—that describes and discusses positions (i.e., expectations and demands), decisions, and actions—by an actor pertaining to a controversial issue.

Using this conceptual scheme, the research question is operationalized in terms of three research objectives, which, in brief, involve: (i) articulation of narratives around water-access to slum-dwellers in Mumbai, using a detailed structural framework drawn from the narrative-based conceptual scheme, (ii) articulation and analysis of historical trajectories and ideological roots of these narratives, and (iii)

elaboration and discussion of politics and power dynamics around water-access that shapes the conflict around water-access in Mumbai. The dissertation responds to these three objectives by analysing the data collected from different types of documents as well as through multi-round, in-depth interviews of 64 participants comprising four categories: (a) experts, academics, media-observers [23], (b) activists working on the water-sector or urban issues in the city [16], (c) elected councillors and leaders of political parties [14], and (d) officials, planners, and engineers [12].

In fulfilling the first objective, the dissertation articulates and discusses, in all, twelve narratives—divided along four core substantive themes—that are presented in four chapters (Chapter 3 to Chapter 6)—titled: Rights, Tenements, Technology, and Economics (Please refer to Table 8.1).

In the first group, 'Human Rights Narrative' asserts that Water is a human right; hence, slum-dwellers should not be denied access to water. The second rights-focused narrative, called 'Right to City Narrative' proposes that slum-dwellers are also citizens of the city and they should have access to the formal water supply network. And, by claiming access to formal water supply, slum-dwellers are claiming their right to the city. Coming to the second group of narratives related to tenements, 'Narrative of Legality of Tenement' states that water will not be supplied to the tenement if the occupant of the tenement does not have the approval from the owner of the land. 'Narrative of Structure & Spatiality of Tenement' says that water will not be supplied to a tenement if its structural and spatial characteristics are not technically suitable. The third narrative in the group called 'Narrative of Planning Lacunas' essentially says that water access cannot be provided to slum-dwellers due to inadequate and inept planning and inappropriate policies of urban development. In the third group of narratives about technical issues, 'Narrative of Technical Barriers' informs that, because of various technical difficulties, MCGM is not in position to

provide water to slum-dwellers. Further, 'Narrative of Techno-Fixes' assures that technical solutions are available to ease present problems in water supply faced by the city.

Table 10.1: Essence of Core Positions or Rhetoric of Narratives

Sr. No.	Name of Narrative	Essence of Core Position or Rhetoric
1	Human Rights	Water is a human right, so slum-dwellers should not be denied access to water.
2	Right to City	Slum-dwellers are also citizens of this city and they should have access to water. By claiming access to water, we are claiming our right to the city.
3	Legality of Tenement	Water will not be supplied to the tenement if the occupant of the tenement does not have approval from the land-owner.
4	Structure & Spatiality of Tenement	Water will not be supplied to the tenement if its structural and spatial characteristics are not technically suitable.
5	Planning Lacunas	Water access cannot be provided to slum-dwellers due to lacunas in planning and urban development policies
6	Technical Barriers	Because of various technical difficulties, MCGM is not in position to provide water to slum-dwellers.

7	Techno-Fixes	Technical solutions are available to ease present problems in water supply faced by the city.
8	Economic & Financial Barriers	Because of various economic and financial difficulties, MCGM is not in position to provide water to slum-dwellers.
9	Commodification & Privatization	If water is priced properly and if supply is privatized, all water-related problems faced by the city will be solved.
10	Slum-Dwellers as Free-Riders	Slum-dwellers tend to be free-riders (phukate), when it comes to paying for water.
11	Slum-Dwellers as Thieves	Slum-dwellers tend to steal water from the MCGM water supply network through illegal connections.
12	Mafia, Profiteers, & Nexus	Water cannot be supplied to slum-dwellers because slums are controlled by water mafia, profiteers, or a nexus of dominant actors who steal water.

The narratives in the fourth group are about economic issues. The first among the group, 'Narrative of Economic and Financial Barriers' claims that, because of various economic and financial difficulties, MCGM is not in position to provide water to slum-dwellers. 'Narrative of Commodification and Privatization' proposes that, if water is priced properly and if supply is privatized, all water-related problems faced by the city will be solved. The third narrative in the group, 'Narrative of Slum-Dwellers as Free-Riders' claims that slum-dwellers tend to be free-riders, when it comes to paying for water, hence, they should not be given access. Similarly, 'Narrative of Slum-Dwellers as Thieves' claims that slum-dwellers tend to steal water from MCGM's water supply network through illegal connections, hence, they

are not worthy of giving legal access. The last narrative talking about '(Water) Mafia, Profiteers, & Nexus' warns that water cannot be supplied to slum-dwellers because slums are controlled by water mafia, profiteers, or a nexus of dominant actors who steal water.

Following these four chapters articulating and describing twelve narratives, the dissertation moves to addressing the third research objective of elaboration and discussion of politics and power dynamics around water-access that shapes the conflict around water-access. The seventh chapter discusses Politics of Narratives—i.e., politics coming out of interactions among the twelve narratives—first, by classifying twelve narratives in four groups as per their strategic approaches towards the issue of water-access to slum-dwellers. The four strategic groups of narratives are: Narratives of Claim, Narratives of Denial, Narratives of Excuse, and Narratives of Evasion

The chapter then identifies and discusses the types of powers and authorities that are exerted on behalf of each of the twelve narratives in shaping Politics of Narrative. As the next step in understanding Politics of Narratives, the chapter juxtaposes operative values and interests of key actors emerging from these narratives. The strategic analysis of these classified values and interest leads to the finding that the value-choices and interests driving all the three key and decisive actor-groups in the conflict over water access are so compelling that resolution of this conflict over water access is extremely difficult, if not impossible, as long as it is left to the present set of actors involved.

The chapter then comes to juxta-positioning and analysis of the positions, towards different narratives, taken by five categories of key actor-groups. The picture of politics that emerges from this analysis is very

confusing and muddled; there is no existing or emerging dominant narrative which would take the centre stage and end the conflict. Similarly, there is a lack of unanimity on narratives used by actors on either side, while actors on both sides of the conflict are sympathetic to certain elements of narratives on the other side. Thus, there appears to be no possibility of decisive resolution of the conflict over water-access in Mumbai, as the twelve conflicting narratives are locked into a gridlock—i.e., the state of politics that fails to push the conflict towards its definitive resolution.

For discussing briefly the nature, extent, and implication of inequality in water-access in the city, Chapter 8 uses the political ecology lens. Further, it uses this lens to analyse power dynamics that unfolds on the ground. It discusses in detail the politics that shaped the persistence of the conflict over water-access even after the verdict of the High Court at Bombay in favour of slum-dwellers. The lens of Political Ecology is then used to unravel Politics of Class and Politics of (Social) Othering, both of which significantly shape power-dynamics around the issue of water-access in the city. Thus, as suggested by Swyngedouw (2009), the chapter clearly shows that who gets access to water depends on the social structures in which they are located and the economic strata to which they belong.

In Chapter 9, the discussion on the findings about different spheres of politics presented at the end of Chapters 7 and 8 are taken ahead, by drawing further insights from the data. In this chapter, the dissertation proposes a model for understanding the persistence of the conflict around water-access in Mumbai. The model envisages two separate but dynamically interconnected planes—namely the plane of narrative and the plane of practice—on which these different spheres of politics play out. These spheres of politics often encounter, on both these planes, gridlocks, which is defined as the state of politics that fails to push the conflict towards its definitive resolution. However, in their efforts to break out of such a

gridlock, the involved actors keep on responding to strategies and activities of other actors as well as keep on drawing lessons from changes and developments on both the planes. At some point in time, some actors are successful in breaking out of the gridlock and make some progress towards their respective objectives. However, soon other actors—in their efforts to catch up—learn and come up with new strategies and/or narratives, and, thus, precipitate the next gridlock. Thus, though the gridlock soon returns, it changes its spatial-societal-temporal location, hence, it is called here as the dynamic gridlock. The chapter suggests that this model of dynamic gridlock could be seen as a substantive theory that could be transferred to other long-persisting conflicts that have similar contexts.

The chapter also indicates three possible factors on the horizon that may end this dynamic gridlock. While the first involves a new social movement, and possibly a new narrartive,planned by activists around caste-based discrimination, the second relates to the possibility of the support from the new broader political coalition at the state level. However, the third pertains to the Covid pandemic as well as the mass exodus of migrant labourers caused by it. Both, the pandemic and the exodus are bound to bring in political and economic restructuring in the city as well as new narratives. These both may lead to the end of the dynamic gridlock and definitive resolution of the water-access conflict in the city.

Alternative Theoretical Framework

This dissertation is rooted in the three key decisions that I made at the beginning of the research process for this dissertation:

a) I focused my research on the research question directed at 'persistence of the conflict around water-access to slum-dwellers in the Mumbai city'.
b) I accepted 'political ecology' as the theoretical lens for studying this persistence of water-access conflict around water-access to slum-dwellers in Mumbai city. This lens directed my attention to the following three key themes: inequality in water-access, conflict around water access arising out of this inequality, and, third, the politics and power dynamics underlying this conflict over water-access. (These are discussed in detail in Chapter 2 of my dissertation.)
c) I also adopted the narrative approach as the methodological approach to study these three key themes. This methodological approach specifically involved elicitation, re-articulation, and analysis (of these re-articulated narratives) of key actors involved in the conflict.

In Chapter 7 and 8, using the theoretical lens of political ecology and taking inequality and the water-access conflict in Mumbai (discussed in detail in Chapter 1) as the points of departure, I presented politics and power-dynamics underlying the conflict around water-access in Mumbai, which emerged from my data with the focus on the city scale. This was organized and presented in terms of four key spheres within this politics, namely, Politics of Narratives, Politics of Policy, Politics of Class, and Politics of Othering. As the data is reviewed in depth using the lens of political ecology in these two chapters, in this section I am reflecting on the possible use of another theoretical framework of path dependency that is briefly discussed in Chapter 2.

Path Dependency and Water-Access Conflict in Mumbai

Coming to application of the frame of path dependency, Kay (2005) lays the responsibility of discovering explanations of apparent path dependency on researchers "in the operation of systems of institutions and their interactions with the wider socio-economic and political environment"(555).

Explanations for conflict around water-access to slum dwellers in Mumbai and for persistence of this conflict could be traced to policies governing this access. The explicit policy of denial of access to slum-dwellers to the formal water supply network was laid in 1996, which set the 'cut-off-date' of 1st January 1995 for denying formal water access. The policy ordained that the tenement set up after the 'cut-off-date' would not be given formal access. The policy was in the form of two circulars, one from the state-level government, and another from MCGM. In the year 1995, Shiv Sena (SS), the party that had an explicit 'sons-of-the-soil' political agenda, gained control over both, MCGM and the state-level government (in this case jointly with Bharatiya Janata Party or BJP). This ascendance of SS into this dual position of power could be seen at the triggering event (Anderson et al. 2018) or the critical juncture (Mahoney 2000) which led to formulation of such an explicit policy.

The extension of this cut-off date to 1st January 2000 can be pegged to the defeat of the SS-BJP combine in the next election for the state legislative assembly, however, SS remained in power in MCGM. This extension in the cut-off-date was a minor adjustment in the main policy that continued to deny water-access to a large number of slum-dwellers. This continuation of the denial of water to slum-dwellers is an example of path dependency if the narrower definition that relies only on the "history matters" criteria is accepted. However, if the 'broader' definition is applied, then SS could be seen as wanting to continue on the path that would continue to give it 'increasing returns' (Pierson 2000), while the opposition parties

could be seen as having failed in turning their election victory into another triggering event (Anderson et al. 2018) or a critical juncture (Mahoney 2000) to change the policy fundamentally.

Then came the major exogenous shock to the policy in the form of the order of the High Court at Bombay in 2015. While rendering this policy of cut-off-date void, this order explicitly asked MCGM to provide water from the formal supply network even to those tenements that were set up after 1st January 2000. After significant delay, MCGM came out with the policy, which retained most of the old procedural and legal barriers and effectively continued to deny access to a large number of slum-dwellers.

Using the 'broader' criterion of "history matters', the effective continuation of the old policy of denial could be seen as an expression of path dependency. However, for applying the narrower criteria of 'increasing return', we need to bring in MCGM engineers who had been benefited significantly by the old policy and who were not ready to give up this path which would continue to provide 'increasing returns' to them. The changes in the policy proposed by the court did spark 'fear of change' and led to resultant resistance to this change (Anderson et al. 2018) by engineers who have been major beneficiaries and proponents of the policy of denial.

The incremental changes that occurred at these two junctures could be seen as watering down of the policy in the face of controversy surrounding the policy and resistance put by affected actors (Hrelja et al. 2013). In this regard, Grube (2016) cautions, "path dependency does not argue in any of its forms that change never occurs, merely that it is difficult" (532).

Thus, the conflict around water-access to slum-dwellers in Mumbai could be explained in terms of the outcome of the explicit policy of denial of such an access, while persistence of this conflict over years could be seen as rooted in persistence of this policy of denial, which, in turn, could be explained as an instance of path dependency. As indicated by Kay (2005), these explanations of the water-access conflict and its persistence in Mumbai based on path dependency are accompanied by explanations based on the lens of political ecology as discussed before.

Path Dependency of Narratives

Grube (2014, 2016) applies the frame of path dependency to political rhetoric. Drawing from the claim that "institutions are sticky" (McFaul 1999, 32), Grube (2016) argues, "words are (also) sticky" (530) and, hence, it is very difficult for political actors to change their "rhetorical choices (that) are made at critical junctures" (530). He explains that often a political rhetoric is repeated on many occasions and is consistently adhered to by a political actor over a length of time. Further, the rhetoric also provides increasing benefits to the actor during that period. Then, at a later juncture, a situation arises wherein the particular rhetoric becomes a political liability, incurring not returns or benefits but significant costs to the actor. However, at this stage, it is not possible for the actor to change this rhetoric suddenly, because there are serious political and ideological costs for the actor if such a change in the rhetoric is attempted (Grube 2014, 2016).

These ideas of 'sticky words' and 'path dependency of the rhetoric' fit very well with the situation around narratives of two main actor-groups involved in the conflict over water-access in Mumbai, namely, engineers and activists. Engineers agreed, in private conversations, with the need for providing some relief to slum dwellers who are denied water-access. They also showed willingness to provide water to slum

dwellers if slum dwellers take legal connections and pay for water. They, in fact, entered into a coalition with activists (supporting slum-dwellers) for ensuring withdrawal of the proposal for privatization sponsored by their direct superiors. However, they remained reluctant to change their narratives of denial and of evasion when opportunities arose for entering into a compromise acceptable to them. Two such opportunities arose in the recent past. The first was in the year 2010 when the idea of provisioning of Water through Water ATMs was suggested by a group of politicians in power in MCGM. The second opportunity was in the year 2015, when the High Court gave its order discussed before and in the order hinted at the same idea of providing Water ATMs. On both occasions, engineers did not come out in support of the idea, mainly because they did not want to be seen as 'turn-coats'.

In the similar vein, on both these above mentioned occasions, one group of activists did not show willingness to dilute their Narrative of Human Rights or Narrative of Right to the City, nor were they ready to compromise on their concomitant demand that slum dwellers should be treated on the par with other citizens. This led to rejection by them of the compromise solution of provisioning of water to slum-dwellers through Water ATMs. This was because they saw water supply through Water ATMs as a discriminatory treatment meted to slum-dwellers as compared to other citizens who were supplied water through taps located in their tenements. At the same time, one group of activists decided to give up the Narrative of Right to City and compromised with the Narrative of Human Rights while accepting the compromise solution of Water ATMs, keeping in view the acute water deprivation suffered by slum-dwellers. As Grube (2016) remarks, "(political) actors effectively become trapped in gilded rhetorical cages of their own making" (530).

Policy Transformation

Need for Multi-Dimensional Policy Transformation in Mumbai

As noted in this dissertation, the picture of politics around narratives that emerges is very confusing and muddled and the conflict over water-access in Mumbai seem to be caught up in the phenomenon of dynamic gridlock. It appears from this research that both judicial and policy attempts have failed to sufficiently address the underlying factor, related to both the policy design and its implementation.

The concerns are no longer about legality of the slum dwellers post the court verdict, and despite the clear guidelines from the court verdict, the policy fails miserably to undertake any steps towards solving the issues faced by slum dwellers in the city. A trifecta of disarray in terms of policies and measures from housing, water, and sanitation sectors have led to the current situation of extreme vulnerability of the population on the socio-economic-political as well as geographic margins of the city. Water is not a stand-alone issue in this scheme of things. There exist so many dimensions to access to water (as discussed in this dissertation) that denial becomes multi-faceted and difficult to address. With 40% of the population living in such conditions, there is an urgent need for revisiting not just the basics of how housing, water, and sanitation systems work in the city, but also to think broader in terms of urban planning, urban development policies, and economic policies.

As clearly brought out by the research presented in this dissertation, city-level policy-makers have serious problems with their vision and priorities. This is exemplified by the politics played after the court verdict on water access, which was solely aimed at preserving the policy to deny water-access to slum-dwellers. The literature on politics of water infrastructure in the city of Mumbai also brings out serious limitations of the city and state level politico-administrative system (Tiwale 2019). It shows how their decisions are driven by myopic vision lacking long term, intersectoral, region-wide thinking; by contractor-led, project-focused planning; and by decisions serving vested interest in the nexus of contractors, politicians, and techno-bureaucrats.

The similar failure of city and state level policymakers is evident in the issue of flood management in the city (Dixon et al. 2008, Gupta 2007). In the year 2005, the city witnessed unprecedented rains resulting in flooding of the city that killed about 900 people and caused damages worth billions of US dollars. The high-level committee—called the Chitale Committee—appointed by the state government came up with mainly two kinds of recommendations, infrastructural, and governance related. Equally devastating floods visited the city again in 2017 and 2019. The post-mortem of these latter floods revealed that, while many infrastructural-related recommendations were taken up for implementation (though implementation was not completed by 2017), governance-related recommendations were largely neglected and were never taken up (Retired Senior Municipal Engineer). As explained by a Retired Senior Municipal Engineer, there was wide-scale resistance to affecting policy and institutional changes suggested by the committee, though there was significant enthusiasm, especially among political and administrative higher-ups, for implementing infrastructure projects suggested by the committee.

This situation underscores the need for fundamental transformation in the systems for policy-making and governance of large and mega cities like Mumbai which are now not only nodes in the global economic and financial systems but also are hubs of massive migration and mobility of populations at the national, regional, and even international levels. This transformation will have different aspects and dimensions.

For example, first, the recommendation that policy-making should transcend sectoral boundaries is a passé, rather the policies pertaining to these megacities should take an integrated perspective—let us call it the resilience perspective—which will focus on making these cities resilient and robust enough to deal with extraordinary circumstances such as natural disasters or breakdown in the currently overstretched systems supporting daily lives in the city.

Second, along with the change in perspective, in order to break the firm grip of strong vested interests operating at the city and state levels, the system governing these cities should be restructured to make these existing governing agencies more accountable. This could be achieved through systemic changes or bringing in new national-level institutions and actors. Suggestions in this regard, for example, may include independent and meaningfully accountable decision-making and regulatory agencies at the city-level. These could also include national-level policies, institutions, and funding-mechanisms designed specifically for creating broader and mandatory policy-frames aimed at making these cities and citizens resilient.

City of Migrants

India has the largest number of internal migrants comprising nearly 30% of the country's population and the urban agglomeration of Mumbai was the destination with the highest number of migrants (Gawde et al 2016). Internal migration within a country is said to be due to 'push' and 'pull' factors, often grounded in economic contexts (Singh, 2010). Push factors include lack of suitable employment, while, like in the case of Mumbai, pull factors include the lure of improved employment opportunities (Srivastava 2005, Singh 2010).

The Selfish City

In a rapidly urbanizing and spreading city, the effort to push out slum populations leads to formation of new and more vulnerable slums at geographic fringes of the city. Given the proximity of satellite towns and peri-urban areas of the city with their own concerns of water access, the regional approach to management of water is urgently warranted. A shift to thinking beyond MCGM's boundaries and looking at the Mumbai Metropolitan Region (MMR) as an effective unit of planning seems necessary. Additionally, the practice of pouring a humongous amount of resources into Mumbai, often ignoring the small and medium towns and other cities within the state of Maharashtra, is also leading to increased inflow of migrants to the city and severe resource constraints in other areas. "Mumbai is a selfish city" as Independent Urban Researcher 2 shares, "we are stuck in a vicious cycle . . . resources get poured into Mumbai, so more people move to Mumbai and hence more resources get poured into the city . . . why can't we also focus on the growth of other cities?" As Vernacular Print Media Person 1 adds, "*Tyamule*

suuj yete na ekhadi, tashi suuj alyasarkha shahar aahe" (you know how you get a swelling [when you get hurt], the city is swollen like that).

Mumbai, considered as the financial capital of India, attracts migrants from within and from outside the state of Maharashtra. As discussed in the previous chapters, this is the population that dwells in slums and is most affected by lack of access to water. Hence, the needs of this migrant labour population related to infrastructure and amenities should be considered seriously. In Mumbai, most of this urban poor population—facing multidimensional othering of class, region, language, caste, and religion—is the population on which the service industry in the city is completely dependent on. They also fill the ranks in essential services, like sanitation, solid-waste management, police, transport, infrastructure, supply-chain management, and healthcare.

Thus, the inflow of migrant population over decades had been due to the city being made the focal point of development of not just the state but the entire country. In a way, this growth has been made possible by this poor migrant population that has serviced the economy and essential services in the city. Yet, ironically, the exact same population has been made extremely vulnerable in the city in a multitude of ways, and not just by denying access to the basic need such as water. The question then arises how long the city would be able to maintain the status-quo without collapsing. As Urban Water Engineer-Academic said, "the city is also like a living animal". If such a huge portion of the city is vulnerable, that would make the city itself vulnerable to impending challenges of climate change and urbanization. The main and critically important lesson for Mumbai, coming out of this dissertation, is that the city is as resilient as its most vulnerable population.

The Vulnerable City

The long and extensive fieldwork provided an opportunity to understand the broader context of the issue of water-access to dwellers of illegal slums which was the topic for the doctoral dissertation. As mentioned in the previous chapter, water-access denial is affecting mainly the migrants to the city who are resourceless and poor. These urban poor are denied not just access to water but to all other basic amenities and services. While we have discussed water in detail, their access to connected services like sanitation are in an equally bad shape (Akov and Satwah 2019, Belur et al. 2017). The settlements they live in are marked by complete lack of sanitation facilities which makes open defecation a necessity which, unfortunately, many adults, especially women, cannot afford due to densely populated settlements. Availability of per capita toilet seats in these settlements is woefully low, and most of these toilet-seats are in community toilet blocks which are in dilapidated state and in technical disrepair. Moreover, toilet-seats in better conditions are often captured and locked by people with more economic resources and higher social status, leaving the real resource poor and socially disadvantaged sections in a lurch (Senior Urban Community Activist). There are incidences of utterly horrible deaths of people who fell in septic tanks as toilets they were using collapsed under them (Urban Water Policy Researcher-Activist 3). The other basic services such as solid waste management, education, health, and mobility are in similarly precarious and deteriorated state.

As a result of this acute and deep deprivation from basic services, the poor migrant population living in these slums have been paying severe costs in terms of high levels of morbidity and mortality. One administrative ward of MCGM (called M East ward) is said to have the least human development index in the city and with scores on some parameters that are reportedly lower than the national average and even lower than a few sub-Saharan countries (TISS 2015).

In addition to this deprivation, as brought out by the dissertation, these settlements and communities suffer from marginalization on economic, political, and socio-cultural fronts. They are often denigrated as unworthy parasites or encroachers on the city's already burdened resources and infrastructure. Their geographic marginalization—in terms of their physical location on the coastal fringes of the city and near the garbage dump—aggravates this deprivation further. Additionally, as seen in the case of Slum Rehabilitation Authority (SRA) and Project Affected People (PAP) housing (in Chapter 4), this population is treated as something that can be uprooted and moved without a thought to their wellbeing in order to justify the urban development aspirations of the city.

While facing acute and multifaceted deprivation, these communities of new and poor migrants are playing a critical role in the economic system in the country. This is rooted in their sheer number, the wide range and number of the tertiary or quaternary industries they serve, and the scale of their exploitation that contribute to the surplus generated in the city. Thus, the vulnerability of these communities makes the city vulnerable. As demonstrated by frequent floods in the city of Mumbai, coastal megacities across the globe have always been highly vulnerable to natural disasters like floods, typhoons, and tsunamis. Moreover, the coastal megacities like Mumbai are expected to be affected deeply and frequently by natural hazards induced by climate change. The marginalized migrant communities, being on the lowest rung of the social-economic-political hierarchy, are often the worst victims of natural hazards such as floods in the cities.

Further, the city of Mumbai, like other megacities in the Global South, is bursting to its seam with population and economic activity. The systems running and supporting the cities are overstretched,

plagued with under-capacity, and often precariously linked with each other. These include its food and water supply systems, public health and public education systems, or communication system. A good example is the communication system in these cities with clogged and pot-holed roads, creaking bridges and flyovers, and highly inadequate and crumbling rolling stocks of buses and local trains. In short, these cities are highly vulnerable not only due to the natural disasters like floods, but also due to overstretched, under-capacity, precarious systems supporting it. This vulnerability is further aggravated by, as discussed above, the risks associated with heavy reliance on the highly vulnerable communities of new and poor migrants.

Thus, the vulnerability, rather resilience of these communities of new, poor, and large in number migrants should be the main concerns for researchers and policymakers. In other words, the critical challenge is to enhance resilience of these most marginalized migrant communities in their destination megacities in the Global South. Significant volume of literature has started dealing with this issue. Researchers have come up with different relevant and interesting concepts, frameworks, and measures to understand, analyse, and address vulnerability and resilience of such communities.

Migrants and Social Resilience

The concept of 'social resilience' articulated by Keck and Sakdapolrak (2013) sees resilience more as a process of building resilience of communities through coping, adaptive, and transformative capacities. Resilience is also seen as relevant to threats created by chronic social stressors as much as for dealing with threats of natural hazards. While coping capacity is about restoring basic minimum wellbeing against the existing threats by using directly available resources, adaptive capacities indicate measures to secure the present level of wellbeing against future threats, by learning from the past, anticipating future threats,

and adjusting livelihoods. Transformative capacities involve enhancing levels of wellbeing against both present and future threats by accessing assets and assistance from the state and society, and by participating in political processes affecting the wellbeing. The authors also emphasize the role of diverse structural factors, including power relations, in shaping resilience of communities. As a critical element of the concept of Social Resilience, they identify building transformative capabilities of community members as a key strategy. Thus, this approach also combines both the structure and agency arguments.

Similarly Harris, Chu, and Ziervogel (2017) propose the concept of 'negotiated resilience' that looks at resilience as a process of negotiation, recognising multiplicity in pathways and goals, explicitly calling for inclusivity and participation, and highlighting the political dynamics. In both these endeavours, the lens of political ecology will help gain nuanced understanding of the socio-ecological system and the power dynamics affecting communities resilience. It, thus, will help bring out opportunities for policy and political interventions to empower marginalized communities by creating and strengthening their transformative capabilities.

In addition, some relevant concepts from the migration literature will also be useful for research on these topics. For example, the concept of "translocality" will help understand the influence of 'embeddedness' of migrant households in both communities of origin and of destination on their coping strategies (Porst & Sakdapolrak 2018). Second, the concept of 'transformative mobility' (Farbotko *et al.* 2018) and literature on rehabilitation of displaced people will help envisage how the costs and impacts of inadequate access could be addressed through policy interventions.

Broader Relevance

Many megacities of the world face similar problems that Mumbai is facing: rapid urbanization, population growth, poverty, inequality, issues of social justice, climate concerns, clash of urban with peri-urban, and particularly, in the case of megacities from the Global South, a colonial legacy in terms of norms, infrastructure, and technology. While the broader challenges are similar, the details and contexts of these challenges and their impacts on the cities are vastly different. While the main findings from Mumbai might not be generalizable, they might help us understand what concerns we need to be looking into while studying water access issues in other megacities. Many growing cities in India are trying to emulate the Mumbai model. The findings from this dissertation can be helpful in guiding these cities in their development, and help avoid the pitfalls that Mumbai has faced in the past. In short, Mumbai can be taken as a paradigmatic case to help guide the study in other megacities as well as in megacities-in-making.

The previous chapter discusses the possibilities of further persistence of the dynamic gridlock and some opportunities for Mumbai to break out of the dynamic gridlock. It also attempts to put forward dynamic gridlock as a substantive theory. The main lesson from this dissertation, for Mumbai and other similar megacities can be that the complexity is on both the planes, the plane of narratives and the plane of practice, and it is essential to pay attention to both. The methodological contribution of this dissertation is the innovative use of narratives to understand and showcase this complexity. The conceptual schema used to articulate narratives in this dissertation would help in this pursuit. Additionally, understanding the

persistence of a conflict in terms of dynamic gridlock, rather than looking at a conflict as a static event in time, would help us map the trajectory of the conflict and the efficacy of interventions, on both the planes.

Limitations of the Dissertation

Peri-Urban Water Issues

In any research on urban issues, especially on urban water issues, references to conditions in peri-urban areas surrounding the city under study are inescapable. However, in the case of Mumbai, the situation is quite different. Mumbai is surrounded by satellite cities and towns from all sides (apart from its boundaries abutting the sea and creek), which are composed of both urban and rural pockets (van Djik 2011). The city of Mumbai draws water, in massive quantity, from rural hinterlands lying well beyond these surrounding satellite cities and towns. As mentioned in the beginning of this thesis, Mumbai city has its own water supply infrastructure and economically, socially, politically dominant interests (such as industries) and sections of population in the city get adequate quantum of water through the formal water supply network. Hence, these interests and sections need not draw water from surrounding areas.

Further, all these satellite cities and towns have significant level of industrialization and contain a large number of middle-class communities, as a result of these economic and political power, these towns have their own water supply arrangements separate and independent of that of Mumbai. These satellite towns and cities get water from the dams and schemes built by

parastatal agencies of the state government. A few of these cities, such as Navi Mumbai (New Mumbai), have very efficient and effective water supply, many others suffer from different problems with the water supply (Tiwale 2019).

Though Mumbai shares some of its own water with two of these cities, simply because of the economic, financial, and political clout of the city of Mumbai, there is no effort to claim a sizable share in water drawn by Mumbai from the rural hinterland. In short, Mumbai does not have any significant relationships with satellite towns and cities on its boundary as far as exchange of water is concerned. Due to this complexity, the urban, peri-urban and rural dimensions of the water supply infrastructure have not been explored in this dissertation.

However, it must be mentioned here that there have been sporadic efforts to challenge this massive withdrawal of water by city of Mumbai from distant rural hinterlands (lying beyond the ring of these surrounding satellite towns) by environmental activists and local political activists (Dandekar and Thakkar 2014) Due to lack of their presence in the overall water discourse in the city or any of the narratives, I have not delved on this issue in this thesis.

Varying Understanding of Access

This research proposes a particular definition of water access, grounded in the standard definitions in the technical and polity literature. This definition is in terms of adequacy of quantity as well as appropriateness of quality, reliability, and timeliness, often with more emphasis on adequacy of supply as the quality of water coming from formal networks in the city is quite good.

This is the definition that most of the engineers and researchers seem to agree. However, while interacting with members, leaders, and activists from slum-dwelling communities, it was realized that their perceptions about water access often diverge from the standard definition mentioned before. For example, especially many interviewees attribute inordinate importance to getting a formal water connection, however, inadequate, unreliable, or untimely supply of water they get from the formal network. In a way, even a notional access to formal network was seen as both a status symbol and a source of sense of security in the cruel uncertainty in other walks of their life. These perceptions do matter in shaping their thinking, decisions, and actions pertaining to getting formal water access. However, I have not been able to incorporate this factor in my current research, though I plan to follow this theme in my future research.

Coverage of Respondents

This research is based on multi-round extended interviews of 64 respondents, representing all the key actor-groups involved in making policy decisions about water access in Mumbai. These actor-groups included politicians representing all important political parties in the city at both levels (local or ward and city levels). However, I could not interview some of the city-level leaders of political parties in MCGM mainly because of the long-drawn election process in the city and the monsoon-related difficulties in travelling in the city. I feel that the data would have been richer if these interviews were possible. Another set of actors that I could not interview was the members of the judiciary. The judges who gave the orders were not available for interviews because of both the distance and their reluctance to talk on phone. I also could not get extended interviews from the lawyers involved in the case mainly due to their extremely busy schedules.

Future Scope of Research

The literature review, field work, and analysis of data for this dissertation brought forth many ideas for future research that would be academically relevant as well as relevant for policy-making. The discussion in previous paragraphs in this chapter on most marginalized migrant populations provides a few such ideas for further investigation, such as nature and sources of their multi-dimensional marginalization and of diverse vulnerabilities of these communities, factors affecting diverse capabilities for improving social resilience of these communities, and policy measures as well as community actions for enhancing capabilities and social resilience of these communities.

Another interesting idea for future research that came up during the fieldwork was the diverse perceptions and ideas about access to water. Apart from different definitions available in literature, it was noticed that perceptions about access to water, more specifically about adequacy, quality, reliability, affordability of water supply are significantly diverse among different social groups. There are significant differences among the ideas about water-access held by water engineers based on technical norms, ideas of social scientists about water access rooted more in norms such as equity and justice, expectations of water activists about the access to the formal water supply, and aspirations of women from illegal slums about water access. It would be interesting to get into the depth of these ideas, expectations, and aspirations about water access and see their impact on the current water supply situation in the city.

One more probable topic for the research is the dynamics around the water access in slums in the city, which is shaped by diverse economic, socio-cultural, political, policy, institutional, and ideological factors brought out by this dissertation research. It can include the impact of this dynamic on the access situation and the cost borne by residents of these illegal slums.

There is also a need to look beyond the physical boundaries of Mumbai for possible ways of not just understanding the complexity in Mumbai better (e.g., the translocality of migrants as discussed above), but also look at pressures and forces beyond the city from national or international levels, and if solutions could be found outside the city. The attraction of Mumbai, or any megacity, is because of the infrastructure and capital that is being invested. Thus, some elements of the solution to the dynamic gridlock in Mumbai, might be found in reinventing these larger processes.

Postscript: The Covid Pandemic

Pandemic Times

The world as well as India are still reeling under the current dire circumstances unleashed by the Covid-19 pandemic, with no end in sight. In fact, in India, the pandemic is at the early stage in its journey. The total number of cases on 6th April 2020 is 4281 and the total number of deaths is 111 (Economic Times 2020). However, these figures are deceptive, to say the least, for three reasons. First, availability of test-kits, number of testing laboratories, and the scope of planned testing, all, are extremely limited. Second, according to experts, what is called as the third stage in the pandemic, involving the community-level spread of infection, has just set in India or yet to set in. Third, the system to register deaths—not for deciding the cause of death, just for the registration—is highly inadequate, especially in the vast rural hinterlands. As per one estimate from a scientist in a government-run research institute, about 25% of deaths in India are not recorded (Vasu 2020).

However, the most glaring aftermath of the pandemic—that is of critical relevance for this dissertation—is the exodus at a humongous scale of migrant laborers from the city .. The scale of this migration is unparalleled to that in most other countries and even in the post-independence history of India.. This exodus was not just from Mumbai but also from a large number of cities and towns in certain parts of the country to the rural districts in certain other parts of the countries. The immediate prompt was the national-level, 21 days-long, and abruptly imposed lock-down in the entire country from 24th March 2020 announced by the Prime Minister directly on the national television. This lockdown included closure of all public transport services across the country, with an intimation of four hours (8 pm to 12 midnight). Most

state and city level governments were unaware of such a momentous decision. After the announcement, from the next day onward, newspapers, television channels, and social media were flooded with pictures and stories of hundreds of thousands of people, along with their families and children, walking on highways and roads and heading back to their rural homes located at long distances; some families were walking for a few hundred to a thousand kilo-metres. Unsure of their next meal in the locked-down city, afraid of their fate at the hands of this unknown illness, and looking for safety in villages and communities of their origins, these marginalized migrants had no choice but to start walking back to their original rural locations. As discussions in newspapers, television channels, and social media indicate, the urban middle-class, civil society, media, researchers, and policymakers—woken up by this massive exodus—suddenly realized the problem that had remained invisible for them for a long time.

In the state of Maharashtra and the city of Mumbai, the state government had imposed gradual lockdown a few days before the abrupt national lockdown, so the exodus had started well before the national-level exodus. Firms in certain sectors such as the construction sector in the city arranged for safe shelter and food for migrants working with them (Upadhyay et al 2020). But, otherwise the migrants, who rely on daily wages, were caught up between the lock-down and Covid-19, and had no other option but to flee from the city.

The exodus has affected the city which is facing a serious shortage of people to maintain essential services—from sanitation to delivery of groceries and food. This has already brought the city to its knees. The media reports and informal conversations indicate that a large number of migrant people are still stranded in the city, and are living in the conditions worse than those described in this dissertation, especially in terms of access to water and other amenities. How does one stay in such a lock-down and

still adhere to requirements of social distancing, when one lives with a large family in a tiny, confined tenement located in a crammed shanty, which is in a state of severe disrepair? The measures we consider of utmost necessity to halt the pandemic in its strides are, thus, beyond the reach of this slum-dwelling, urban poor population.

Water and Pandemic

The implications of this pandemic for the concern investigated by this dissertation—water access to poor and socially disadvantaged slum-dwellers—are immense. The global population will have to learn to live with Covid-19 until the effective and safe vaccine is made widely available. It would take, in the best case scenario, a period of at least three to five years for the vaccine to reach these sections of population who are at the bottom of economic and social hierarchies of the global system. The other two equally critical factors make the risk more acute in the case of these sections of population. First, the virus is highly infectious, which makes slum dwellers living in small tenements crammed in shanty habitations extremely vulnerable to quick and explosive spread of infection. Second, once the infection reaches the body, the only protection is the immune system of the body, as there is no medicine to control or eliminate the virus from the body. This immune system of a human body is highly compromised in the case of these poor and socially disadvantaged slum-dwellers—especially of children, women, and elderly among them—who have been victims of acute malnutrition and neglect of health suffered for generations. Thus, the slum dwellers, who are at the center of this dissertation, are immensely vulnerable to the infection as well as to the impact of infection on their vulnerable bodies. This vulnerability needs to be further viewed in terms of their effective access to the public or private health care system, which is negligible to say the least. In short, in this pandemic, the chances of survival for these slum dwellers, if they continue to live in these slums, to be blunt, are slim.

The only protection they could get in the immediate term is through recurrent washing of hands with adequate soap and water, which means that each resident of the slum would require clean water in significant quantities on the daily basis just for repeatedly washing hands. This requirement is for the large number of this slum-dwelling population—estimated to be about 40% of the city's population which comes to around 4 million people. As the dissertation has demonstrated, in a quite elaborate manner, the access for these slum-dwellers even to a minimal level of drinking water is already jeopardized.

Thus, the water-access, unfortunately, becomes the center-piece of the survival and future of these slum-dwellers and also of the city that depends critically on these slum dwellers for its sustenance.

Covid-19: A Critical Juncture?

As a researcher who is deeply immersed in this issue of water-access, on one hand, I am terrified with the immediate future of these slum-dwellers and the city. But, on the other hand, I have a hope that such a cataclysmic event will act as a triggering event (Anderson et al. 2018) or a critical juncture (Mahoney 2000) to change policies and practices in many sectors. I hope that the pandemic and its after-effects will force policymakers, engineers, and officials of MCGM to transcend their vested interests and preferred values, and work with activists and slum dwellers in Mumbai. I hope that all of these actors would take all kinds of policy and practical measures required to make safe and clean water available in adequate quantities

to the large number of slum-dwelling people who have been denied water for a long time. Hopefully, the pandemic will, thus, help bring about the end of this long-pending conflict.

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LIST OF INTERVIEWEES

1st Title	2nd Title
Senior	Urban Sociologist
Mid-Level	Urban Planner-Sociologist
Mid-Level	Urban Water Anthropologist
Junior	Urban Water Academic
Mid-Level	Urban Water Engineer-Academic
Critical/Left	Urban Finance Expert
	Urban Planner-Academic
Senior and Left	Water Policy Academic
Senior	Urban Sociologist
Activist and	Urban Planner Academic
Activist and	Urban Planner Academic
Young Activist and	Independent Urban Researcher
Media Person and	Independent Urban Researcher
	Independent Urban Researcher
Mid-Level	Urban Water Policy Academic
Junior	Urban Water Policy Researcher
Junior	Urban Water Policy Researcher
Junior	Urban Water Policy Researcher-Activist
Junior	Urban Water Policy Researcher-Activist
Senior	Urban Community-Development/Sanitation Activist
Senior	Urban Community Activist
Mid-Level	Urban Sanitation Activist
Junior	Urban Water Policy Researcher-Activist
Senior	City-Level Water Activist-Leader

Junior	City-Level Water Activist
Senior	City-Level Housing Rights Activist
Senior	City-Level Housing Rights Activist
City-Level	Leader of (Political) Party in Power
	Councillor of (Political) Party in Power
Senior	Leader of (Political) Party in Opposition
	Councillor of (Political) Party in Opposition
State-level	Leader of (Political) Party in Opposition
	Councillor of (Political) Party in Opposition
	Councillor of (Political) Party in Opposition
	Councillor of (Political) Party in Opposition
	Councillor of (Political) Party in Opposition
	Councillor of (Political) Party in Power
	Councillor of (Political) Party in Power
	Councillor of (Political) Party in Power
Retired	Retired Municipal Water Engineer
Retired	Senior Municipal Water Engineer
Retired	Retired Planner-Academic
Retired	Retired Senior Municipal Water Engineer
Current	Head of Municipal Water Department
Senior	Municipal Water Engineer
Senior	Municipal Water Engineer
Senior/Junior	Municipal Water Engineer
Senior/Junior	Municipal Water Engineer
Senior	Vernacular Print Media Person
Mid-level	Vernacular Print Media Person
Senior	Photo-Journalist